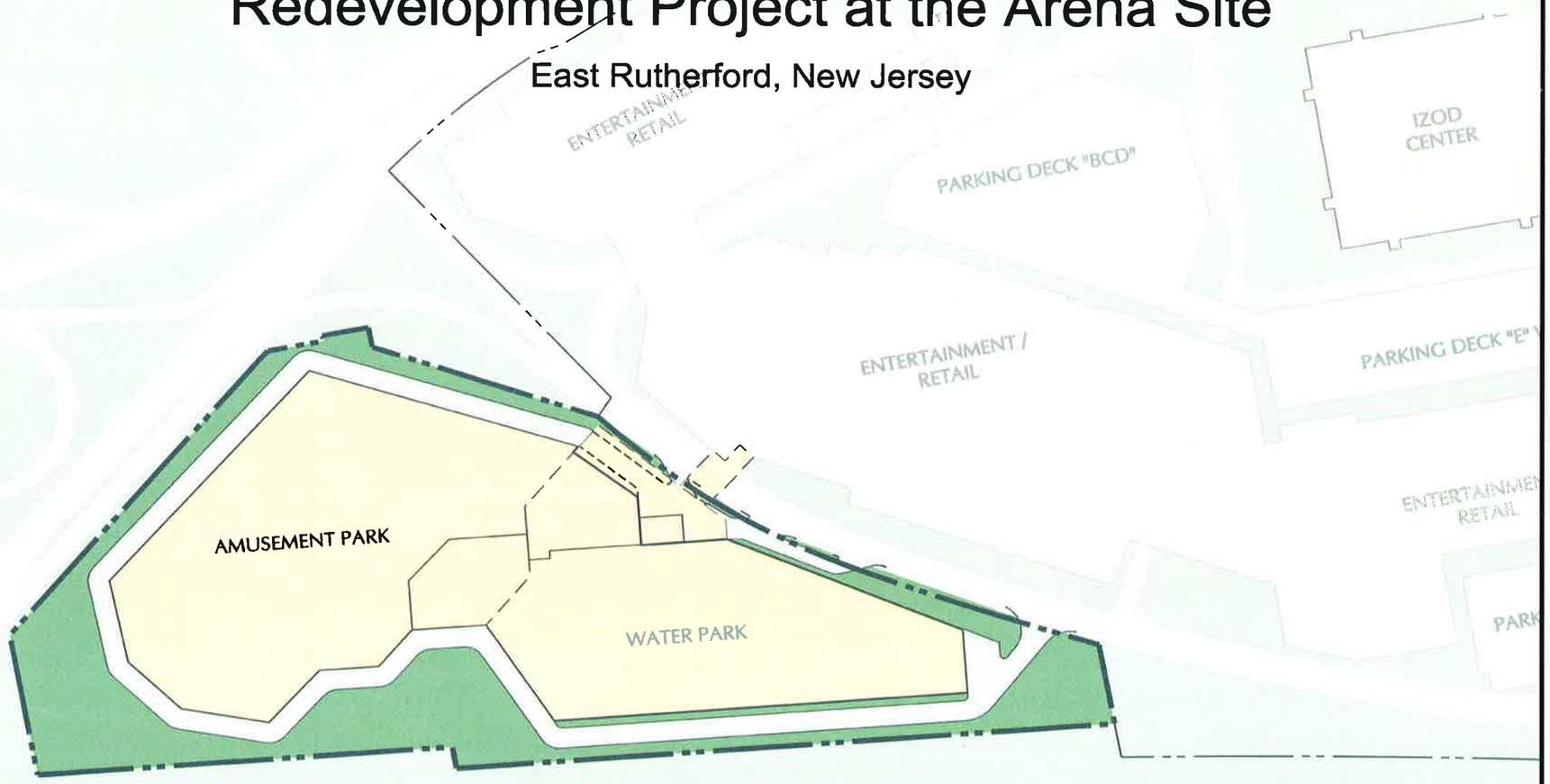
FINAL SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

Amusement Park and Water Park Redevelopment Project at the Arena Site

East Rutherford, New Jersey



Prepared for:

New Jersey Sports And Exposition Authority
East Rutherford, NJ

Presented to:

New Jersey Department of Environmental Protection
Trenton, NJ

New Jersey Meadowlands Commission
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April 2012



NEW JERSEY SPORTS & EXPOSITION AUTHORITY
NJSEA

FINAL
SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

AMUSEMENT PARK AND WATER PARK
American Dream Meadowlands
Redevelopment Project at the Arena Site

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PARKING DECK "A"
ENTERTAINMENT / RETAIL
PARKING DECK "BCD"
IZOD CENTER
ENTERTAINMENT / RETAIL
PARKING DECK "E"
ENTERTAINMENT RETAIL
AMUSEMENT PARK
WATER PARK

EXECUTIVE SUMMARY

Introduction

In August 2004 a Final Environmental Impact Statement (EIS) was prepared and issued by the New Jersey Sports and Exposition Authority (NJSEA) for the Meadowlands Xanadu Redevelopment Project at the Continental Airlines Arena Site. The first structures envisioned in the Meadowlands Xanadu Redevelopment Project, the Entertainment/Retail Component (ERC) and associated parking decks, were partially constructed but the ERC was never completed due to financial difficulties. The severity of the recent economic recession has shut down the redevelopment project, and the various development teams who had partnered with NJSEA no longer have the economic viability to finish the project. As such, the project is currently not meeting the goals of the NJSEA for redevelopment of the Arena Site.

In early 2011, an affiliate of Triple Five Development (Triple Five; Developer) entered into an agreement to purchase the main component (ERC) of the Meadowlands Xanadu Redevelopment Project. Triple Five intends to complete the ERC building, with minor modifications, and build a new entertainment component consisting of an integrated, indoor Amusement Park and Water Park facility immediately adjacent to and connecting to the ERC. The ERC and Amusement Park and Water Park will be called "American Dream Meadowlands." The lack of a significant entertainment type attraction with the current design of the redevelopment project does not accomplish the purpose and need established by the NJSEA for the Arena Site redevelopment. The addition of the Amusement Park and Water Park facility is necessary to accomplish the State's and the new developer's objectives of creating an economically viable world class tourist destination.

The addition of the Amusement Park and Water Park facility is necessary to accomplish the State's and the new developer's objectives of creating an economically viable world class tourist destination. The addition of this entertainment component (i.e., Amusement Park and Water Park) is a similar approach to the entertainment format currently provided at Triple Five's other world class tourist destination centers located in Bloomington, Minnesota (Mall of America) and Edmonton, Alberta, Canada (West Edmonton Mall). The presence of these types of large entertainment facilities attracts patrons/tourists to the centers where the desired synergies between entertainment and retail uses are realized.

The Amusement Park and Water Park Project, as part of the American Dream Meadowlands, is sponsored by the NJSEA, a state agency which owns and manages the Meadowlands Sports Complex. The Amusement Park and Water Park Project ("the Project") will be located on the 21.75-acre Radio Tower Site, which is identified as Block 107.02, Lot 3 in the Borough of East Rutherford, Bergen County, New Jersey. The Radio Tower Site is generally bordered by the

western spur of the New Jersey Turnpike on the east, N.J. Route 3 on the south, N.J. Route 120 on the west, and the Meadowlands Sports Complex Arena Site on the north. It is anticipated that the NJSEA and Triple Five will enter into a ground lease for the ERC and Amusement Park and Water Park. The Radio Tower Site, currently in control of Triple Five, will be transferred to the NJSEA, incorporated into land holdings of the Meadowlands Sports Complex, and then leased by the NJSEA to an affiliate of Triple Five. The NJSEA's Board of Commissioners, by a resolution adopted on October 13, 2011, approved the Amusement Park and Water Park Conceptual Design, Site Plan and Use for the American Dream Meadowlands Project as presented in the Developer's September 27, 2011 Major Modification submission.

The Meadowlands Xanadu Redevelopment Project, which was the subject of the August 2004 EIS, encompassed the entire Arena Site, but excluded the IZOD Center. The proposed lease area for the American Dream Meadowlands Project does not encompass the entire footprint of the original Meadowlands Xanadu Redevelopment Project area. The American Dream Meadowlands Project area is comprised of three distinct project areas as defined and referred to in this Supplemental EIS. The first project area is the ERC of the former Meadowlands Xanadu Redevelopment Project area, which encompasses the actual ERC building and associated parking decks constructed on the Arena Site. The second project area is the Radio Tower Site on which the Amusement Park and Water Park is proposed. The third project area is the Drainage Improvement Area within the New Jersey Turnpike right-of-way that extends into the drainage easement on the Radio Tower Site.

The Amusement Park and Water Park component of American Dream Meadowlands Project is the subject of this Supplemental EIS. The NJSEA's enabling legislation requires that it "...consult with the Meadowlands Commission before making any determinations as to the location, type and character of the project" and "...consult with the Meadowlands Commission and the New Jersey Department of Environmental Protection with respect to the ecological factors constituting the environment of the Hackensack meadowlands..." (N.J.S.A. 5:10-5(x) and 5:10-23). This consultation process involves site plan review as well as an environmental assessment and analysis of the project including the preparation of an Environmental Impact Statement, public comments and a public hearing before hearing officers appointed by the New Jersey Meadowlands Commission (NJMC) and New Jersey Department of Environmental Protection (NJDEP). Since an EIS was prepared for the original Meadowlands Xanadu Redevelopment Project in 2004 and the proposed Amusement Park and Water Park facility is a new entertainment component to the overall redevelopment project, a Supplemental EIS was deemed appropriate for addressing Sections 5(x) and 23 of the enabling NJSEA legislation.

The purpose of this Final Supplemental EIS (FSEIS) is to provide information regarding the nature of the Project and a discussion and analysis of the potential environmental impacts of the Project on the Hackensack Meadowlands. The environmental impacts from the ERC building and parking decks (i.e., first project area) are not changing, except for some minor modifications, from the original August 2004 EIS. Therefore, this Supplemental EIS does not address these components of the overall Arena Site. This Supplemental EIS addresses the proposed structures and infrastructure improvements associated with the Amusement Park and Water Park component which is be constructed on the 21.75-acre Radio Tower Site (i.e., second project area) and drainage improvements proposed within the Turnpike right-of-way (i.e., third project area).

A Draft Supplemental EIS (DSEIS), dated October 2011, was prepared by Triple Five for the NJSEA for review by the NJMC and NJDEP, as well as members of the public, as part of the "Consultation Process" required by the NJSEA enabling legislation for the Project. The Draft Supplemental EIS was submitted to the NJDEP and NJMC on October 25, 2011. The Draft Supplemental EIS was the subject of a public comment period (October 25, 2011 through January 18, 2012) during which public hearings were held on November 15 and 16, 2011. This Final Supplemental EIS was prepared by Triple Five for the NJSEA to address comments received on the Draft Supplemental EIS. This Final Supplemental EIS is being submitted to the NJMC and NJDEP hearing officers, who will prepare a report with recommendations for the Amusement Park and Water Park Project.

Project Description

Triple Five is proposing to build a new entertainment component, the Amusement Park and Water Park, on the Radio Tower Site which is immediately adjacent to the Arena Site. The entertainment component of the redevelopment project will be expanded by approximately 639,000 square feet gross buildable area (GBA) with the addition of the new, integrated, indoor Amusement Park and Water Park facility. The Amusement Park and Water Park will increase the total GBA of the overall redevelopment project at the Arena Site from 4.96 million square feet to 5.6 million square feet GBA.

The Amusement Park will be contained within a one floor enclosed structure with a footprint of approximately 318,000 square feet and a height above grade of approximately 120 feet. In addition, for certain rides with drop towers, a pop-up enclosure will extend vertically above the main roof of the building up to 150 feet. The Water Park will be contained within another one floor enclosed structure with a footprint of approximately 236,000 square feet and a height above grade of approximately 115 feet. The Amusement Park and Water Park will be climate controlled and open year round.

The Amusement Park and Water Park structures will be integrated by sharing a common area located between the parks, totaling approximately 85,000 square feet. The common area will be directly connected to the first floor of the existing ERC building (i.e., lowest commercial floor level) through an elevated pedestrian bridge extending over the East Peripheral Road. All patrons of the Amusement Park and Water Park will enter from the ERC into the Mezzanine Level through the pedestrian bridge. The Mezzanine Level will contain a food court, guest services, ticketing, overlooks of the parks, and entrances to the parks. The first level below the common area will contain a number of uses including water park changing facilities, restrooms, water park mechanical areas and back of house administrative areas for both parks.

The Amusement Park will provide experiences in the state-of-the-art, adrenaline inducing rides (roller coasters, drop tower) for the teen demographic through to traditional family friendly rides (i.e., carousel) for the youngest guests. The ride selection will include some of the more recent developments in the attraction industry, and will be kept relevant over time with the addition of complimentary and cutting edge equipment to ensure that its appeal in the marketplace continues. In the circulation spaces there will be games, kiosks and site furnishings all integrated to enhance the guest experience.

The Water Park will include popular and cutting edge water based rides and attractions available in the industry today, including pools (wave pool, river, spas) and water slides (speed slides, tube slides, interactive water play structures), as well as extensive deck areas for lounging and relaxation. Food and beverage areas will also be provided.

The Amusement Park and Water Park will not provide any patron parking areas on the Radio Tower Site. Patrons for the Amusement Park and Water Park will generally arrive at the ERC from the adjacent roadways and park at the current ERC parking areas, or by rail or other mass transit, and then access the Amusement Park and Water Park by foot through the ERC via the proposed pedestrian bridge. The pedestrian bridge will be elevated above and cross over the East Peripheral Road, and have approximate dimensions of 60 feet wide by 150 feet long.

The existing roadways (South Connector Road and East Peripheral Road) on the Arena Site will be retained with this addition to the entertainment development. The roadways are not part of the redevelopment footprint of the Amusement Park and Water Park, and will remain as main circulation roads for vehicular traffic at the Meadowlands Sports Complex. Vehicular access points to the Amusement Park and Water Park development will be connected via the East Peripheral Road at two locations: the proposed loading dock and a maintenance/emergency access point just north of the support foundation to the observation wheel. A perimeter access road will be constructed around the Amusement Park and Water Park buildings for emergency and maintenance access purposes. No additional public roadway improvements are proposed as part of the Amusement Park and Water Park Project.

As part of Phase I and II of the Meadowlands Xanadu Redevelopment Project, a series of extensions and improvements to existing infrastructure on and adjacent to the Arena Site were completed. For the Amusement Park and Water Park facility, potable water, sanitary sewerage, electricity and natural gas service will be extended from the Arena Site to the Amusement Park and Water Park Site. For sanitary sewerage, a new force main will be constructed from the Amusement Park and Water Park facility to the existing sewer infrastructure on the ERC site that connects the existing sanitary system pump station north of ERC Building A (constructed as part of the Meadowlands Xanadu Redevelopment Project). From that point, the sewerage will be carried along with other sanitary waste from the redevelopment project to the East Rutherford pump station on the north side of the racetrack. For potable water, new tie-ins into the existing water main located within the East Peripheral Road will be constructed.

As part of the Amusement Park and Water Park Project, certain drainage improvements are proposed within the drainage easement and Turnpike right-of-way to reestablish proper drainage from the project site. The majority of the stormwater on the Radio Tower Site presently flows easterly to a drainage easement on the Site immediately adjacent to the Turnpike right-of-way, then through the Turnpike right-of-way easterly to a 96-inch diameter CMP storm pipe located beneath the Turnpike roadway. Two stormwater outfalls and one combined scour hole will be constructed within the drainage easement located on the Radio Tower Site. The existing 96-inch culvert within the Turnpike right-of-way will be improved with new headwalls and scour aprons for outlet protection at each end of the culvert. Temporary access will be required to construct these improvements to the existing Turnpike culvert.

The concept plan presented in the October 2011 Draft Supplemental EIS has been further advanced into an engineered site plan. Projected wetland impacts for the project have been slightly reduced from approximately 5.47 acres to 5.41 acres. This decrease in wetland impacts has been addressed in this Final Supplemental EIS.

Wetlands mitigation will be provided through the purchase of a total of 5.41 credits from the Evergreen MRI3 Mitigation Bank.

Regulatory Review and Approvals

The Meadowlands Sports Complex is exempted from the Hackensack Meadowlands District legislation by the statute governing the operation of the NJSEA (see N.J.S.A. 5:10-1 et seq.). Under Section 5(x) of this statute, the NJSEA may determine the location, type and character of a project or any part thereof and all other matters in connection with all or any part of the project, notwithstanding any land use plan, zoning regulation, building code or similar regulation adopted by the State, any municipality, county, public body politic and corporate, including but

not limited to the Meadowlands Commission, or any other political subdivision of the State. Therefore, this exemption applies to the redevelopment of the Arena Site and the Amusement Park and Water Park Project.

The NJSEA's enabling legislation, however, does require it to consult with the NJMC and NJDEP "with respect to the ecological factors constituting the environment of the Hackensack meadowlands to the end that the delicate environmental balance of the Hackensack meadowlands may be maintained and preserved" (*N.J.S.A. 5:10-23*). This Consultation Process must occur between the NJMC and NJDEP for new development on NJSEA-owned land. This Supplemental EIS has been prepared as a means to facilitate the goal of NJSEA's consultation process with the NJMC and NJDEP concerning the addition of a new component (i.e., Amusement Park and Water Park) to the overall redevelopment project, and meets the scope and intent of the New Jersey Executive Order No. 215 EIS process.

The Amusement Park and Water Park Project will require a number of environmental, transportation, and construction related permits and approvals from Federal, State, and regional regulatory agencies. Necessary permits and approvals will be pursued by the Developer and, in some cases, with the NJSEA separate and apart from the Consultation Process. The approvals include, for example, a Department of the Army permit for the proposed filling of wetlands; NJDEP Division of Land Use Regulation permits (i.e., Waterfront Development, Flood Hazard Area Permit, Water Quality Certification, Coastal Zone Management Consistency Determination); NJDEP Treatment Works Approvals for sanitary sewer improvements; and, a New Jersey Department of Transportation (NJDOT) Major Access Permit issued by NJDOT on March 14, 2012 for use of existing access points to Route 120.

Affected Environment

The Amusement Park and Water Park Project will be located on the Radio Tower Site, which is located immediately to the south of the Arena Site. The Radio Tower Site is bordered by the New Jersey Turnpike to the east, U.S. Route 3 to the south and U.S. Route 120 to the west. The site is approximately 21.75 acres and is currently occupied by one radio tower transmission building and three radio towers. The radio towers are no longer operational and will be taken down. The operation of the towers was moved to a site in North Bergen as part of past Meadowlands Xanadu Redevelopment Project activities. The radio tower transmission building will also be razed as part of the Project.

The extent of regulated tidal and non-tidal wetlands and waters on the Radio Tower Site and adjacent Turnpike right-of-way where off-site drainage improvements are proposed has either been confirmed or is in the process of being confirmed through the issuance of a Jurisdictional Determination letter from the USACE. A total of approximately 7.4 acres of wetlands have

been delineated on the 21.75-acre Radio Tower Site. Additionally, approximately 1.36 acres of wetlands have been delineated in the Turnpike right-of-way drainage improvement study area. The majority of wetlands identified on the Site are tidal and non-tidal emergent wetlands dominated by common reed. The wetlands in the Turnpike right-of-way are tidal wetlands dominated by common reed. The upland areas located on the Site and Turnpike property are maintained grassed areas, previously disturbed areas with successional vegetation, and small isolated stands of shrubs and trees.

The Radio Tower Site is located within the Hackensack Meadowlands District (HMD), a 32-square mile area that presently includes 8,400 acres of wetlands and aquatic habitat. The Radio Tower Site is located to the west of the Hackensack River. One unnamed tributary to the Hackensack River is found within the drainage easement on the Radio Tower Site, extending from a 96-inch culvert under the Turnpike to the Radio Tower Site. The majority of the Radio Tower Site and areas adjacent to N.J. Route 120 and East Peripheral Road drain to the 96-inch culvert, eventually discharging to the Hackensack River. A small portion of the northern end of the Radio Tower Site discharges to an unnamed tributary to Cedar Creek and the 108-inch culver under the Turnpike. The majority of the Radio Tower Site is located within the 100-year tidally influenced floodplain of the Hackensack River. No special wildlife habitat or threatened or endangered species habitat has been documented on the Radio Tower Site.

Soils and sediments on the Radio Tower Site have been sampled and found to contain certain contaminants. Overall, the soil sample results identified semi-volatile organic compounds (SVOCs), poly-chlorinated biphenyls (PCBs), one pesticide compound (chlordane), extractable petroleum hydrocarbons (EPH) and metals above their NJDEP Non-Residential Soil Remediation Standards (SRS). These soil sample results confirm that there are historic fill type compounds on the property consistent with the historic fill classification as defined by the NJDEP in the Technical Requirements for Site Remediation (N.J.A.C. 7:26E-1.8 and 4.6). Site conditions are influenced by the presence of historic fill and contaminant levels observed are not attributable to current site operations. A Remedial Action Workplan (RAW), including a Soil Reuse Proposal (SRP), has been developed for the Radio Tower Site by a Licensed Site Remediation Professional (LSRP). The RAW proposes engineering and institutional controls as the remedial action for historic fill and non-historic fill compounds. The concrete from the demolition of the existing structures will be crushed and used on the property as fill. Any imported fill material to be place beneath the proposed "cap" (i.e. concrete, structures) will be similar in contaminant type and concentration to the existing historic fill and non-historic fill.

The Remedial Action Workplan, Soil Reuse Plan, and Health and Safety Plan have been prepared in accordance with the New Jersey Technical Requirements for Site Remediation by the LSRP and will provide direction and guidance on minimizing potential impacts to humans and the environment during construction and operation of the Amusement Park and Water Park

Project due to the presence of contaminated resources on the Radio Tower Site. The RAW proposes the use of the proposed building and impervious surfaces as an engineering control for the historic fill.

Environmental Consequences and Mitigation

The Amusement Park and Water Park Project will avoid many potential adverse environmental impacts due to the location of the Project on previously-developed land and the proposed use of existing infrastructure. In conformance with the State of New Jersey Smart Growth policies, the Project minimizes adverse environmental impacts by using an already-developed site (i.e., Radio Tower Site) that offers redevelopment opportunities and limits the potential adverse environmental impacts compared to locating the Project on an undeveloped site. If the Amusement Park and Water Park Project were to be constructed on an undeveloped site, adverse environmental impacts greater than those expected to occur at the Radio Tower Site, such as site clearing of forested areas, loss of wildlife habitat, loss of wetland, and changes in land use would likely occur at the undeveloped site.

The placement of the Amusement Park and Water Park Project on the Radio Tower Site allows for the use of the infrastructure improvements associated with the redevelopment of the Arena Site including roads, sewers, water mains, power lines and telephone lines such that adverse environmental impacts are avoided for connection to these services. Redevelopment of the Radio Tower Site allows the use of the existing infrastructure on the Arena Site such that offsite improvements for the Project are only limited to drainage improvements within the Turnpike right-of-way. Potential environmental impacts from the expansion of infrastructure to service a new development on an undeveloped site are thereby avoided. Often, new development located on an undeveloped site requires extensive infrastructure improvements, such as new roadways and sewer mains, which lead to adverse environmental impacts both onsite and offsite for the construction of this new infrastructure. The placement of the Amusement Park and Water Park Project adjacent to the ERC also allows for the use of vehicular parking available for the ERC. Therefore, the Amusement Park and Water Park Project does not provide for any patron vehicular parking areas on the Radio Tower Site. This sharing of parking resources reduces the land mass required for the Amusement Park and Water Park Project compared to locating the parks on their own site. This reduced footprint avoids potential environmental impacts.

In order to provide for the necessary land area to accommodate the Amusement Park and Water Park Project immediately adjacent to the ERC, some environmental impacts on the Radio Tower Site are unavoidable. In total, the Project and associated drainage improvements will permanently impact approximately 5.41 acres of wetlands and temporarily disturb 0.18 acres of wetlands. Approximately 5.26 acres of tidal and non-tidal emergent wetlands would be filled on

the Radio Tower Site for construction of the Amusement Park and Water Park buildings and perimeter access road; and, an additional 0.15 acres of tidal emergent wetlands would be filled to complete drainage improvements within the adjacent Turnpike right-of-way. Approximately 0.18 acres of wetlands and waters will be temporarily impacts from the construction of the drainage improvements and removal of a soil "hot spot" for the Project. Approximately 13 acres of lands on the Radio Tower Site currently within the 100-year tidal floodplain of the Hackensack River will be filled. These proposed adverse environmental impacts are necessary and unavoidable.

The design and operation of the Amusement Park and Water Park Project will be performed in a manner that avoids adverse environmental impacts through the use of proper utilities to manage and convey potable water to the buildings, and collect and direct wastewater produced within the buildings to the local public wastewater treatment plant conveyance system. A stormwater management system will be designed, permitted, constructed and maintained on the Project Site to minimize any potential flooding and water quality degradation from the Project. Drainage improvements within the drainage easement located on the Radio Tower Site and within the Turnpike right-of-way, associated with a 96-inch culvert which conveys runoff from the Radio Tower Site easterly towards the Hackensack River, will be performed as part of the Project. Solid waste, including recyclables, will be collected and stored in suitable containers and disposed of in accordance with federal and state solid waste programs and regulations.

To limit potential adverse environmental impacts from the operation of the Project to energy resources in the region, energy conservation steps will be taken during design and operation of the Project. Where feasible, low-emission equipment, energy-efficient fixtures, energy-efficient glazing, proper insulation to control heat and cooling losses, and state-of-the-art systems will be utilized.

The Developer is committed, to the extent practicable, to developing and implementing environmentally responsible building and design steps into the design, construction and operation of the Amusement Park and Water Park. Environmentally responsible building concepts such as water conservation, energy conservation, peak load reduction, and construction phase and operational phase management programs are being evaluated. In addition, specific State energy and incentive programs will be incorporated into the evaluation and design process.

The Amusement Park and Water Park will not require any additional onsite or offsite roadway improvements. The existing Meadowlands Sports Complex roadways (South Connector Road and East Peripheral Road) on the Arena Site will remain with this addition to the entertainment

component. Vehicular access points to the Amusement Park and Water Park facility will be by two connections along the East Peripheral Road.

A Traffic Impact Assessment (TIA), dated October 2011, was prepared to determine the additional trips from the Amusement Park and Water Park Project and compare them with the original traffic volumes of the redevelopment project at the Arena Site. The TIA concluded that the roadway improvements constructed over the past several years for the redevelopment project combined with other regional road improvements, as well as the new rail line, have improved traffic conditions in the Meadowlands Sports Complex area. Based on criteria set forth in the New Jersey State Highway Access Management Code, the Amusement Park and Water Park Project would result in a minimal increase in traffic compared to the original redevelopment project. The NJDOT approved this assessment with issuance of the Major Access Permit on March 14, 2012, confirming that the traffic from the Amusement Park and Water Park will not generate a significant increase in traffic. As a result of the anticipated increase in mass transit and other factors, vehicular traffic should be further reduced below those projected in the TIA.

Combined with the ERC building and part of the American Dream Meadowlands, the Amusement Park and Water Project will have many significant, beneficial socioeconomic impacts to the NJSEA, local region, and State. Tax revenues will provide beneficial impacts to the local region and State. Jobs to the region will be increased from the Project. The Project will also contribute to the continuing economic development of the Meadowlands region.

Completing the former ERC and constructing the new Amusement Park and Water Park will have immediate benefits to the State. The Developer has projected that completion of the existing ERC building and construction of the new Amusement Park and Water Park facility will create up to 9,100 construction jobs onsite over a two-year period. Further, the expected $1.8 billion in American Dream Meadowlands project costs will generate economic multiplier effects throughout the State economy, supporting an additional 10,600 jobs and $1.5 billion in indirect business and household spending until the American Dream Meadowlands opens. Once open, the American Dream Meadowlands will employ nearly 11,500 people onsite and generate nearly $1 billion in annual spending. This annual spending, in turn, will generate significant multiplier effects statewide by supporting an additional 5,670 jobs and $0.85 billion in statewide economic activity.

The design and implementation of the Amusement Park and Water Park Project will incorporate and undertake a number of actions to minimize and compensate for potential adverse environmental impacts during construction and operation of the Project. During the construction phase of the Project, a series of environmentally-oriented management plans will be implemented to control and manage dust and noise, soil erosion, dewatering, construction

traffic, construction equipment emissions, and the reuse of soil. A Health and Safety Plan will be implemented to protect workers against any potential contaminated materials with which they may come into contact. The safety of the public will also be addressed through proper fencing and controlled access to work areas. Landscaping will be established as part of the construction phase of the Project to provide the greening of open space along the building and perimeter access road.

During the operation phase of the Project, additional environmentally-oriented management plans will be implemented to control and manage traffic, maintain the infrastructure, and manage solid waste. Recycling will be promoted to decrease the quantity of solid waste making its way to landfills. Landscaping will be maintained to provide appropriate screening.

The Developer will provide a suitable wetland mitigation plan to compensate for the proposed filling of 5.41 acres of wetlands. These wetland impacts will be compensated for through the purchase of a total of 5.41 mitigation credits at the Evergreen MRI3 Mitigation Bank.

The Developer is working with NJ Transit and other transportation planning agencies to increase bus service to the Project Site and develop regular rail service to the Meadowlands Sports Complex. With the addition of a rail station at the Meadowlands Sports Complex in 2010, access to the project site by rail is now possible. With future daily rail service to the Meadowlands Sports Complex and improved bus service, the Developer anticipates a substantial increase in the use of mass transit by American Dream Meadowlands patrons and employees and a concomitant decrease in automobile traffic.

The Developer also envisions a wide range of programs to be explored and potentially implemented as part of the overall transportation management plan. Each program would help to increase the use of mass transit by patrons and employees. These programs include expanding service to the project site from existing mass transit hubs, marketing promotions and packages encouraging the use of mass transit, employee incentives to use mass transit, marketing incentives for patron off-peak visits; and preferred patron carpool parking and ride/car-sharing.


PARKING DECK "A"
ENTERTAINMENT / RETAIL
PARKING DECK "BCD"
IZOD CENTER
ENTERTAINMENT / RETAIL
PARKING DECK "E"
ENTERTAINMENT RETAIL
AMUSEMENT PARK
WATER PARK

1.0 PROJECT DESCRIPTION

1.1 Project Setting and Description

1.1.1 Project Setting

In August 2004, a Final Environmental Impact Statement (EIS) was published for the Meadowlands Xanadu Redevelopment Project proposed at the Arena Site (Arena Site) at the Meadowlands Sports Complex in the Hackensack Meadowlands District, in East Rutherford, Bergen County, New Jersey (NJSEA 2004) (Figure 1-1). The first building envisioned in the Meadowlands Xanadu Redevelopment Project, the Entertainment/Retail Component (ERC), was partially constructed but the ERC was never completed due to financial difficulties.

In early 2011, an affiliate of Triple Five Development (Triple Five) entered into an agreement to purchase the main component (ERC) of the Meadowlands Xanadu Redevelopment Project. The ERC component and the Amusement Park and Water Park component have been renamed "American Dream Meadowlands." The American Dream Meadowlands encompasses a portion of the Arena Site. Triple Five intends to complete the ERC building, with minor modifications, and build a new entertainment component consisting of an integrated, indoor Amusement Park and Water Park facility located on the Radio Tower Site immediately adjacent to and connecting to the ERC.

The American Dream Meadowlands Project is sponsored by the New Jersey Sports and Exposition Authority (NJSEA), a state agency which owns and manages the Meadowlands Sports Complex. It is anticipated that Triple Five will enter into a ground lease with the NJSEA for the ERC and Amusement Park and Water Park. The Radio Tower Site where the Amusement Park and Water Park is proposed, currently in control of Triple Five, will be transferred to the NJSEA, incorporated into the land holdings of the Meadowlands Sports Complex, and then leased by the NJSEA to an affiliate of Triple Five. The NJSEA approved the Amusement Park and Water Park Conceptual Design, Site Plan and Use for the American Dream Meadowlands Project as presented in the Developer's September 27, 2011 Major Modification submission.

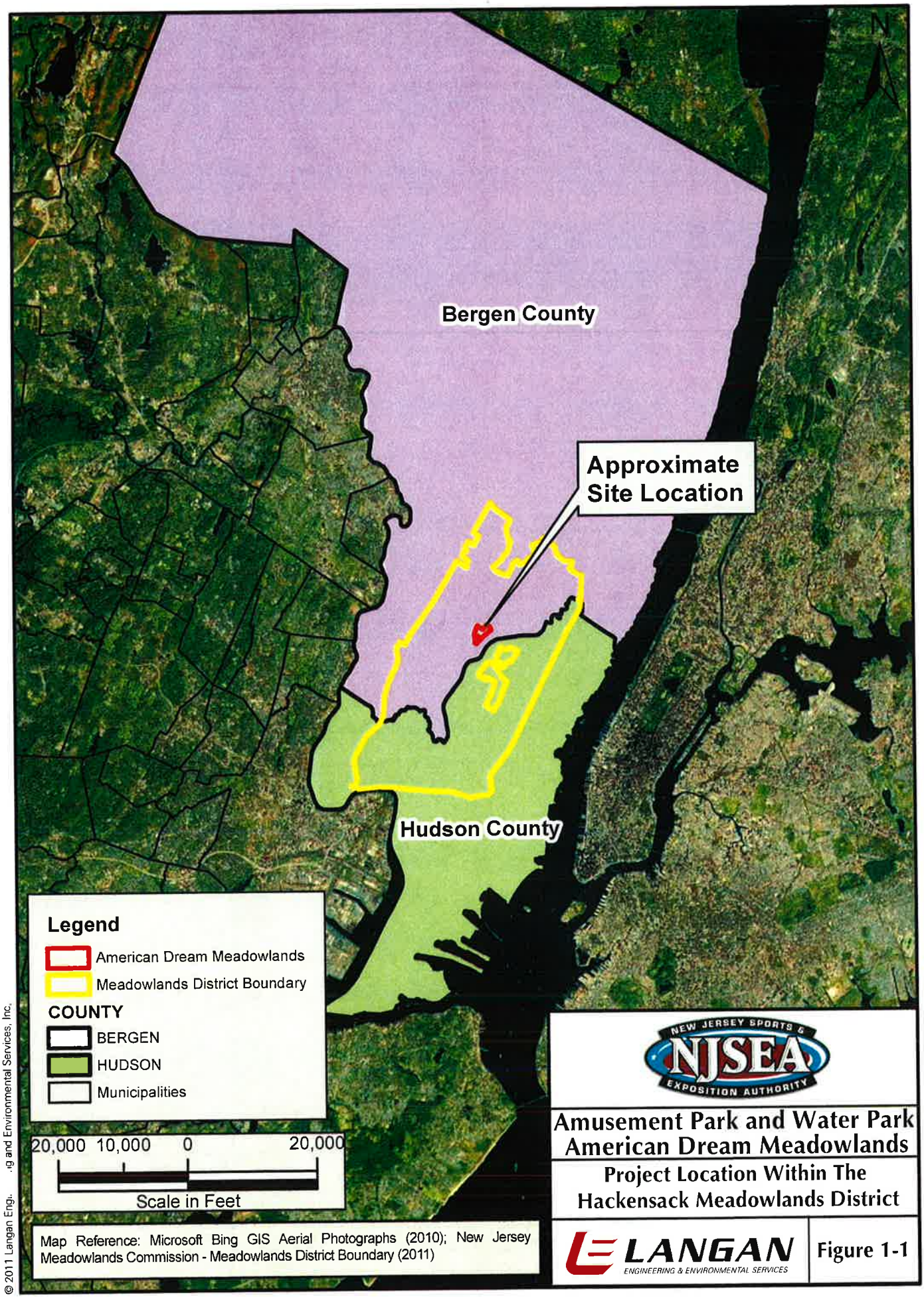
The Amusement Park and Water Park component of American Dream Meadowlands is the subject of this Final Supplemental EIS. The NJSEA's enabling legislation requires that it "...consult with the Meadowlands Commission before making any determinations as to the location, type and character of the project" and "...consult with the Meadowlands Commission and the New Jersey Department of Environmental Protection with respect to the ecological factors constituting the environment of the Hackensack meadowlands..." (N.J.S.A. 5:10-5(x)

and 5:10-23). This consultation process involves site plan review as well as an environmental assessment and analysis of the Amusement Park and Water Park Project including the preparation of an EIS, public comments and a public hearing before hearing officers appointed by the New Jersey Meadowlands Commission (NJMC) and New Jersey Department of Environmental Protection (NJDEP). Because an EIS was prepared for the redevelopment project on the Arena Site and the proposed Amusement Park and Water Park facility is a new entertainment component to the overall redevelopment project, a Supplemental EIS was deemed appropriate for addressing Sections 5(x) and 23 of the enabling NJSEA legislation.

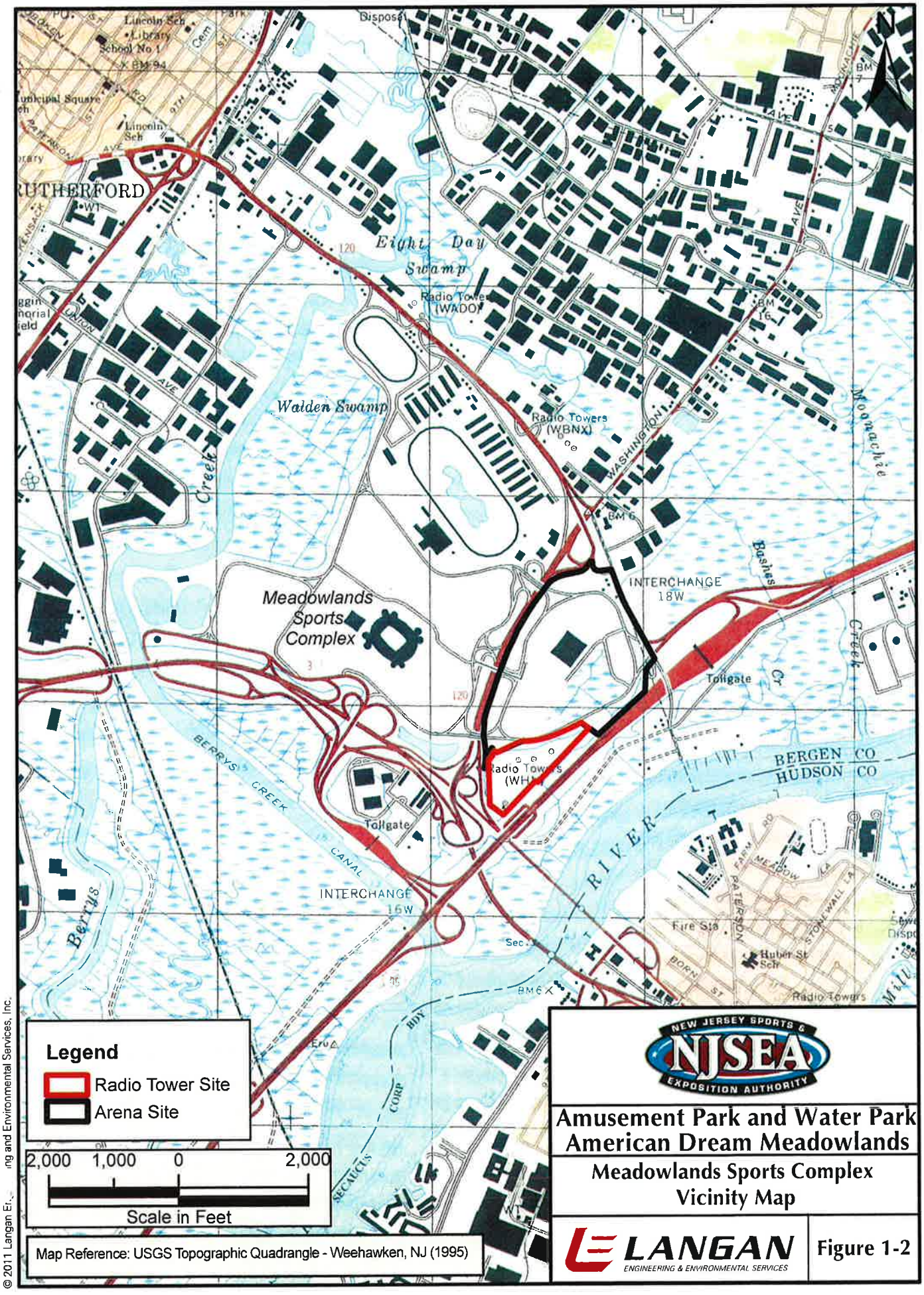
The new Amusement Park and Water Park component of the redevelopment project at the Arena Site is proposed to be constructed on property located immediately to the south of the Arena Site known as the "Radio Tower Site" (Figure 1-2 and 1-3). The Radio Tower Site property is approximately 21.75 acres and is identified as Block 107.02, Lot 3 on the Borough of East Rutherford's tax maps. The Radio Tower Site is located in the Hackensack Meadowlands District and is bound to the north by the East Peripheral Road (Arena Site loop road) and the Arena site, to the east by the New Jersey Turnpike, to the south by NJ State Route 3, and to the west by NJ State Route 120.

The Radio Tower Site is presently developed with three, 500+ foot high steel lattice radio transmission towers, access roads and a radio transmission building (Figures 1-3 and 1-4). The three radio towers are aligned in a southwest to northeast orientation near the central portion of the property. The transmission building and access driveways occur in the southern and western sections of the site. Herbaceous upland and wetland areas comprise the vegetative community on the Radio Tower Site. A drainage easement is located on the Radio Tower Site to maintain a drainage area that flows through the Turnpike right-of-way to a 96-inch culvert located under the New Jersey Turnpike (See Figure 4-3 in Section 4.2.1).

Historically the Radio Tower Site has been used for radio tower transmission. Based on a review of historic aerial photographs and documents, the Radio Tower Site and adjacent lands were filled before 1967 as part of the development of NJ Route 120 (formerly designated Route 20) (Figure 1-5). With the construction of the New Jersey Turnpike and the Meadowlands Sports Complex in the 1960's and 1970's, further fill and isolation of the Radio Tower Site from the Hackensack River occurred. According to the New Jersey Geological Survey Historic Fill Map prepared in 2009, the Radio Tower Site is located within a "historic fill" area, except for the very northern tip of the property (Figure 1-6).



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NEW JERSEY SPORTS & EXPOSITION AUTHORITY

NJSEA

Amusement Park and Water Park
American Dream Meadowlands

Meadowlands Sports Complex
Vicinity Map

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

Figure 1-2

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NEW JERSEY SPORTS & EXPOSITION AUTHORITY

Amusement Park and Water Park American Dream Meadowlands

Aerial Photograph

LANGAN ENGINEERING & ENVIRONMENTAL SERVICES

Figure 1-3

© 2011 Langan En... ng and Environmental Services, Inc.



500 250 0 500

Scale in Feet

Reference: Promaps Inc., Moorestown, NJ - Flyover Aerial Photography (6-2011)

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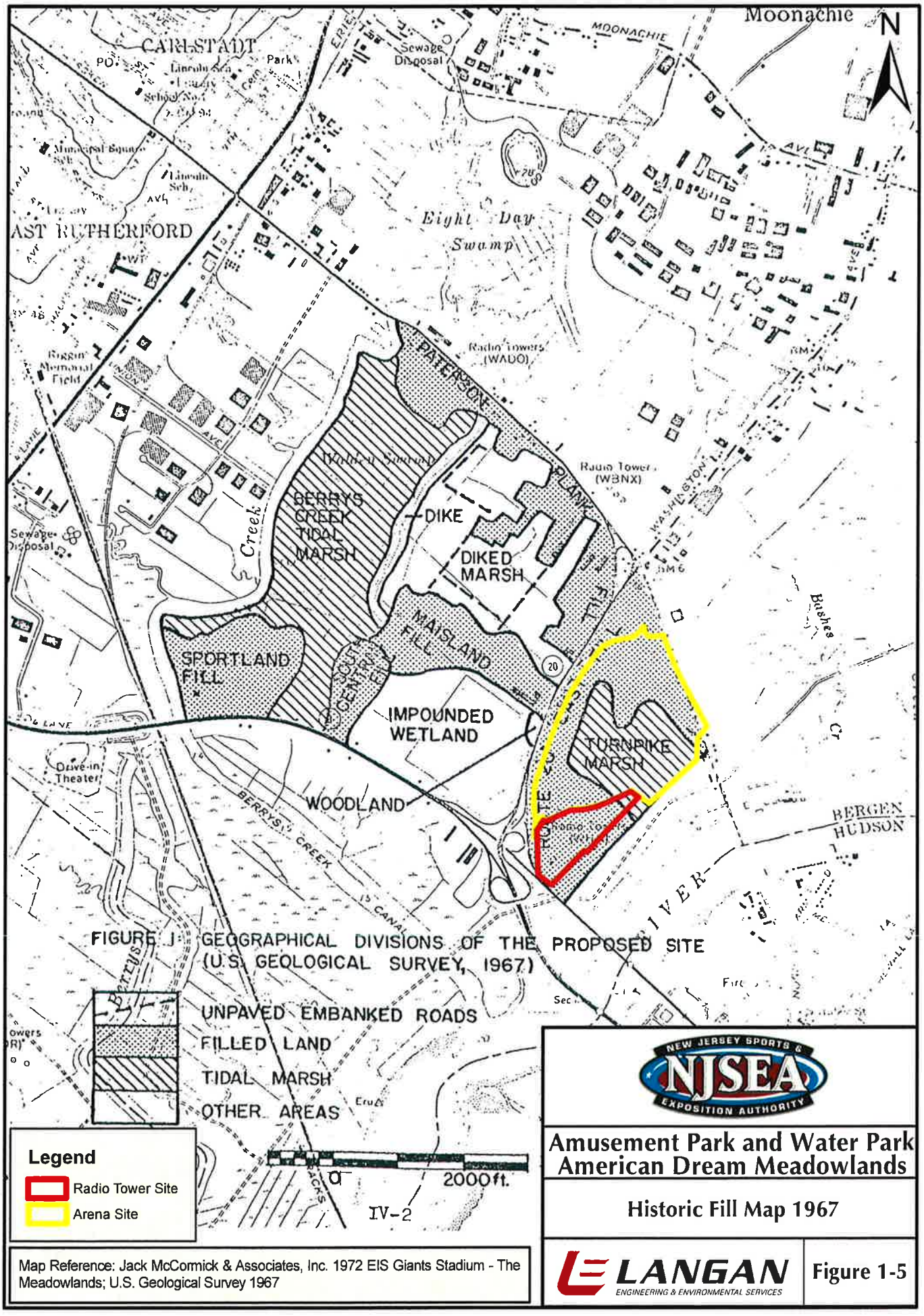
NEW JERSEY SPORTS & EXPOSITION AUTHORITY

Amusement Park and Water Park
American Dream Meadowlands

Aerial View of the Radio Tower Site and Arena Site Looking North

LANGAN ENGINEERING & ENVIRONMENTAL SERVICES

Figure 1-4



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The radio tower transmission operation on the Radio Tower Site was moved to another site in North Bergen related to the redevelopment of the Arena Site. With the cessation of radio tower transmission activities and control of the property by Triple Five, redevelopment of the Radio Tower Site is now feasible. With the addition of the 21.75-acre radio tower property to the Meadowlands Sports Complex, the Sports Complex lands will increase in size to approximately 706 acres, making the Meadowlands Sports Complex one of the largest sports and entertainment venues in the entire country.

1.1.2 Project Description

The original August 2004 EIS described the Meadowlands Xanadu Redevelopment Project, which was a 4.96 million square feet, mixed-use project with diverse components of sports and family entertainment, ancillary retail, select restaurants, hotel with conference facilities, and Class A offices to complement and enhance the NJSEA's existing Meadowlands attractions. Phase I of the Meadowlands Xanadu Redevelopment Project was completed which included the construction of a parking deck and internal roadway configuration. Phase II, which included the construction of the ERC and additional parking decks, was partially completed when construction ceased in 2009.

In early 2011, an affiliate of Triple Five entered into an agreement to purchase the ERC component of the Meadowlands Xanadu Redevelopment Project and rename this component of the redevelopment project on the Arena Site to "American Dream Meadowlands." Triple Five intends to complete the ERC building and construct a new entertainment component consisting of an integrated indoor Amusement Park and Water Park facility immediately adjacent to and connecting to the ERC building. A portion of the master plan for the Arena Site has been revised to reflect the addition of the Amusement Park and Water Park component to the overall redevelopment project at the Arena Site (Figure 1-7).

The addition of the Amusement Park and Water Park facility is necessary to accomplish the State's and the new developer's objectives of creating an economically viable world class tourist destination (McMillan Doolittle 2011; See Appendix G of the DSEIS). The addition of this entertainment component (i.e., Amusement Park and Water Park) is a similar approach to the entertainment format currently provided at Triple Five's other world class tourist destination centers located in Bloomington, Minnesota (Mall of America) and Edmonton, Alberta, Canada (West Edmonton Mall). The presence of these types of large entertainment facilities attracts patrons/tourists to the centers where the desired synergies between entertainment and retail uses are realized.

No changes are proposed at this time for the hotel, office and baseball park components of the redevelopment project at the Arena Site that were originally approved in 2004 (Figure 1-7). These components of the redevelopment project are not under the control of Triple Five at this time.

1.1.2.1 Project Components and Uses

Like the former ERC, the American Dream Meadowlands Project will provide the entertainment and retail uses of the redevelopment project at the Arena Site. Triple Five will complete the current ERC building and build a new entertainment component, the Amusement Park and Water Park. The Gross Buildable Area (GBA) square footage of the original ERC building will essentially remain unchanged (approximately 2.7 million square feet). The Amusement Park and Water Park building, with a GBA of approximately 639,000 square feet, will increase the overall entertainment of the American Dream Meadowlands Project (Figure 1-8). The redevelopment project at the Arena Site will increase from approximately 4.96 million to 5.6 million square feet GBA. A more detailed description of the Amusement Park and Water Park component is presented below.

Entertainment – Amusement Park and Water Park

The entertainment component of the redevelopment project at the Arena Site will be expanded by approximately 639,000 square feet GBA with the addition of a new, integrated, indoor Amusement Park and Water Park facility (Figure 1-8). The Amusement Park will be contained within a one floor enclosed structure with a footprint of approximately 318,000 square feet and a height above grade of approximately 100 feet. In addition, for certain rides with drop towers, a pop-up enclosure will extend vertically above the main roof of the building up to 150 feet. The Water Park will be contained within another one floor enclosed structure with a footprint of approximately 236,000 square feet and a height above grade of approximately 115 feet. The Amusement Park and Water Park will be climate controlled and open year round. The Amusement Park and Water Park Project, including the perimeter access corridor around the building, wet pond and grading has a footprint of approximately 19 acres.

The Amusement Park and Water Park structures will be integrated by sharing a common area located between the parks (Figure 1-8). The Mezzanine Level will contain a food court, guest services, ticketing, overlooks of the parks and entrances to the parks, with 85,000 square feet of common area. The common area on the mezzanine level will be directly connected to the first floor of the existing ERC building (i.e., lowest commercial floor level) through an elevated pedestrian bridge extending over the East Peripheral Road. All patrons of the Amusement Park and Water Park will enter through the pedestrian bridge. The first level below the common

area will contain a number of uses including water park changing facilities, restrooms, water park mechanical areas and back-of-house administrative areas for both parks.

The Amusement Park will provide experiences in the state-of-the-art, adrenaline inducing rides (roller coasters, drop tower) for the teen demographic through to traditional family friendly rides (i.e., carousel) for the youngest guests. The ride selection will include some of the more recent developments in the attraction industry, and will be kept relevant over time with the addition of complimentary and cutting edge equipment to ensure that its appeal in the marketplace continues. In the circulation spaces there will be games, kiosks and site furnishings all integrated to enhance the guest experience.

The Water Park will include popular and cutting edge water based rides and attractions available in the industry today, including pools (wave pool, river, spas) and water slides (speed slides, tube slides, interactive water play structures), as well as extensive deck areas for lounging and relaxation. Food and beverage will also be provided.

Patrons for the Amusement Park and Water Park will generally arrive at the ERC from the adjacent roadways and park at the current ERC parking areas, or by rail or other mass transit, and then access the Amusement Park and Water Park by foot through the ERC via the proposed pedestrian bridge to the ERC. The proposed pedestrian bridge will be elevated above and cross over the East Peripheral Road, and have approximate dimensions of 60 feet wide by 150 feet long.

LIMIT OF PARCELS TO BE CONTROLLED BY TRIPLE FIVE DEVELOPMENT

ROUTE 120

120

ENTERTAINMENT / RETAIL

PARKING DECK "A"

PARKING DECK "BCD"

BALLPARK

IZOD CENTER

HOTEL

OFFICE TOWER

PARKING DECK

OFFICE TOWER

OFFICE TOWER

PARKING DECK

OFFICE TOWER

PARKING DECK "E" WEST

ENTERTAINMENT / RETAIL

ENTERTAINMENT/ RETAIL

PARKING DECK "E" EAST

AMUSEMENT PARK

WATER PARK

PATERSON PLANK ROAD

NEW JERSEY TURNPIKE

95

250 0 125 250

SCALE IN FEET

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NEW JERSEY SPORTS & EXPOSITION AUTHORITY

NJSEA

Amusement Park and Water Park
American Dream Meadowlands

Revised Master Plan

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Figure 1-7

INDOOR AMUSEMENT PARK	
AMUSEMENT PARK	318,000 SF
MALL ENTRY	7,000 SF
MEZZ. (ENTRY)	49,000 SF
MEZZ. (FOOD)	29,000 SF
TOTAL	403,000 SF
INDOOR WATER PARK	
INDOOR WATER PARK	236,000 SF
TOTAL:	236,000 SF
GROSS TOTAL:	639,000 SF

SOUTH CONNECTOR ROAD

ENTERTAINMENT / RETAIL

PARKING DECK "BCD"

NEW JERSEY ROUTE 120

N.J. ROUTE 3 WEST

ENTERTAINMENT / RETAIL

Pedestrian Bridge
7,000 sf ±

Mezzanine
(Entry)
49,000 sf ±

Amusement Park
318,000 sf ±

Mezzanine
(Food)
29,000 sf ±

OBSERVATION WHEEL

Water Park
236,000 sf ±

EAST PERIPHERAL ROAD

TURNPIKE CULVERT

DRAINAGE IMPROVEMENTS

NEW JERSEY TURNPIKE (WESTERN SPUR)

200 0 100 200

SCALE IN FEET

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NEW JERSEY SPORTS & EXPOSITION AUTHORITY

Amusement Park and Water Park
American Dream Meadowlands
Amusement Park and Water Park
Site Plan

LANGAN

Figure 1-8

1.1.2.2 Parking

There are no new parking surface lots or parking structures proposed as part of the Amusement Park and Water Park facility. Visitors to the Water Park and Amusement Park will park underneath the adjacent, existing ERC, which is set up on stilt-like structures, or in the adjacent parking decks (Deck A, Deck BCD and Deck E East and West) and surface parking areas at the Meadowlands Sports Complex, or arrive by rail or other mass transit. Employees for the ERC and Amusement Park and Water Park will park off-site and be transported by shuttles. There are no changes proposed to the existing parking areas. The counts that were originally proposed and authorized for the redevelopment project at the Arena Site remain, except that there has been a loss of a small number of stalls (less than 1%) from the original 12,885 proposed parking stalls.

Some of the parking areas at the Meadowlands Sports Complex are designated as shared parking areas in parking management plans. These parking areas are shared between the components of the redevelopment project and events at the Stadium and Arena. A discussion of the Event Parking and Transportation Management Plan for the redevelopment project at the Arena Site was presented in Appendix G of the August 2004 EIS. Subsequently, updates to the development of the Event Parking and Transportation Management Plan were provided in the January 2005 and January 2008 Quarterly Progress Reports (NJSEA and Meadowlands Management 2005, NJSEA and Meadowlands Management 2008).

Parking demand will be substantially decreased by the development of regular service to the Meadowlands rail station located next to the Stadium as well as providing bus service from other mass transit locations in the region. By providing regular service to the Meadowlands Sports Complex by rail and bus, daily ridership on mass transit can be generated and lead to a decrease in travel by automobile and related parking demands at the Arena Site.

1.1.2.3 Roadway Improvements

A series of on-site and off-site roadway improvements were completed as part of Phase I of the Meadowlands Xanadu Redevelopment Project from 2006 through 2009, including a new flyover ramp from Route 3 Eastbound to Route 120 Northbound, reconfiguration of ramps to and from the Turnpike's Interchange 18W, and lane additions/improvements along Route 120 next to the Arena Site. In addition, since the issuance of the August 2004 EIS, a series of other roadway improvements to the Meadowlands Sports Complex roadway network and regional roadway network have been completed including connections from the Sports Complex to Route 120, internal circulation on the West Side of the Meadowlands Sports Complex, reconfiguration of Route 3 ramps and improvements to the Turnpike's Interchange 16W.

The completed roadway improvements include:

- Additional ramps and lanes on the Arena Site;
- New service road along Route 120 Northbound;
- New flyover ramp from Route 3 Eastbound to Route 120 Northbound Service Road;
- Additional lane on ramp from Route 120 Southbound to Route 3 Westbound;
- Additional lane on Route 120 Southbound adjacent to Meadowlands Sports Complex;
- Additional lanes on the New Jersey Turnpike Interchange 18W Sports Complex access ramps;
- Reconfiguration of the New Jersey Turnpike Interchange 16W with additional lanes and ramps;
- Additional lane on Route 3 Eastbound Sports Complex Access Ramp;
- New flyover from Route 120 Southbound to Route 3 Eastbound; and,
- Additional lanes, widening and shoulders on Paterson Plank Road to Route 17.

In addition to the above completed roadway improvements, several additional improvements are in progress and include:

- Replacement of Route 3 structure over the Passaic River;
- Additional lanes and shoulders at the Route 3 Passaic River crossing; and,
- Rehabilitation of both Eastbound and Westbound Route 3 structures over the Hackensack River.

Besides these completed roadway improvements and improvements in progress, mass transit improvements at the Meadowlands Sports Complex and ongoing development of a regional traffic signal management program by the NJMC will further help traffic operating conditions in the region. NJ Transit, in concert with the NJSEA, constructed a rail station adjacent to the Stadium and a rail line to the Pascack Valley line, part of the regional NJ Transit rail system. The rail service became operational in 2010 for events at the Stadium and full service will be provided with the opening of American Dream Meadowlands. The NJMC is developing the "Meadowlands Adaptive Signal System for Traffic Reduction (MASSTR), which is a traffic signal program to help traffic flow in the District by immediately adapting to current traffic conditions. (Appendix F of the DSEIS).

The Amusement Park and Water Park will not require any additional offsite public roadway improvements. The existing Meadowlands Sports Complex roadways (South Connector Road and East Peripheral Road) on the Arena Site will remain with this addition to the entertainment development. The roadways are not part of the redevelopment footprint for the Amusement Park and Water Park, and will remain as main circulation roads for vehicular traffic and

circulation at the Meadowlands Sports Complex. Vehicular access points to the Amusement Park and Water Park facility will be by two connections along the East Peripheral Road: the proposed loading dock and a maintenance/emergency access point just north of the support foundation for the observation wheel (Figure 1-8).

1.1.2.4 Infrastructure Improvements

As part of Phase I and II of the Meadowlands Xanadu Redevelopment Project, a series of extensions and improvements to existing infrastructure on and adjacent to the Arena Site were completed. For the Amusement Park and Water Park facility, potable water, sanitary sewerage, electricity and natural gas service will be extended from the Arena Site to the Amusement Park and Water Park site (see Section 4.13.2). For sanitary sewerage, a new force main will be constructed from the Amusement Park and Water Park facility to the existing sewer infrastructure on the ERC site that connects to the existing sanitary system pump station north of ERC Building A. From that point, the sewerage will be carried along with other sanitary waste from the redevelopment project at the Arena Site to the East Rutherford pump station on the north side of the racetrack. For potable water, new tie-ins into the existing water main located within the East Peripheral Road will be constructed.

The majority of the stormwater on the Radio Tower Site presently flows easterly to a drainage easement on the Radio Tower Site immediately adjacent to the Turnpike right-of-way, then through the Turnpike right-of-way easterly to a 96-inch diameter CMP storm culvert located beneath the New Jersey Turnpike roadway. As part of the Amusement Park and Water Park Project, certain drainage improvements are proposed within the drainage easement on the Radio Tower Site and Turnpike right-of-way (Figure 1-8). Two stormwater outfalls and one combined scour hole will be constructed within the drainage easement on the Radio Tower Site. The existing 96-inch CMP culvert underneath the Turnpike will be cleaned out. The two ends of the 96-inch culvert will be improved with new headwalls and scour aprons for outlet protection. Temporary access will be required to construct these improvements at the existing Turnpike culvert. Modification to the legal boundaries of the existing drainage easement on the Radio Tower Site will be required. Further details about the drainage easement on the Radio Tower Site, drainage improvements within the Turnpike right-of-way, and infrastructure improvements are provided in Section 4.13.

1.1.2.5 Wetlands Mitigation

The Federal Section 404(b)1 Guidelines set forth the standards for evaluating impacts associated with discharges of dredged or fill material and establish requirements for mitigating permittable impacts to waters of the United States. The Guidelines require applicants to follow

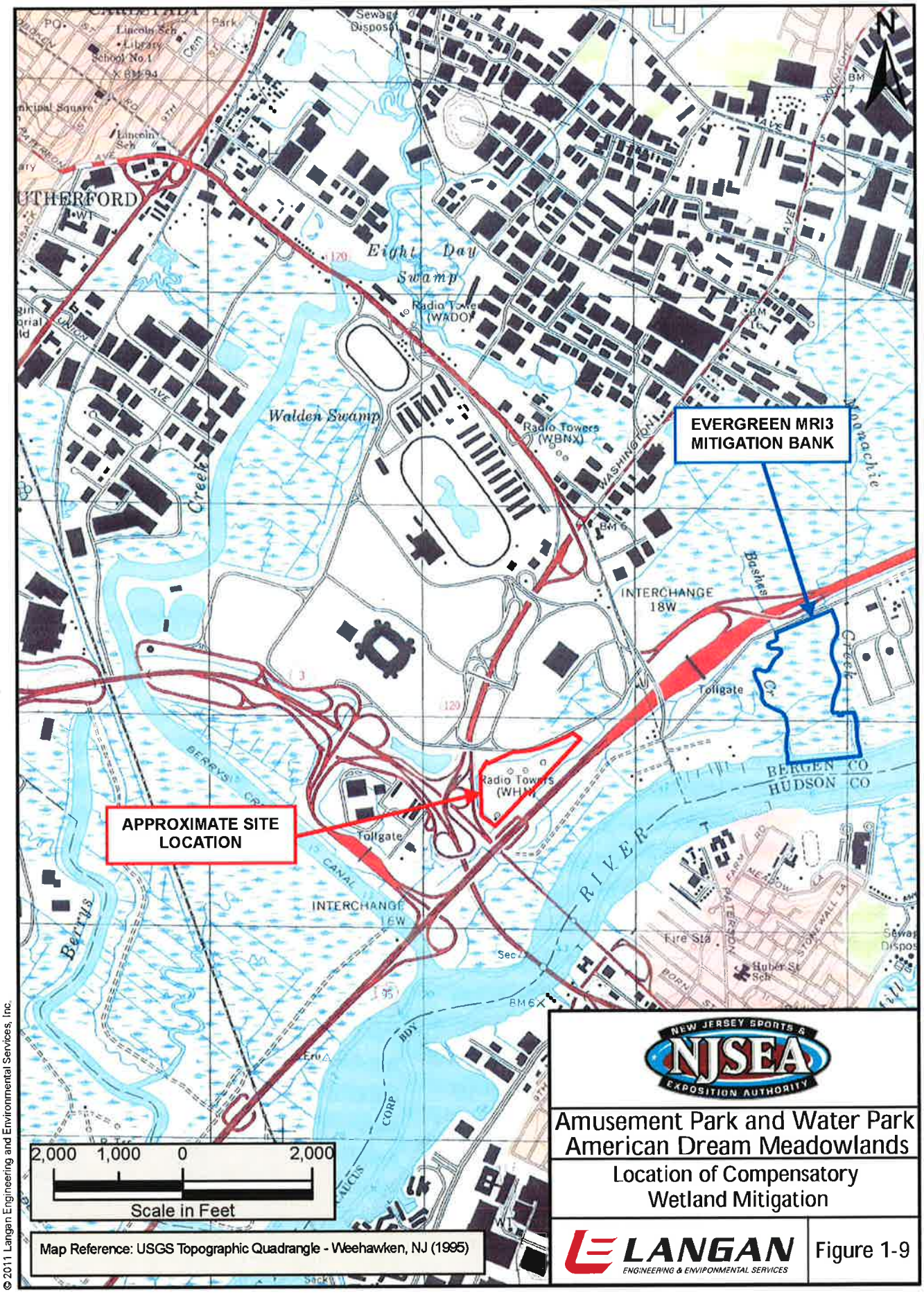
the mitigation hierarchy of avoidance, minimization and ultimately, compensation for unavoidable impacts.

As discussed in the Alternatives Analysis in Section 3.0, avoidance of wetland impacts is not practicable given the project purpose. Not building the Amusement Park and Water Park would cause the American Dream Meadowlands Project to be economically unviable. No viable offsite alternatives exist that would avoid impacts to waters of the U.S. Based on the configuration of the onsite wetlands, it is not possible to avoid impacting them.

The Amusement Park and Water Park Project results in a total of approximately 5.41 acres of wetland impacts, including approximately 5.26 acres of permanent impacts for the construction of the Amusement Park and Water Park buildings and associated infrastructure, and approximately 0.15 acres of permanent impacts for certain drainage improvements.

Through the evaluation of onsite alternative designs for the Amusement Park and Water Park, impacts to wetlands have been minimized from a total of approximately 6.7 acres under Alternative 1 to approximately 5.2 acres under Alternative 3, which is the selected alternative and the least environmentally damaging alternative. The Amusement Park and Water Park Project proposes no onsite parking. Instead, patrons will park at the existing parking lots/parking garages already constructed at the ERC, or arrive by rail or other mass transit. This shared parking approach results in a significant reduction in potential wetland impacts by reducing the overall footprint of the project. Thus, impacts to waters of the U.S. have been minimized to the extent practicable. These design considerations notwithstanding, the project, including the drainage improvements adjacent to the Turnpike culvert, will result in approximately 5.41 acres of unavoidable impacts to wetlands.

The Developer will compensate for the 5.41 acres of permanent impacts to tidal and non-tidal emergent wetlands associated with the Project with the purchase of a total of 5.41 credits from the Evergreen MRI3 Mitigation Bank. The Evergreen MRI3 Mitigation Bank, located along the Hackensack River approximately 3,000 feet north of the Project Site, has received approvals from the regulatory agencies (Figure 1-9). The applicant has entered into written agreements with Evergreen Environmental, LLC to reserve and purchase 1.90 Pre-Construction credits and 3.51 Post Construction credits from the Bank.



NEW JERSEY SPORTS & EXPOSITION AUTHORITY
NJSEA

Amusement Park and Water Park
American Dream Meadowlands

Location of Compensatory Wetland Mitigation

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Figure 1-9

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This compensatory mitigation plan is consistent with the Final Rule for Compensatory Mitigation for Losses of Aquatic Resources (40 CFR Part 230), dated April 10, 2008. The Rule allows for the purchase of credits from an approved mitigation bank if the Project is within the Bank's service area. A Mitigation Banking Instrument for the Evergreen MRI3 Wetland Mitigation Bank was approved by the USACE in January 2012. The Bank's service area encompasses the watershed where the Project site is located. Credits from the Bank will provide mitigation at a ratio of one credit for each acre of wetlands to be filled at the Project Site (1 to 1).

1.1.3 Definition of the Project Area(s)

The Meadowlands Xanadu Redevelopment Project, which was the subject of the August 2004 EIS, encompassed the entire Arena Site as shown on Figure 1-9, but excluded the IZOD Center. The proposed lease area for the American Dream Meadowlands Project does not encompass the entire footprint of the original Meadowlands Xanadu Redevelopment Project area. The American Dream Meadowlands Project area is comprised of three distinct project areas as defined and referred to in this Final Supplemental EIS (Figure 1-10). The first project area is the ERC of the former Meadowlands Xanadu Redevelopment Project area, which encompasses the actual ERC building and associated parking decks constructed on the Arena Site. The second project area is the Radio Tower Site on which the Amusement Park and Water Park is proposed. The third project area is the Drainage Improvement Area within the New Jersey Turnpike right-of-way.

The environmental impacts associated with the ERC building and parking decks (i.e., first project area) are not changing from the original August 2004 EIS. Therefore, this Supplemental EIS does not address these components of the overall Arena Site. This Final Supplemental EIS addresses the proposed structures and infrastructure improvements associated with the Amusement Park and Water Park to be constructed on the 21.75-acre Radio Tower Site (i.e., second project area) and drainage improvements within the Turnpike right-of-way (i.e., third project area).

Legend

- Drainage Improvement Area
- Radio Tower Site
- Arena Site
- American Dream Meadowlands

300 150 0 300

Scale in Feet

Map Reference: Promaps Inc., Moorestown, NJ - Flyover Aerial Photography (6-2011)

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NEW JERSEY SPORTS & EXPOSITION AUTHORITY

Amusement Park and Water Park American Dream Meadowlands

Project Area and Drainage Improvements Area

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Figure 1-10

1.2 Project Sponsor

The Amusement Park and Water Park component of the American Dream Meadowlands Project is sponsored by the NJSEA, which owns and manages the entire Meadowlands Sports Complex. The NJSEA and Triple Five anticipate that the Radio Tower Site will be transferred to the NJSEA, incorporated into the lands of the Meadowlands Sports Complex, and then leased by the NJSEA to an affiliate of Triple Five.

As an entity of the State of New Jersey, the NJSEA is the official preparer of this Final Supplemental EIS, which is to be used to support the Consultation Process with the NJMC and NJDEP. The Consultation Hearing process is being undertaken pursuant to Sections 5:10-5(x) and 5:10-23 of the NJSEA's enabling legislation (Public Law 1971, Chapter 137 (codified at N.J.S.A. 5:10-1 et seq.)).

1.3 Project Schedule / Construction Sequencing

Construction of the Amusement Park and Water Park is anticipated to begin in 2012 after required permits and approvals have been obtained. Subject to obtaining the required permits, the project's schedule anticipates opening of the Amusement Park and Water Park in 2014.

1.4 Location, Type and Character

Section 5(x) of the NJSEA's enabling Legislation requires the NJSEA to consult with the NJMC on the location, type and character of proposed projects (N.J.S.A. 5:10-5x). This section of the Final Supplemental EIS has been prepared to summarize information about the location, type, and character of the Amusement Park and Water Park Project and reference the reader to other sections of this Final Supplemental EIS where this information is presented in further detail.

Project Location – As described in Section 1.1.1, the Amusement Park and Water Park will be located on the Radio Tower Site located to the south of the Arena Site. The Radio Tower Site is bordered by the New Jersey Turnpike to the east, U.S. Route 3 to the south and U.S. Route 120 to the west (Figures 1-2, 1-3 and 1-4). The site is approximately 21.75 acres and is currently occupied by one radio tower transmission building and three radio towers. There are no other structures on the property. The radio towers are no longer operational and will be taken down. The operation of the towers was moved to a site in North Bergen as part of past Meadowlands Xanadu Redevelopment Project activities. The radio tower transmission building will also be razed as part of the project. The existing roadways (South Connector Road and East Peripheral Road) on the Arena Site will be retained with this addition to the entertainment development. The roadways are not part of the redevelopment footprint of the Amusement Park and Water Park, and will remain as main circulation roads for vehicular traffic at the Meadowlands Sports Complex (Figure 1-8). Vehicular access points to the Amusement Park and Water Park development will be connected via the East Peripheral Road at two locations: the proposed loading dock and a maintenance/emergency access point just north of the support foundation to the observation wheel.

The location of this entertainment component is critical to the overall success of the project. Specifically, by locating the Amusement Park and Water Park at the south end of the ERC, away from the parking, patrons using the Amusement Park and Water Park must pass through the ERC on their way in and on their way out, thereby achieving the desired interaction with the retail component of the ERC. This circulation pattern would not be achievable if the Amusement Park and Water Park were located at the north or northwest side of the ERC, where close proximity to parking would negate the potential for patrons to interact with the retail component. The addition of the Amusement Park and Water Park is necessary to fulfill the goals of the NJSEA in the redevelopment plan for the Arena site of "creating a multi-use destination that capitalizes on existing uses at the Meadowlands and expands the product mix in a manner that is complimentary to those uses."

Project Type - The design concept combines new entertainment uses to complement those incorporated in the ERC, focused on large volume indoor Amusement Park and Water Park components connected via an elevated pedestrian bridge to the existing ERC. The addition of the Amusement Park and Water Park entertainment components to the ERC will reinforce the vision of the NJSEA and the Developer to be a compelling international family entertainment destination and contribute a significantly broader appeal to the mix of uses compared to those proposed in the original Meadowlands Xanadu Redevelopment Project.

The Amusement Park and Water Park will provide an additional entertainment component to the overall ERC, and adds approximately 639,000 square feet of additional Gross Buildable Area (GBA) to the redevelopment project at the Arena Site (See Figure 1-8). South of the South Connector Road will be a two lobed building, with one end starting near Route 3 extending northerly towards Interchange 18W of the Turnpike. The Amusement Park and Water Park will be integrated into one building. The Amusement Park will be contained within a one floor enclosed structure with a footprint of approximately 318,000 square feet and a height above grade of approximately 100 feet. The Water Park will be contained within another one floor enclosed structure with a footprint of approximately 236,000 square feet and a height above grade approximately 115 feet.

The Amusement Park will provide experiences in the state-of-the-art, adrenaline inducing rides (roller coasters, drop tower) for the teen demographic through to traditional family friendly rides (i.e., carousel) for the youngest guests. The ride selection will include some of the more recent developments in the attraction industry, and will be kept relevant over time with the addition of complimentary and cutting edge equipment to ensure that its appeal in the marketplace continues. In the circulation spaces there will be games, kiosks and site furnishings all integrated to enhance the guest experience.

The Water Park will include some of the most popular and cutting edge water based rides and attractions available in the industry today, including pools (wave pool, river, spas) and water slides (speed slides, tube slides, interactive water play structures), as well as extensive deck areas for lounging and relaxation. Food and Beverage areas will also be provided.

Project Character – The indoor Amusement Park and Water Park will become entertainment anchors with broad appeal to the expanded entertainment offerings of the ERC, providing year-round consistent patron visits to the Meadowlands Sports Complex. The Amusement Park and Water Park will provide active and participatory components, as part of a program mix that will appeal to a broad demographic and foster significant repeat visitation. The concept combines and expands upon the best of Triple Five's other proven venues to provide a sense of place and an international family entertainment destination.

The Amusement Park and Water Park facility will optimize the use of the Radio Tower Site, integrate and complement the existing sports venues, retail and entertainment tenants, and restaurants, attracting a broader range of visitors, including local and regional visitors as well as tourists. The general configuration of the indoor Water Park and Amusement Park responds to the environmental and other constraints of the Radio Tower Site, while satisfying the functional and operational needs of a project of this type. The Amusement Park and Water Park building will face the New Jersey Turnpike and Route 120. The existing onsite Sports Complex roadway network will not require any reconfiguration to accommodate the new building. The Amusement Park and Water Park, combined with the ERC, will create a compelling signature attraction unparalleled in the world at this time.

1.5 Environmentally Responsible Buildings and Design

In the NJDEP Commissioner's October 1, 2004 Order it was concluded that the design and site constraints presented in the record may preclude LEED certification for all elements of the original redevelopment project. Accordingly, the LEED requirement of the HOR was modified by the Commissioner to require the developer to incorporate, to the extent practicable, LEED and Energy Star Program standards within the design of the redevelopment project. For the ERC, the developer submitted an Energy Conservation and Sustainable Design Preliminary Status Report, dated October 2008, that addressed the incorporation of energy conservation and environmental design into the ERC building (Meadowlands Management, 2008).

The Developer is committed, to the extent practicable, to developing and implementing environmentally responsible building and design steps into the design, construction and operation of the Amusement Park and Water Park facility. A summary of some of the environmentally responsible building and design aspects being considered for the Amusement Park and Water Park facility are provided in Table 1-1. Environmentally responsible building concepts such as water conservation, energy conservation, peak load reduction, and advanced building controls are being evaluated. In addition, specific State energy and incentive programs will be incorporated into the evaluation and design process. The New Jersey Board of Public Utilities (BPU) Pay-for-Performance program can assist in achieving a superior level of energy performance of buildings. The Developer anticipates that an updated Energy Conservation and Sustainable Design Status Report will be provided to the Hearing Officer's as the design of the Amusement Park and Water Park is advanced.

Table 1-1

SUMMARY OF ENVIRONMENTALLY RESPONSIBLE BUILDING AND DESIGN FEATURES

General Category	Features for Evaluation and Implementation	Description of Potential Building and Design Feature
SITE SELECTION	Brownfield Redevelopment	The Amusement Park and Water Park Project is being developed on the Radio Tower Site that is a brownfield site. The redevelopment of the Radio Tower Site avoids potential impacts to undeveloped sites. The Project will take advantage of the existing Meadowlands Sports Complex surface parking areas by having patrons park at the existing parking areas on the Arena Site, thereby minimizing the need for building expansive new parking areas for the Project. No parking areas are being built on the Radio Tower Site as part of the Project.
	Reduce Heat Island Effect	The Heat Island Effect is the temperature difference between developed and undeveloped areas. Buildings, surface parking lots and streets contribute to the heat island effect by retaining solar energy. Roof surfaces that are either high albedo (high solar reflectance) or vegetated reduce heat absorption and, therefore, reduce the heat island effect. High albedo materials reflect solar energy rather than absorb it. For a sustainable design, roofing material for a flat or low-sloped roof should have an SRI of at least 78. The Amusement Park and Water Park roofs will evaluate the use of a roofing system that will allow the project to reduce potential heat island effects.
WATER CONSERVATION	Native Plant Landscaping	The majority of plantings in the landscape areas around the Project will be plants native to New Jersey and Northeastern America, as well as plants recommended by the NJMC. Native plants typically require less watering for proper growth and maintenance, and can withstand drought better than non-native exotic landscape plants.
	Select Fixtures For Potable Water Use Reduction	The Amusement Park and Water Park Project will incorporate a number of potable water use saving devices. Low-flush toilets, low consumption urinals and self-metering faucets will be installed in the public restrooms to reduce potential potable water consumption. Low-flush toilets are low consumption fixtures with 1.6 gallons per flush. Low-consumption urinals have 1.0 gallon per flush. Self-metering 0.25 gallon per cycle faucets will be installed in the public restrooms.
ENERGY CONSERVATION	Energy Efficient Envelope and Glazing	The design of the walls and roofs of the park buildings will be evaluated to provide for a high insulation value for energy efficiency. Where windows are provided in the buildings, windows will be double-glazed with Low-Emissivity Glass Coating (Low 'E'), thereby increasing their energy efficiency.
	Energy Star Product Utilization	The Energy Star Program (ESP) is a joint energy management strategy program of the Environmental Protection Agency (EPA) and the U.S. Department of Energy (DOE). The goal of the ESP is to promote energy efficiency in order to obtain environmental and economic benefits. The ESP promotes energy efficiency within the nation's residential, commercial, and industrial sectors in order to provide cost savings and reduce greenhouse gas emissions. The ESP promotes energy efficient decision-making by providing the information and tools that make such decisions appealing and practicable, and reducing the risks and costs typically associated with energy-efficient technology. The ESP provides a range of Energy Star endorsed products oriented toward the commercial industry that are known for reliability and energy efficiency. Certain products will be evaluated and incorporated into the design of the Parks.
	Lighting Design and Lighting	The lighting design for the Amusement Park and Water Park will evaluate the use of energy efficient lighting fixtures. The lighting design will be compliant with the applicable energy code for the State of New Jersey, which follows ASHRAE 90.1 (2004). This means that the common area lighting is designed so it does not exceed 1.7 watts per square foot. The design of the Parks will also consider the use of automated lighting control system that promotes energy conservation through the use of an advanced control and management software systems.

Table 1-1

SUMMARY OF ENVIRONMENTALLY RESPONSIBLE BUILDING AND DESIGN FEATURES

General Category	Features for Evaluation and Implementation	Description of Potential Building and Design Feature
CONSTRUCTION	Construction Waste Recycling Program	A construction phase waste recycling program will be implemented for the Amusement Park and Water Park Project. The program will recycle major construction waste materials including wood, metal, concrete, cardboard and sheetrock. All construction waste is placed into designated waste containers and taken offsite to an off-site sorting facility. Certain materials may also be reused onsite. Both the construction waste recycling program and reuse of certain materials on-site will lead to the recycling and reuse of many waste products at the project site during the construction phase of the Project.
	Construction Phase Diesel Emission Reduction Program	A Diesel Emissions Reduction Program will be implemented for the construction phase of the Project. The goal of the program will be to reduce diesel particulate matter (PM) emissions by thirty five percent (35%) through the use of ultra-low sulfur diesel fuel and use of late-model equipment with specific retrofits that limit particulate matter emissions. The diesel emissions management program focuses on major construction equipment used on-site to build the Project.
	Use of Material with Recycled Content	Using materials with high recycled content conserves natural resources and reduces the energy used in the manufacturing process. By incorporating waste products, such as fly ash from coal combustion and blast furnace slag from steel production, into the production of cement a significant amount of energy is conserved. For the Project, the use of materials with recycled content will be evaluated and incorporated to the extent feasible.
	Low-Emitting Materials	The paints, coatings, adhesives, caulking and carpeting used for the Amusement Park and Water Park Project will be selected to reduce or eliminate "volatile organic compounds" or VOC's. Coupled with good ventilation, reducing or eliminating the VOC vapors emitted by caulking and carpeting and by drying paint and adhesives helps maintain a high standard of indoor air quality.
	Buy-Local Program	Long before diesel fuel prices soared past $5.00 a gallon, the importance of buying materials from sources close to the project was recognized by sustainable design programs and initiatives. Materials manufactured within 500 miles of a project site, or both manufactured and sourced within 500 miles of the project site are typically considered "local." The Project will be incorporating a substantial amount of local materials in the park buildings such as foam insulation, synthetic rubber and concrete.
OPERATIONS	Recycling Program	The Project will establish an extensive recycling program during operation of the parks to encourage and promote recycling by patrons. The recycling program will focus on the recycling of paper, glass, plastics, metals, cardboard and light bulbs.
	Post-Consumer Recycled Paper	All public restrooms will use papers with post-consumer recycled content. Operators of the Parks will highly recommend and encourage all tenants to use post-consumer recycled paper for all tenant applications including restaurants, fast food establishments, and other paper products used by tenants and customers.
	Building Management Systems	During the design of the Amusement Park and Water Park Project advanced metering building management systems, lighting control systems, efficient HVAC systems and exhaust fans with sensors will be evaluated for incorporation into the Project. These types of systems help to manage and minimize the use of electricity as well as cooling demands.
	Green Cleaning Products Program	Management of the Amusement Park and Water Park will require the use of "environmentally friendly" cleaning products. Management will consider the green seal standard GS-37 while procuring institutional cleaning products.

1.6 Hearing Officer's Report and Recommendations and Quarterly Reports

The NJMC and NJDEP Hearing Officers issued their findings and recommendations on the original August 2004 EIS in their Hearing Officer's Report and Recommendations in the Matter of the Hearings Held on the Proposed Meadowlands Xanadu Redevelopment Project (April 26-30, 2004), dated August 2004, and Section 5(X) Consultation Report and Recommendations in the Matter of Location, Type and Character of the Proposed Meadowlands Xanadu Redevelopment Project, dated August 2004 (NJMC and NJDEP 2004; NJMC 2004b). In accordance with their recommendations, the NJSEA and the previous developer have submitted a series of Quarterly Progress Reports to the Hearing Officers indicating the status of the redevelopment project at the Arena Site and how each of the requirements is being addressed.


PARKING DECK "A"
ENTERTAINMENT / RETAIL
IZOD CENTER
PARKING DECK "BCD"
ENTERTAINMENT / RETAIL
PARKING DECK "E"
ENTERTAINMEN
RETAIL
PARK
AMUSEMENT PARK
WATER PARK

2.0 PROJECT PURPOSE AND NEED

Statement of Project Purpose – To ensure that the State of New Jersey and its guests enjoyed the continued success and entertainment and economic benefits of the Meadowlands Sports Complex, the NJSEA developed a Master Plan in the mid-1990s. In furtherance of fulfilling the goal of the Master Plan to maintain the Meadowlands Sports Complex as a world-class entertainment, sports and tourist destination, the NJSEA determined that it was necessary to improve the Meadowlands Sports Complex with a project including, but not limited to, an entertainment and retail complex, restaurants, recreation areas, hotels, offices and other related buildings. Pursuant to that goal, the NJSEA approved the development of the project currently known as the American Dream Meadowlands Project. The purpose of the American Dream Meadowlands Project is to successfully complete the redevelopment of that portion of the former Continental Airlines Arena Site (Arena Site) at the Meadowlands Sports Complex that was designated for the ERC as envisioned and authorized by the NJSEA, in conformance with the NJSEA Master Plan. In addition, the purpose of the work on the Radio Tower Site is to complete the environmental remediation of this property. The addition of the Amusement Park and Water Park to the American Dream Meadowlands Project will provide two key, integrated entertainment components for the economic success of the ERC.

Need for the Project – The American Dream Meadowlands Project, along with the addition of the Amusement Park and Water Park, will help to achieve the goals of the NJSEA's Master Plan by enhancing the entertainment and economic benefits of the Arena Site and the Meadowlands Sports Complex overall. The addition of an Amusement Park and Water Park is necessary to ensure the economic viability of the American Dream Meadowlands Project and to further enhance the public purpose (McMillan Doolittle 2011). Without the Amusement Park and Water Park, the ERC will not be economically viable.

Construction of the original ERC component of the project was discontinued in 2009. To this day the ERC has not been completed. As a result of the economic downturn and other factors involving the retail industry, the then ERC project proponents were unable to attract tenants by being able to demonstrate that sufficient customers would come to shop, dine or otherwise use the amenities at the site. In order to fulfill the project purpose, there is a need for additional entertainment components to attract more patrons; and these patrons must be attracted to the site in a manner that will encourage shopping at the stores, utilizing the restaurants and otherwise spending time at the ERC. Based upon its experience at the Mall of America and West Edmonton Mall, Triple Five has demonstrated that the integration of amusement and water park components directly into these centers are effective means of attracting patrons and creating "destination type" centers that ensures economic viability so

long as these entertainment components are positioned in a manner that will encourage patronage at the retail component of the centers.

Mixed-use development is the customary form of development for large-scale projects. The Urban Land Institute's (ULI's) *Mixed-Use Development Handbook* documents that mixed-use development, which co-locates entertainment, retail, office, hotel and residential uses, has become the predominant form of large-scale development in modern America (ULI 2003). ULI documents reasons for supporting this type of large-scale development including: creation of synergies among multiple uses which produces an induced demand from other onsite uses; creation of a "sense of place" which makes the development a destination for consumers; sharing of infrastructure, such as parking and roads, which reduces projects costs and land use impacts; greater financial stability due to diversification of income sources; and a clustering of uses which leads to a reduction of sprawl and promotion of smart growth. This supports co-location of components. For the American Dream Meadowlands Project, the co-location and proper integration of nationally recognized entertainment components (i.e., Amusement Park and Water Park) with the retail components is critical to the success of the project (McMillan Doolittle 2011).

The American Dream Meadowlands Project is intended to meet the strategic planning objectives of the NJSEA. The Project will generate economic development for the Meadowlands Sports Complex and the State, increase tourism to the State, increase tax revenue, and contribute to the smart growth approach for the region. The Project will also generate greatly needed construction and operation jobs for the New Jersey and New York metropolitan area. The construction of the Amusement Park and Water Park will also provide the remediation for contamination of the Radio Tower Site. This facility will provide the presumptive remedy of an engineering control for the historic fill on the Radio Tower Site.


ENTERTAINMENT / RETAIL
PARKING DECK "A"
PARKING DECK "BCD"
IZOD CENTER
ENTERTAINMENT / RETAIL
AMUSEMENT PARK
WATER PARK

3.0 ALTERNATIVES ANALYSIS FOR THE PROPOSED PROJECT

Alternatives to the Amusement Park and Water Park component of the American Dream Meadowlands Project were examined to see if adverse environmental impacts could potentially be avoided or minimized, to the extent practicable, while still achieving the project purpose. This alternatives analysis was prepared following Federal guidance concerning alternatives for the proposed placement of fill in wetlands (i.e., Guidelines for Specification of Disposal Sites for Dredged or Fill Material (40 CFR Part 230) and State requirements relating to Coastal Zone Management Rules (N.J.A.C. 7:7E). These Federal and State guidelines provide for the examination of alternatives through a project-specific list of criteria, with the goal of selecting and demonstrating that the selected alternative minimizes or avoids environmental impacts, to the extent practicable, while achieving the project purpose.

Under the 404(b)(1) Guidelines (40 CFR § 230.10(a)), a permit for the discharge of dredged or fill material will not be granted "if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences." An alternative is practicable if it is "available and capable of being done after taking in consideration cost, existing technology, and logistics in light of overall project purposes." Thus, an alternative may be deemed impracticable if it is not available to the applicant or if it would cost too much or for the reasons related to logistics or existing technology. An alternative may also be rejected because it has other significant environmental consequences. Finally, to be "practicable," an alternative must meet the overall project purpose.

Although there are a number of elements contained in the project purpose, at a minimum, each alternative must provide the following to satisfy the project purpose: adequate size and shape for the planned entertainment uses; close proximity and functional relationship to the existing ERC to achieve necessary synergies; economic viability, including good visibility from major highways; and adequate public benefits to NJSEA, the Meadowlands, and the local community. Each Alternative considered in this analysis will be evaluated to determine whether it satisfies these elements, as well as the other requirements of practicability. Moreover, each alternative must achieve compliance with the New Jersey Technical Requirements for Site Remediation (N.J.A.C. 7:26E-1.1 et seq.)

3.1 Methodology

This alternatives analysis considered and examined three types of alternatives: No-Action Alternative, Offsite Alternatives, and Onsite Alternatives. Within each of these types of alternatives, several alternatives were considered. These are summarized below:

i) No-Action Alternative
ii) Offsite Alternatives
    (a) East Side of Meadowlands Sports Complex
    (b) West Side of Meadowlands Sports Complex
    (c) Paterson Plank Road
iii) Onsite Alternatives
    (a) Onsite Design Alternative 1
    (b) Onsite Design Alternative 2
    (c) Onsite Design Alternative 3

Under the Onsite Alternatives analysis, potential steps to minimize the footprint of the proposed development are considered, such as stacking of buildings and a reduction in the overall gross buildable area of the parks.

Section 3.2 presents the No-Action Alternative and discusses the feasibility of taking no action or, more specifically, not redeveloping the Radio Tower Site with the Amusement Park and Water Park. Section 3.3 presents the limitations inherent in considering the Offsite Alternatives for this redevelopment project and a discussion of offsite alternatives adjacent to the existing ERC building. Section 3.4 examines the feasibility of several onsite design alternatives in light of three general evaluation criteria (e.g., technology and logistics, cost and economic viability, and environmental consequences). The evaluation of the three onsite design alternatives considers the design and practicability of the alternatives, and their potential environmental consequences. An evaluation of the Onsite Alternatives is presented along with a discussion concerning potential minimization of impacts. Section 3.5 presents the conclusions of the analysis and the least environmentally damaging practicable alternative.

3.2 No-Action Alternative

The No-Action Alternative would not realize any redevelopment of the Radio Tower Site and would fail to meet the project purpose. The environmental and socioeconomic impacts of the No-Action Alternative have been comparatively evaluated against those of the Project. Without the Amusement Park and Water Park component for the American Dream Meadowlands Project, the ERC would not meet the purpose of the Project. The danger of not making the site suitable for a strong entertainment component, combined with retail, raises the possibility of

financial weakness in this market and the likelihood of not completing the ERC. The ERC would remain an unfinished eyesore on state owned land. Without the completion and success of the ERC, the redevelopment of the Arena Site will not proceed.

Under the No-Action Alternative, the wetlands on the Radio Tower Site would not be filled and the proposed wetland mitigation would not be realized. Neither the NJSEA, local communities nor the general public would fully realize the positive social and economic gains from the project. The increase of employment opportunities, both during construction and operation phases of the project, and the indirect employment created in northern New Jersey would not be realized. Additionally, the NJSEA would not receive other economic benefits and the State and local municipalities would not gain increased tax revenues. The No-Action Alternative would not achieve compliance with the cleanup requirements for the Radio Tower Site.

3.3 Offsite Alternatives

The NJSEA went through an extensive alternative site selection process for locating the Meadowlands Sports Complex in the early 1970s (NJSEA 2004). NJSEA's efforts in the Redevelopment of the Continental Airlines Arena Site, which led to the selection of the Meadowlands Xanadu Redevelopment Project, considered a number of different developer proposals for the Arena Site. These off-site and on-site site selection processes are detailed in the August 2004 EIS for the Meadowlands Xanadu Redevelopment Project.

There are no feasible offsite alternative sites for the construction and operation of the Amusement Park and Water Park component of the American Dream Meadowlands Project. The Amusement Park and Water Park must be located immediately adjacent to and fully integrated with the existing ERC building in order to provide the desired retail and entertainment synergies. Building the Amusement Park and Water Park a distance from the ERC would lead to a lack of synergy between the retail and entertainment components of the ERC. The entertainment uses must be in close proximity to the retail uses of the ERC and facilitate pedestrian traffic past the retail operations. By locating the Amusement Park and Water Park immediately adjacent to the ERC and selecting a connection point between the Amusement Park and Water Park and ERC building that requires patrons of the Amusement Park and Water Park to walk from their point of arrival (existing parking facility or mass transit) through the ERC and to the Amusement Park and Water Park, the necessary interaction between the entertainment and retail uses of the project is accomplished. Triple Five's experience at their other centers where they successfully operate large scale entertainment and retail facilities clearly shows the close interactive nature of the entertainment and retail uses and the need to configure the American Dream Meadowlands Project components as proposed for the project to be economically viable (see also McMillan Doolittle 2011).

Integration of traditional mixed-use development facilities with emphasis on sports and entertainment venues creates important synergies among the different uses. Increasing the diversity of uses and income streams adds to the overall project's financial stability. Excluding entertainment and sports would undermine the NJSEA's objective of a sports and entertainment-themed redevelopment project. Thus, moving one or more of the overall project components offsite would undermine NJSEA strategic planning objectives, which are part of the project purpose and need.

Alternative locations for the Amusement Park and Water Park around the existing ERC building are not feasible. The geographical area considered for the off-site alternatives analysis included the East Side of the Meadowlands Sports Complex, West Side of the Meadowlands Sports Complex and Paterson Plank Road just to the north of the Arena Site. Sites further away from the Meadowlands Sports Complex area were not considered since the Amusement Park and Water Park purpose is to anchor the existing ERC with this key entertainment component to ensure the economic viability of the American Dream Meadowlands (see Purpose and Need in Section 2). These three offsite alternative locations are listed below with a discussion of why each of them is not feasible.

East Side of Meadowlands Sports Complex - The land on the East Side of the Sports Complex (i.e., Arena Site) located to the north of the IZOD Center is not controlled by Triple Five. This land is part of the former Meadowlands Xanadu Redevelopment Project and is master planned for a hotel and office complex. Even if this land were to become available to Triple Five, this alternative site would still not be a viable alternative since the location does not achieve the necessary configuration and integration for the entertainment components. Specifically, this site would allow patrons to directly access the entertainment venues without first circulating through the ERC and walking past the retail uses since parking is available immediately adjacent to this site and the proximity of the retail to the entertainment violates the economic model that makes this project viable. In addition, the NJSEA approved master plan for redevelopment calls for a hotel and office complex on these lands. Placing an entertainment component on these lands would remove the hotel and office complex from the overall redevelopment project, both of which provide important mixed-use development synergies such as shared parking, different uses through the day and week, shared infrastructure costs, and creation of a "sense of place" (ULI 2003).

The land on the East Side of the Sports Complex (i.e., Arena Site) located west of the IZOD Center is not controlled by Triple Five. This land is part of the former Meadowlands Xanadu Redevelopment Project and is master planned for a minor league baseball park. Even if this land were to become available to Triple Five, this alternative

site would still not be a viable alternative since the location does not achieve the necessary configuration and integration for the entertainment components. Specifically, this site would allow patrons to directly access the entertainment venues without first circulating through the ERC and walking past the retail uses since parking is available at this site and the proximity of the retail to the entertainment violates the economic model that makes this project viable.

West Side of Meadowlands Sports Complex - The surface parking lots located on the west side of Route 120 around MetLife Stadium is used for parking during events at the stadium. These lands are not controlled by Triple Five and are part of a long-term lease between the NJSEA and professional football teams (New York Giants and New York Jets). Even if these lands were to become available to Triple Five, this alternative site would still not be a viable alternative since the location does not achieve the necessary configuration and integration for the proposed entertainment component (i.e., Amusement Park and Water Park) into the existing ERC building. Specifically, this key entertainment component would be located too far from the existing ERC building to develop any type of direct synergy between the retail and entertainment components.

Paterson Plank Road - The redevelopment zone of Paterson Plank Road is located to the north of the East Side of the Meadowlands Sports Complex. The accumulation of several of these properties might provide enough acreage to meet the size and shape requirements of the entertainment component (i.e., Amusement Park and Water Park). These properties are not a viable alternative since the location does not achieve the necessary configuration and integration for the entertainment components into the existing ERC. Specifically, the entertainment components would be located too far from the existing ERC building to develop any type of direct synergy between the retail and entertainment components. In addition, it would require Triple Five and or the NJSEA to purchase these privately owned parcels at significant cost.

Development at an off-site location would also not provide for the environmental remediation of the Radio Tower Site. All of the off-site alternatives discussed above and related to the Project were not considered practicable or able to meet the project purpose and, therefore, were not further examined.

3.4 Onsite Alternatives

The Amusement Park and Water Park are key project entertainment uses that are intended to attract and retain tourists and patrons to the American Dream Meadowlands Project. The Amusement Park and Water Park component of the American Dream Meadowlands Project has minimum size requirements to achieve the scale and diversity of amusement park and water park features that will attract tourists and patrons. The location and proximity of the Amusement Park and Water Park to the ERC is critical to the success and economic viability of the American Dream Meadowlands Project.

Triple Five currently operates several world class tourist destination centers where the integration of an Amusement Park and/or Water Park entertainment components with retail uses has led to economically successful projects. For the American Dream Meadowlands Project, the goal is to develop an integrated Amusement Park and Water Park component connected to the existing ERC building in a specific location along the existing ERC building such that it will attract and retain patrons and provide the necessary synergies between the retail and entertainment uses. The Project has been designed such that people must walk from their parking area (or mass transit stop) through the ERC and past retail uses on their way into and out of the Amusement Park and Water Park. The location of the access point between the Amusement Park and Water Park is important in developing the necessary synergy. The access point to the Amusement Park and Water Park must be located near the central part of the ERC to facilitate the necessary patron movements. This circulation pattern is crucial to the financial viability of the Project.

The large size and diversity of the water park features and amusement rides is critical to realizing a world class destination that will attract patrons from all over the world. The minimum size requirements of the Amusement Park and Water Park described below outline these requirements. Triple Five's objective is to build a large indoor Amusement Park and Water Park in North America, thereby creating a draw for national and international tourists to visit the American Dream Meadowlands Project.

Based on Triple Five's experience with their other centers, tourists are attracted to these types of entertainment features where activities in the parks can provide entertainment for a one to two day period. Triple Five has found that a diversity of rides provides a key entertainment component that attracts patrons and tourists for long periods of time and repeat visits. These patrons also visit and support the retail elements of the centers, creating important synergies between the two uses.

The footprint of a general amusement park and water park layout must have a minimum size of around 20 acres to achieve the desired scale and diversity of attractions. The overall footprint of the buildings for the parks and perimeter access roadway is as follows:

Amusement Park Building - The minimum footprint of the amusement park building is approximately 318,000 square feet of indoor floor space. The amusement park typically includes a wide range of rides and attractions, with different zones for different themes/rides targeted at specific age groups (i.e., toddler, children and teenager). In addition to the indoor floor space of the amusement park, the building also provides for support areas including a food court, restrooms, ticketing booth, information kiosks, guest services, administrative offices and mechanical areas (approximately 50,000 square feet).

Water Park Building - The minimum footprint of the water park building is approximately 236,000 square feet of indoor floor space. The water park includes a main wave pool, large river and water play areas. Similar to the amusement park, the water park also provides for different zones for different rides and age groups. In addition to the indoor floor space for the water park, the building also provides for support areas including a food court, restrooms, changing rooms, ticketing booth, information kiosks, guest services, administrative offices and mechanical areas (approximately 75,000 square feet).

Perimeter Access Corridor Around Buildings - The amusement park and water park buildings require a perimeter access corridor for the constructability and operation of the buildings. The perimeter corridor provides a necessary construction staging outside of the building footprint. After construction, the perimeter corridor provides an area for a road that allows access to the exterior of the buildings for maintenance, access for emergency vehicles, and a place to direct patrons and workers should evacuations of the buildings be required in an emergency situation. The perimeter access corridor also provides room for underground utilities, landscaping, grading, and stormwater management infrastructure. A perimeter corridor from the edge of the structure footprint outward to the property boundary was set at 60 feet. Considering that the buildings have a perimeter of approximately 3,000 linear feet, the footprint of the perimeter access corridor around the building is approximately 180,000 square feet.

Combining the estimated footprints of the amusement park building, water park building and perimeter access corridor around the buildings yields a total project footprint of approximately 20 acres. This general amusement park and water park described above does not include any space for on-site automobile parking.

The actual footprint and configuration of an indoor amusement park and water park building has limited flexibility. The large dimensions of the parks are suitable for a square or rectangular shaped building. A narrow long building or a building varying in multiple dimensions is not a suitable design. Each park requires a separate, one-level floor area specifically for their rides and attractions with a vaulted roof (at least 115 feet in height). The water park is a fully enclosed structure due to climate requirements. The amusement park is fully enclosed to provide for year round operations. The food courts, restrooms, loading areas, ticketing booths, information kiosks, guest services and administrative offices of both parks can be shared if the amusement park and water park buildings are designed adjacent to each other, thereby reducing the overall footprint of the project.

The northern edge of the Radio Tower Site is immediately adjacent to the East Peripheral Road of the Meadowlands Sports Complex. This road is part of the "loop road" that connects the Arena Site (i.e., East Side of the Meadowlands Sports Complex) with the Stadium Site (i.e., West Side of the Meadowlands Sports Complex) and regional highways (New Jersey Turnpike, Route 120 and Route 3). The redevelopment of the Radio Tower Site will allow for direct access from the Radio Tower Site to the East Peripheral Road and regional highways. No roadway improvements are necessary for the Amusement Park and Water Park development, except for the two planned connections from the Radio Tower Site to the East Peripheral Road.

The redevelopment of Radio Tower Site is limited to its current shape and configuration, roadway access to the East Peripheral Road, and the current location of the ERC building. The Radio Tower Site is surrounded by the New Jersey Turnpike to the east, Route 3 to the south and Route 120 to the west. To the north is the Arena Site, with the East Peripheral Road and the existing ERC building. The proposed elevated pedestrian bridge connecting the Amusement Park and Water Park to the ERC building will occur at that section of the ERC closest to the Radio Tower Site and generally mid-way along the spine of the ERC. Customers and employees of the American Dream Meadowlands Amusement Park and Water Park will park at the surface parking lots or parking structures already constructed at the Arena Site, or arrive by mass transit. This arrangement provides for shared parking that reduces the potential footprint of the Amusement Park and Water Park facility.

The Amusement Park and Water Park are integrated into the overall project to attract patrons who must walk through the retail component (i.e., ERC) of the project. The retail uses of the ERC experience walk-by pedestrian traffic of patrons who make retail purchases. This patron synergy between the entertainment and retail uses is critical. The interaction between the entertainment and retail uses are based on pedestrian movements of patrons to the facility. A short walking distance from the ERC to the Amusement Park and Water Park is important to attract tourists and allow for the entertainment and retail use interactions. Therefore, the Amusement Park and Water Park must be located immediately adjacent to the ERC and be specifically situated to provide for this important interaction between the entertainment and retail uses of the American Dream Meadowlands Project. With a short walk on an elevated pedestrian platform from the middle of the ERC to the Amusement Park and Water Park entrance, the Radio Tower Site is the only feasible location for the Amusement Park and Water Park. Locating the Amusement Park and Water Park at an end of the ERC building would not provide the necessary patron interaction desired for viability of the Project.

To construct the Amusement Park and Water Park, additional acreage for this project component is required beyond the current footprint of the ERC building. The existing ERC building cannot be reconfigured to accommodate the Amusement Park or Water Park. The existing ERC building does not have the structural capacity required for the loads associated with parks, does not have the minimum roof heights for parks, and does not have the dimensional space needed for the parks. In addition, the loss of retail space from any retrofit of the existing ERC building to potentially accommodate an amusement park and water park would significantly reduce the necessary retail component of the project. Stacking of the Amusement Park or Water Park on top of the existing ERC is not feasible due to foundation and structural constraints of the existing structure. Therefore, horizontal expansion is necessary for the Amusement Park and Water Park.

All of the onsite design alternatives considered below have the same basic project components and characteristics as the Amusement Park and Water Park plan.

3.4.1 Evaluation Criteria

Technology and Logistics

These criteria considered and examined the technological and logistical practicability of the onsite design alternatives for each project component. The functionality of each project component design and the potential synergy between project components through component design and layout were examined. The technology and logistics criteria included several requirements as follows:

- Building Component Configuration -The Project has two main facilities, the amusement park and water park. Both of these facilities will share common areas such as loading docks, restrooms and food courts to reduce the overall footprint of the project. The orientation of the two facilities and the pedestrian bridge connecting the integrated amusement park and water park building to the ERC is critical to patron flow between the existing ERC and the parks (McMillan Doolittle 2011). The interactive concept between the retail and entertainment uses of the project allows patrons to walk through and pass the retail uses on their way to and from the entertainment uses, thereby creating the desired interaction between park patrons and retail. The proximity of the building and the two main facilities within walking distance of the ERC is paramount to realize the integration of entertainment and retail uses. Upon walking through an enclosed pedestrian bridge, the visual interaction of the patron with both the amusement park and water park is important. Therefore, locating the common area between the two main facilities near the enclosed pedestrian bridge is important. Positioning one park after the other (i.e., one would have to walk through the amusement park to get to the water park) would not allow the desired patron interaction between the two parks within close proximity to the ERC.

- One Level Configuration - The indoor amusement park and water park must be configured on one level with an elevated roof to provide patrons with an "open space" and "natural daylight" experience. These parks or portions of the parks cannot be "stacked" into several stories of operational levels. The rides in the amusement park and water park will have elevated components at least 80 feet in height, and in some cases even higher. Constructing a multi-story building and stacking the amusement park on top of the water park is impracticable when considering the weight of the equipment, additional costs of an elevated building and circulation logistics for patrons. The desired "natural daylight" experience in the parks would also be diminished in the lower level of a stacked arrangement. A stacking approach would not provide a building scale that is compatible in scale with the design and architecture of the surrounding development. A stacked park approach would also lead to a costly building structure due to the weight of the parks that would negate the economic viability of the project.

- Circulation and Access - The circulation and access criterion considers existing and proposed roadway and pedestrian circulation patterns that would provide a safe and workable solution in light of the existing characteristics of the Arena Site, Meadowlands Sports Complex, and the existing design of the ERC. From a vehicular access perspective, the existing counter-clockwise movement of traffic

entering and leaving the Arena Site on the existing loop road needs to be maintained. Presently, traffic entering the site moves around the East Peripheral Road enters parking areas or connects to other roads servicing the ERC, Arena Site and Meadowlands Sports Complex. One design objective was to continue this general counter-clockwise movement of traffic on the Arena Site, and if relocating a portion of this peripheral road, maintaining its overall function to the traffic pattern on the Meadowlands Sports Complex and egress to the regional roadway network. Pedestrian circulation in the ERC was considered in developing a feasible project plan since circulation of patrons to the amusement park and waterpark by directing patrons through the ERC is critical to the successful operation of the overall American Dream Meadowlands Project. The pedestrian circulation to and from the entertainment components with the ERC is critical.

The configuration of the amusement park and water park building was not substantially changed when examining onsite design alternatives due to the inherent design limitations discussed above. The parks connection to the ERC building by a pedestrian bridge was maintained in all three onsite alternatives, but expanded to a two bridge approach when considering constructing two separate buildings. The configuration of the amusement park and water park was maintained as a one level structure. In addition, some stacking of the common areas was used to reduce the overall footprint of the project while still maintaining the minimal size requirements of the parks.

Cost and Economic Viability

This criterion considered and examined the potential cost and economics of the onsite design alternatives. Variations in onsite design may lead to significant differences in cost of the project. Synergy between the new entertainment uses and the retail uses in the ERC are critical (McMillan Doolittle 2011). The creation of one of the largest indoor parks in North America is necessary to create the desired world class tourist destination for the American Dream Meadowlands Project. The size of the parks creates the attractions of tourists and patrons, who support the retail, which makes the economics and financing of the project possible.

The immediate proximity and integration of the Amusement Park and Water Park to the existing ERC building and the pedestrian movements through the ERC to the Amusement Park and Water Park dictate the economic viability of the Project. Building the Amusement Park and Water Park too far from the retail uses in the ERC would result in the retail uses failing to realize the economic gains from the patron interaction between the entertainment and retail uses; therefore, the project would not be economically viable.

Integrating certain common areas of the Amusement Park and Water Park helps to reduce the footprint of the Project and provides cost savings for the construction and operation of these types of entertainment features. Loading docks, food courts, restrooms, ticketing booths, information kiosks, guest services and administrative areas can be shared between the parks. Patron parking will not be required on the Amusement Park and Water Park Project site since shared parking will be provided at the existing ERC building.

Direct and indirect economic benefits are anticipated from the project including development that will create a large number of new local jobs, attract visitors and generate new tax collections for State and local governments.

Environmental Consequences

This criterion considered the projected wetlands and floodplain fill for each design alternative. Although the project will have other environmental consequences, such as wastewater production from operation of the project and enhancement of the regional Hackensack River ecosystem due to wetlands mitigation, the environmental consequences of the design alternatives beside impacts to wetlands and floodplains are basically similar and, therefore, were not repeated in the environmental consequences evaluation of this onsite alternatives analysis.

The redevelopment of the Radio Tower Site will have environmental impacts and require the filling of approximately 2.4 acres of tidal wetlands and approximately 2.8 acres of non-tidal, isolated wetlands (See Section 4.3.2). The wetlands on the Radio Tower Site have been heavily impacted from historic activities and are dominated by common reed. These wetlands have been subjected to intensive human disturbance and are surrounded by development including the Turnpike, Route 3, Route 120 and Meadowlands Sports Complex, thereby limiting their functions and values. The only surface hydrology connection from the tidal wetlands on the Radio Tower Site to the Hackensack River is through two culverts under the Turnpike. The non-tidal wetlands are isolated and are not hydrologically connected to the river by any surface connections. Approximately 70 percent of the property is located within the 100-year tidal floodplain of the Hackensack River, of which approximately 13.4 acres will be filled for the Project. This area lies within a tidal floodplain; therefore, restrictions regarding filling do not apply (See Section 4.5.2). The fill has no impact on flooding of the adjacent areas because the flood levels are driven by tidal storm surges. Even if the redevelopment of the Radio Tower Site does not proceed, the remediation of the site must be completed. Thus certain of the impacts will occur, including capping of the wetlands, regardless of the redevelopment.

3.4.2 Onsite Design Alternatives

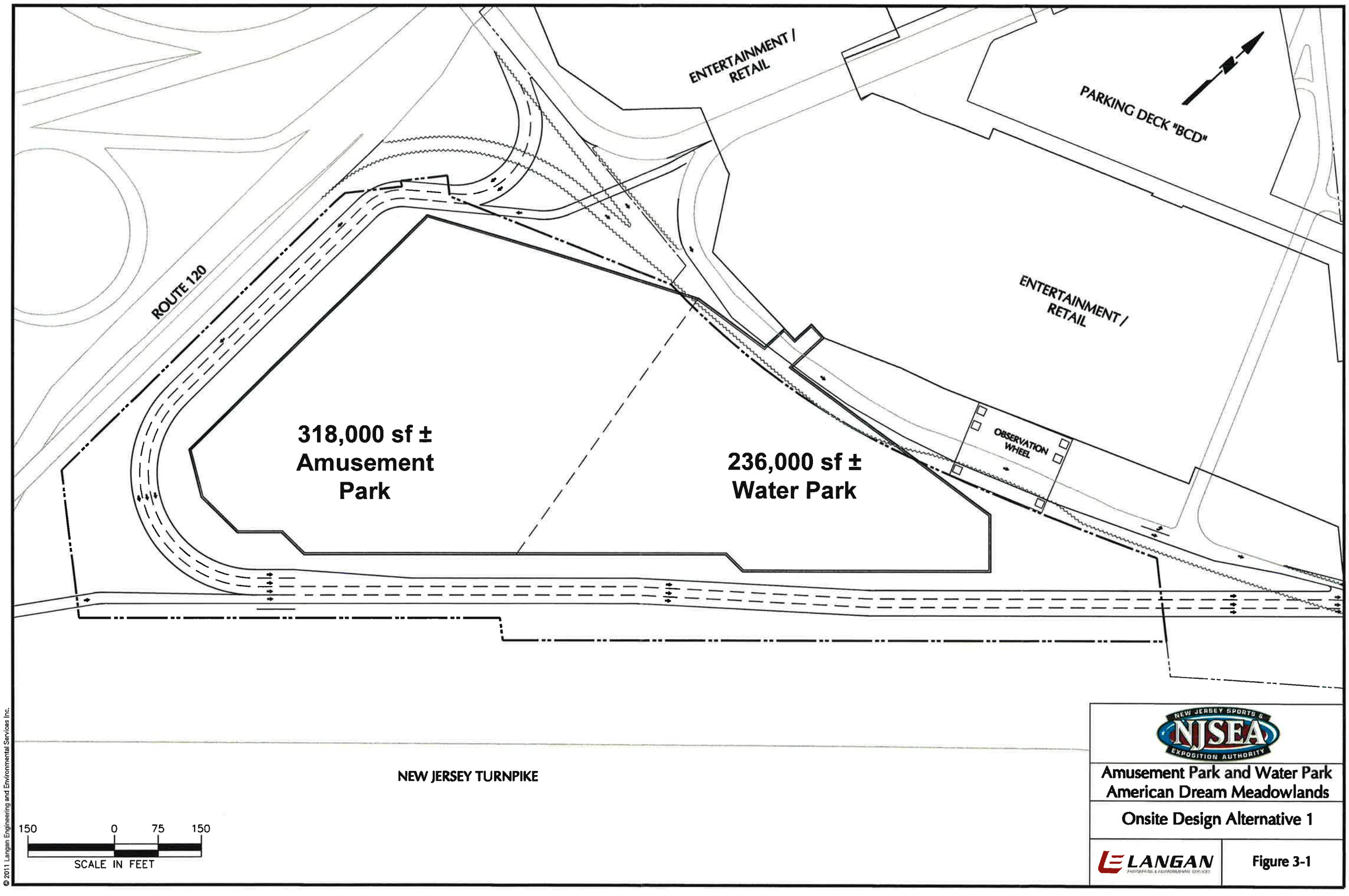
Several onsite design alternatives were developed to evaluate if there are practicable and feasible alternatives that could meet the project purpose while reducing or eliminating wetland impacts from the project. Three design alternatives, designated as Onsite Design Alternatives 1, 2 and 3, are presented below that evaluate the practicability and wetlands impact of onsite design alternatives. The environmental impacts projected for these alternatives do not include any drainage improvements since all alternatives will require these improvements.

Onsite Design Alternative 1

Onsite Design Alternative 1 (Alternative 1) is an integrated indoor amusement park and water park with a total footprint of approximately 20 acres (Figure 3-1). This design considered moving the existing three (3) lane peripheral road (East Peripheral Road/South Connector Road), which connects the southern end of the Arena Site with the West Side of the Meadowlands Sports Complex and the New Jersey Turnpike to the north, to the outer edges of the radio tower property so that the Amusement Park and Water Park building would be located within the main perimeter loop road encompassing the Arena Site. This would allow the Amusement Park and Water Park building to be as close to the existing ERC as possible and minimize the length of the pedestrian bridge first-level connection structure to the ERC. The current East Peripheral Road would be reduced to a one-lane road between the ERC and Amusement Park and Water Park building to allow continued access to the existing entrances for the ERC, while the main, multi-lane peripheral road for the Arena Site would be relocated to the outer portion of the Radio Tower Site.

Technology and Logistics

Under Onsite Design Alternative 1, the movement of the peripheral road on the Arena Site would require the existing right lane of the fly-over ramp from Route 3 East to Route 120 North to be redirected to enter the Radio Tower Site along the far eastern boundary parallel to the New Jersey Turnpike. An additional flyover structure over Route 3 Westbound would need to be constructed. The existing southern-most ramp into the Arena site coming off the Route 3 Eastbound fly-over ramp and connection to the East Peripheral Road would be closed. The main travel access road would provide the necessary fire/emergency access to the Amusement Park and Water Park building, eliminating the need for a separate perimeter access road around the Amusement Park and Water Park buildings as proposed in Onsite Design Alternative 2 (Alternative 2) and Onsite Design Alternative 3 (Alternative 3).



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Onsite Design Alternative 1

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Figure 3-1

Onsite Design Alternative 1 provides the closest pedestrian distance between the ERC and the Amusement Park and Water Park building. The shorter walk between the ERC and Amusement Park and Water Park building is a preferred building configuration when considering pedestrian circulation between the retail and entertainment uses of the American Dream Meadowlands Project. Therefore, the building location and configuration of Alternative 1 is preferred to Alternative 2 and Alternative 3. In addition, Alternative 1 has a preferred circulation and access arrangement compared to Alternative 2 and Alternative 3 since Alternative 1 is the closest to the existing ERC.

Cost and Economic Viability

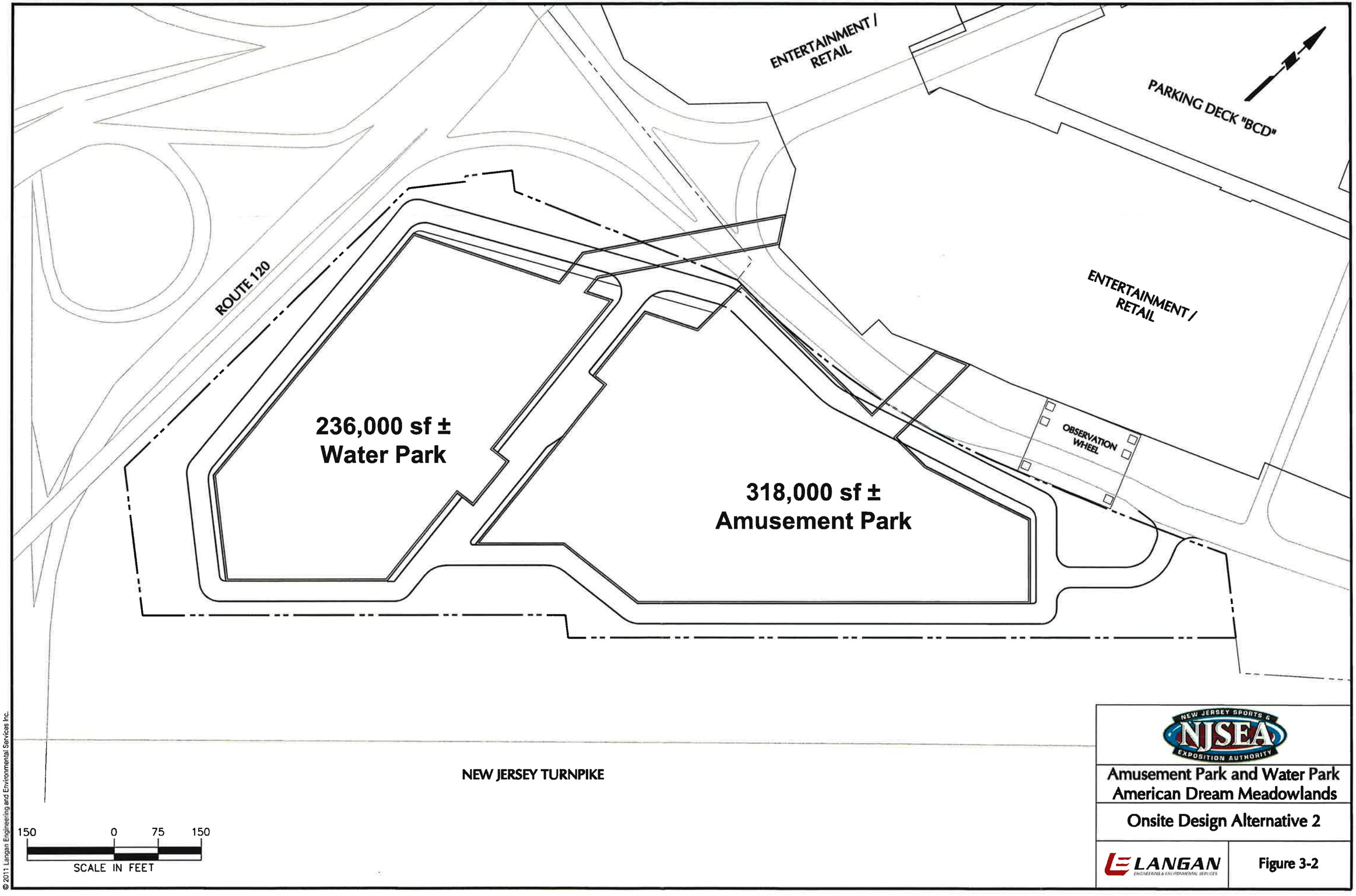
Alternative 1 would be more costly compared to Alternative 2 and Alternative 3 since Alternative 1 has the additional expense of relocating and constructing a portion of the East Peripheral Road to the outer edge of the Radio Tower Site, and constructing a modified flyover structure and ramp from Route 3 Eastbound. Any underground utilities under the East Peripheral Road might need to be relocated, adding to the cost of this alternative design. The cost of the pedestrian bridge connecting the ERC to the Amusement Park and Water Park building would be smaller compared to Alternative 2 and Alternative 3. The cost and economic viability of Alternative 1 is less preferred compared to Alternative 2 and Alternative 3.

Environmental Consequences

Alternative 1 would have a total area of disturbance of approximately 20 acres, plus additional lands beyond the Radio Tower Site that would be impacted for the roadway improvements required for this alternative. Approximately 6.7 acres of wetlands would be impacted by Alternative 1, while approximately 14.8 acres of floodplain would be impacted. Alternative 1 would have the largest impacts to wetlands and floodplains compared to Alternative 2 and Alternative 3.

Onsite Design Alternative 2

Onsite Design Alternative 2 is the development of separate Amusement Park and Water Park buildings on the Radio Tower Site (Figure 3-2). Each building would have its own food court, restrooms, ticketing booth, information kiosks, guest series, administrative areas and loading area. As a result, Alternative 2 has a larger footprint. Onsite Design Alternative 2 does not change the current location of the East Peripheral Road. The East Peripheral Road remains in place and no additional roadway improvements are required. Alternative 2 has a two-way access road around the perimeter of the Amusement Park building and Water Park building.



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Onsite Design Alternative 2

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Figure 3-2

This road provides access to the building's exterior for maintenance, utility corridor and fire access. The footprint of the perimeter road also provides the necessary construction zone work area to construct each of the buildings.

Under Onsite Design Alternative 2 the Amusement Park building and Water Park building are situated further from the ERC compared to the building location in Alternative 1. A pedestrian bridge is provided to each building under Alternative 2, leading to a longer distance for patrons to walk to the Amusement Park and Water Park from the ERC compared to Alternative 1.

Under Onsite Design Alternative 2 the Amusement Park building is situated in the eastern portion of the Amusement Park and Water Park Project site and the Water Park building is situated in the western portion. The configuration of the pedestrian bridges accessing the Amusement Park and Water Park from the ERC under Alternative 2 does not provide for the preferred patron access configuration where patrons have a short walk from the ERC and encounter both facilities. Onsite Design Alternative 2 does not provide for shared common areas, leading to a larger overall footprint compared to Alternative 3.

Technology and Logistics

Under Onsite Design Alternative 2 no roadway relocations or reconfigurations are required. The new perimeter access corridor around the two buildings would provide access from the Amusement Park and Water Park Project site to the Arena Site loop road. Alternative 2 provides an acceptable one level configuration of the parks.

Onsite Design Alternative 2 provides a greater pedestrian distance between the ERC and the Amusement Park building and Water Park building compared to Alternative 1. The longer walk between the ERC and Amusement Park building and Water Park building is a less preferred configuration when considering pedestrian circulation between the retail and entertainment uses of the American Dream Meadowlands Project. The buildings configuration of Alternative 2 is less preferred compared to Alternative 1 and Alternative 3.

Cost and Economic Viability

Alternative 2 would incur less cost compared to Alternative 1, and be slightly more expensive compared to Alternative 3. The two-way perimeter road under Alternative 2 would be less costly than the relocation of the East Peripheral Road and new ramp construction as proposed under Alternative 1. The cost of the pedestrian bridge connecting the ERC to the Amusement Park and Water Park building and two separate buildings with their own support areas would be higher compared to Alternative 3. The cost and economic viability of Alternative 2 is preferred compared to Alternative 1.

Environmental Consequences

Alternative 2 would have a total area of disturbance on the Radio Tower Site of approximately 19.4 acres. Additional lands beyond the Radio Tower Site would not be impacted since roadway improvements are not required for this alternative. Approximately 6.0 acres of wetlands would be impacted by Alternative 2, while approximately 14.6 acres of floodplain would be impacted. Alternative 2 would have smaller impacts to wetlands and floodplains compared to Alternative 1, but would have larger impacts to wetlands and floodplains compared to Alternative 3.

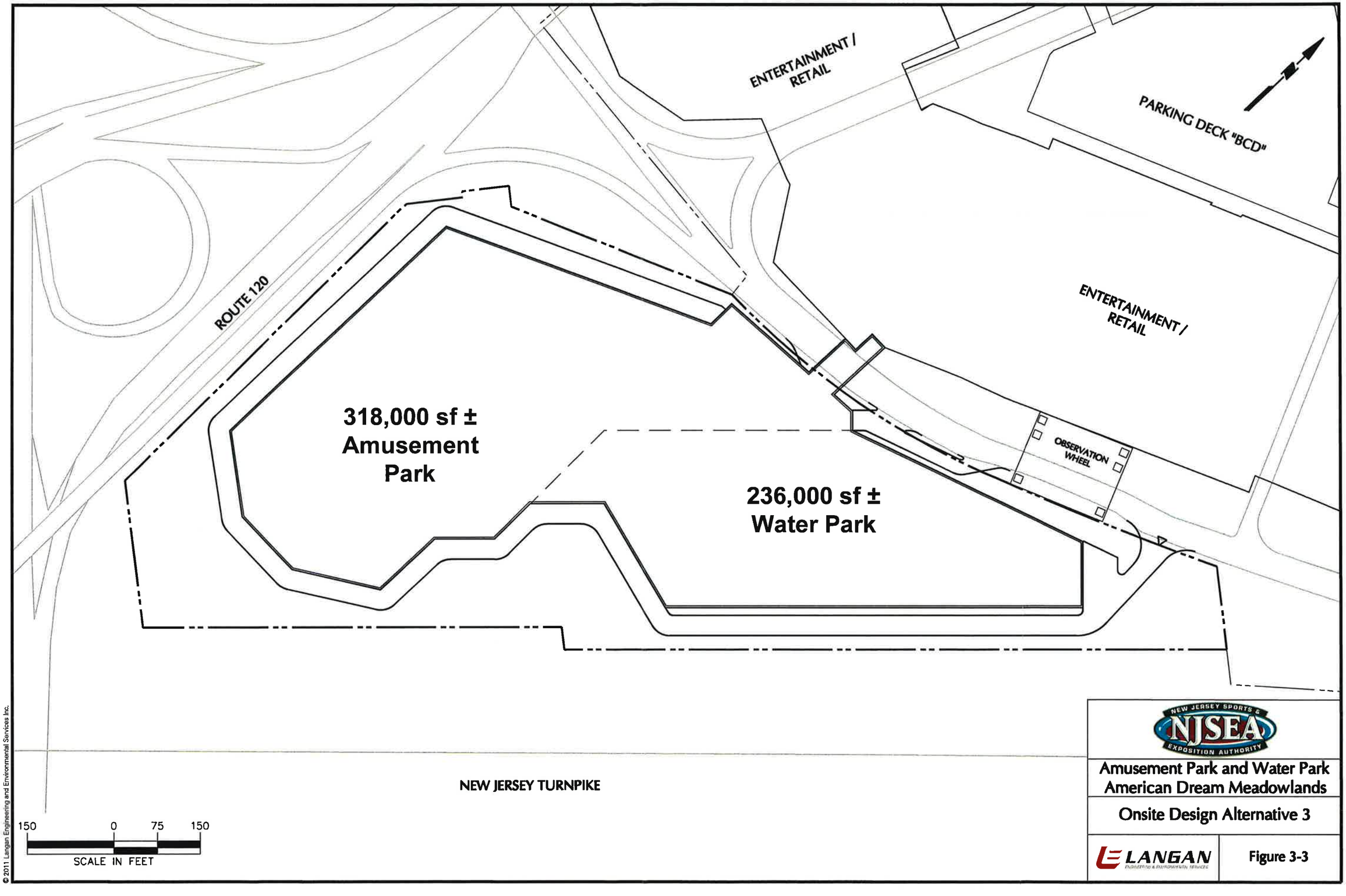
Onsite Design Alternative 3

Onsite Design Alternative 3, like Alternative 1, integrates the Amusement Park and Water Park buildings to facilitate the sharing of common areas (i.e., food court, restrooms, ticketing booths, information kiosks, guest services, administrative areas) (Figure 3-3). Onsite Design Alternative 3 does not change the current location of the East Peripheral Road. The East Peripheral Road remains in place and no other additional roadway improvements are performed. Alternative 3 has a two-way access road around the perimeter of the Amusement Park and Water Park building. This road provides access to the building's exterior for maintenance, utility corridor and fire/emergency access. The footprint of the perimeter road also provides a necessary construction zone work area to construct the building.

Under Onsite Design Alternative 3, the Water Park component is situated in the eastern portion of the Amusement Park and Water Park Project site and the Amusement Park component is situated in the western portion. The configuration of the Amusement Park and Water Park under Onsite Design Alternative 3 does provide for an appropriate configuration where patrons entering the facility from the ERC will encounter both facilities. This building configuration also provides a building shape that minimizes tidal wetland impacts along the eastern portion of the Amusement Park and Water Park Project site to the extent practicable.

Technology and Logistics

Under Onsite Design Alternative 3 no roadway relocations or reconfigurations are required. The new perimeter road would provide access from the Amusement Park and Water Park Project site to the Arena Site loop road.



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Onsite Design Alternative 3

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Figure 3-3

Onsite Design Alternative 3 provides a slightly greater pedestrian distance between the ERC and the Amusement Park and Water Park building compared to Alternative 1, but less than Alternative 2. The longer walk between the ERC and Amusement Park and Water Park building is a less preferred building configuration when considering pedestrian circulation between the retail and entertainment uses of the American Dream Meadowlands Project. The location of the Water Park under Alternative 3 is preferred compared to the location of the Water Park under Alternative 2. Under Alternative 3 both the Amusement Park and Water Park are immediately accessible after the pedestrian bridge, which is a preferred configuration for patron interaction with these entertainment uses. Therefore, the building location and configuration of Alternative 3 is preferred compared to Alternative 2.

Cost and Economic Viability

Alternative 3 would incur less cost compared to Alternative 1. The two-way perimeter road under Alternative 3 would be less costly than the relocation of the East Peripheral Road as proposed under Alternative 1. The cost of the pedestrian bridge connecting the ERC to the Amusement Park and Water Park building would be higher compared to Alternative 1. The cost and economic viability of Alternative 3 is preferred compared to Alternative 1.

Alternative 3, like Alternative 2, does not change the current main travel access road on the Arena Site. Instead, a separate perimeter road would be constructed around the Amusement Park and Water Park buildings to provide access to the buildings for exterior maintenance, fire/emergency access, and utility corridors. The perimeter road would also provide the necessary work area during the construction phase.

Environmental Consequences

Alternative 3 would have a total area of disturbance on the Radio Tower Site of approximately 19 acres. Additional lands beyond the Radio Tower Site would not be impacted since roadway improvements are not required for this alternative. Approximately 5.2 acres of wetlands would be impacted by Alternative 3, while approximately 14 acres of floodplain would be impacted. Alternative 3 would have fewer impacts to wetlands and floodplains compared to Alternative 1 and Alternative 2.

3.4.3 Evaluation of Onsite Alternatives and Minimization

The three onsite design alternatives for the Amusement Park and Water Park Project looked at reconfiguration of project components on the Radio Tower Site to reduce and avoid potential impacts to wetlands while still conforming to the project purpose and maintaining basic project component shapes and sizes for the parks. The stacking of common areas and integrating the two buildings into one, overall building design as presented in Alternative 3 minimizes impacts to wetlands and floodplains to the extent practicable.

Each onsite alternative takes advantage of the existing vehicular parking at the Arena Site. No parking is provided for the Amusement Park and Water Park on the Radio Tower Site. This shared parking approach helps to reduce the potential footprint of development for all three onsite alternatives.

Each onsite alternative incorporates solutions to vehicular access to the Amusement Park and Water Park buildings. Alternative 1 contemplates the relocation of the East Peripheral Road around the outside of the Amusement Park and Water Park building. This approach leads to the largest amount of wetland and floodplain impacts of the three onsite alternatives considered. Alternatives 2 and 3 take advantage of the existing roadway network and do not require extensive roadway work, except for the perimeter access road, thereby minimizing impacts to wetlands and floodplains.

As described above, laying out each park in their own building with its own loading dock and common areas yields a larger development footprint compared to sharing common areas and stacking the common areas. Alternative 2 is two acres larger than Alternative 3. Therefore, the ability to share common areas including a loading dock, pedestrian bridge, food court and restrooms helps to minimize the overall footprint of the project; thereby reducing potential impacts to wetlands and floodplain areas.

The synergy between the ERC and Amusement Park and Water Park needs to be carefully considered in each alternative. Each of the three onsite alternatives provides an elevated pedestrian bridge to the parks from the ERC. Alternative 1 provides one bridge with the shortest distance to the ERC. Alternative 3 also provides one pedestrian bridge connection, but with a slightly greater distance compared to Alternative 1. Alternative 2 provides for two pedestrian bridges since the parks are independent of each other in this alternative.

With respect to cost and economic viability, Alternative 3 will be less costly than Alternative 1 and Alternative 2 because of the shared common areas and smaller footprint of disturbance. Alternative 1 has expensive roadway relocations compared to Alternative 2 and Alternative 3.

Alternative 2 has two pedestrian bridges, with one bridge requiring a long walk by patrons to the Water Park. Alternative 3 has the desired synergistic arrangement of having the Amusement Park and Water Park located immediately adjacent to the ERC with a short enclosed pedestrian walk.

The environmental consequences of each onsite design alternative are progressively minimized. Alternative 1 results in the filling of approximately 6.7 acres of wetlands, while Alternative 2 results in approximately 6.0 acres of wetland impacts. Alternative 3 has minimized wetland impacts to approximately 5.2 acres. A similar decreasing trend in floodplain impacts is also realized as you proceed with the Alternative designs (approximately 14.8, 14.6 and 13.4 acres, respectively).

Alternative 3 is the practicable alternative design that provides the desired synergy with the existing ERC building and results in an economically viable design that also minimizes wetland impacts to the maximum extent practicable. The Amusement Park and Water Park is located immediately adjacent to the ERC, providing a short walking distance for the patrons from the ERC to the parks. The location of the enclosed pedestrian bridge requires patrons to walk through the ERC, thereby creating the desired synergy between the different uses. Alternative 3 provides for the sharing of common areas typical of the parks and stacking of these common areas, both of which reduce the required footprint of the project and, in turn, reduce potential wetland impacts.

Alternative 3 minimizes the project footprint but still requires unavoidable impacts to approximately 5.2 acres of wetlands on the Radio Tower Site. These wetlands are fragmented from the Hackensack River. The tidal wetlands are only hydrologically connected to the Hackensack River by two culverts under the Turnpike. The non-tidal wetlands are isolated and not connected by surface flow to the river.

Avoidance of the wetland impacts is not practicable given the project purpose. As discussed earlier in the analysis, not building the Amusement Park and Water Park would cause the American Dream Meadowlands Project to be economically unviable. Based on the configuration of the wetlands on the Radio Tower Site, it is not possible to avoid the wetland impacts without eliminating one of the parks and downsizing the other park to a size that does not satisfy the project purpose. Moreover, impacts to these wetlands are necessary to complete the remediation of the Radio Tower Site.

3.4.4 The Least Environmentally Damaging Practicable Onsite Alternative

In conclusion, based on an examination of the constraints of redeveloping the Radio Tower Site and the economic viability of the American Dream Meadowlands Project, the evaluation of the three onsite design alternatives, and the impracticability of further minimization of potential wetland impacts, Onsite Design Alternative 3 is the practicable onsite design that fulfills the project purpose and is the least damaging to the aquatic ecosystem.

3.5 Analysis Conclusion and Least Environmentally Damaging Practicable Alternative

The No-Action Alternative considered the potential alternative of not building the Amusement Park and Water Park. The projected socioeconomic and wetland mitigation benefits from the project would not be realized, and the current failing nature of the Meadowlands Xanadu Redevelopment Project would continue. Without the indoor Amusement Park and Water Park, the synergy between entertainment and retail uses would not be realized and the project would not go forward. The impacts estimated for Onsite Design Alternative 3 would still occur, but solely for remediation purposes. The No-Action Alternative would not meet the project purpose, and not assist in achieving the NJSEA strategic planning objectives for redeveloping of the Arena Site. An analysis of potential offsite alternatives was performed of sites immediately adjacent to the existing ERC building. No feasible offsite locations were identified.

An onsite alternatives analysis was performed to examine configurations that might reduce impacts to wetlands on the Radio Tower Site. The scattered location of tidal wetlands and isolated, non-tidal wetlands on the property made avoidance impracticable. Different designs including the use of common areas by both parks and the stacking of the common areas resulted in a reduced project footprint; thereby reducing potential wetland impacts. The onsite design alternatives were evaluated using technology and logistics, cost and economic viability, and environmental consequence criteria. It was concluded that although Alternative 1 was preferable from a logistics perspective, it was not preferred from costs and economic viability because of the extensive roadway construction required. Alternative 2 was more economically viable compared to Alternative 1, but did not meet the logistics criteria because of the far distance patrons would have to walk to the Water Park. Alternative 3 was preferred to Alternative 2 and Alternative 1 since it had the least environmentally damaging practicable onsite design alternative that meets the project purpose.

Based on this analysis it was concluded that Onsite Design Alternative 3 is the least environmentally damaging practicable alternative that meets the project purpose and, therefore, is the preferred alternative.

3.5.1 Non-Water Dependent Use Evaluation

The Amusement Park and Water Park facility is not a water-dependent use. Therefore, there is a rebuttable presumption under the Guidelines that alternatives exist that do not involve special aquatic sites, such as wetlands, and that these alternatives would have less impact on the aquatic environment.

The Offsite Alternatives analysis presented in Section 3.3 demonstrates that several upland alternative sites, which would have less impact on the aquatic environment, were considered in the analysis. These offsite locations were determined to be not feasible for the location of the Amusement Park and Water Park as a key entertainment component to the existing ERC project. The geographic area considered for the off-site alternatives included the East Side of the Meadowlands Sports Complex, West Side of the Meadowlands Sports Complex and Paterson Plank Road to the north of the Meadowlands Sports Complex. Sites beyond the Meadowlands Sports Complex area were not considered given the need for the Amusement Park and Water Park to be immediately adjacent to the existing ERC building. Each of the off-site locations offered potential upland alternatives. All of the off-site alternatives were not considered practicable since they would not be able to meet the project purpose.

On-site alternatives were also considered. Although the Radio Tower Site contains upland areas, these upland areas are not large enough to accommodate the minimum size of the Parks. The existing configuration of the delineated non-tidal wetlands and tidal wetlands on the Radio Tower Site makes it impossible to configure the Amusement Park and Water Park facility to avoid impacts to these wetlands. Based on an examination of the constraints of redeveloping the Radio Tower Site and the economic viability of the American Dream Meadowlands Project, the evaluation of the three onsite design alternatives, and the impracticability of further minimization of potential wetland impacts, the analysis concluded that Onsite Design Alternative 3 was the practicable onsite design that fulfills the project purpose and is the least damaging to the aquatic ecosystem. The analysis demonstrates that potential impacts have been avoided and minimized to the maximum extent practicable. The on-site alternative design selected was considered the least environmentally damaging alternative.

Based on the offsite alternatives analysis and onsite alternatives analysis, there are no upland sites that can accommodate the Amusement Park and Water Park facility that would fulfill the purpose of the project. In addition, impacts to the on-site wetlands are necessary to implement the presumptive remedy for the contaminated fill on the Radio Tower Site.

3.5.2 Avoidance of Wetlands Evaluation

The Offsite Alternatives presented in Section 3.3 and the Onsite Alternatives presented in Section 3.4 considered avoidance of wetlands impacts as part of the alternatives analysis. The analysis concluded that avoidance of wetland impacts was not feasible given a variety of criteria including restrictive land uses on adjacent offsite locations; required configuration of the Amusement Park and Water Park immediately adjacent to the existing ERC building to facilitate the required synergy between retail and entertainment uses; the existing environmental constraints and wetlands configuration on the Radio Tower Site; and, the minimum size required for the Amusement Park and Water Park building and the need to perform remediation for contaminated historic fill. These analysis criteria lead to the selection of a project site and onsite alternative designs, none of which could avoid wetland impacts.

The Offsite Alternatives analysis presented in Section 3.3 demonstrates that several upland alternative sites, which would have potentially avoided wetland impacts, were considered in the analysis. These offsite locations were determined to be not feasible for the location of the Amusement Park and Water Park as a key entertainment component to the existing ERC project. Each of the off-site locations offered potential upland alternatives. All of the off-site alternatives, however, were not considered practicable since they would not be able to meet the project purpose.

On-site alternatives were also considered. Although the Radio Tower Site contains upland areas, these upland areas are not large enough to accommodate the minimum size of the Parks. The existing configuration of the delineated non-tidal wetlands and tidal wetlands on the Radio Tower Site makes it impossible to configure the Amusement Park and Water Park facility to avoid impacts to these wetlands. All three onsite design alternatives considered required impacts to wetlands. The analysis concluded that Onsite Design Alternative 3 was the practicable onsite design that fulfills the project purpose and had the least amount of wetland impacts.


PARKING DECK "A"
ENTERTAINMENT / RETAIL
PARKING DECK "BCD"
IZOD CENTER
ENTERTAINMENT / RETAIL
PARKING DECK "E"
ENTERTAINMENT RETAIL
AMUSEMENT PARK
WATER PARK

4.0 ENVIRONMENTAL CONDITIONS, IMPACTS AND MITIGATION

This section of the Final Supplemental EIS focuses on the construction of the new indoor Amusement Park and Water Park Project (i.e., Project) of the American Dream Meadowlands, which will be constructed on the Radio Tower Site. This section provides a description of the existing environmental resources and conditions present on and around the Radio Tower Site, and discusses impacts and mitigation associated with the Amusement Park and Water Park. Existing environmental conditions, impacts and mitigation associated with the offsite drainage improvements proposed within the New Jersey Turnpike right-of-way are also addressed.

This section is subdivided into separate subsections based on each of the 21 separate environmental disciplines/resources as presented in the original August 2004 EIS. Each discipline/resource subsection is further subdivided into separate discussions of Existing Conditions, Impacts, and Mitigation. At the end of this section, following the separate environmental discipline/resource discussions, are three additional subsections pertaining to Avoidance of Adverse Impacts, Short Term and Long Term Impacts, and Indirect and Cumulative Impacts.

4.1 Geology and Soils

4.1.1 Existing Conditions

The Radio Tower Site has the same geologic conditions as the Arena Site as presented in the August 2004 EIS (NJSEA 2004). The United States Geological Survey (USGS) and the New Jersey Geological Survey *Bedrock Geologic Map of Northern New Jersey* (1996), characterizes the underlying bedrock in the region as reddish-brown silty to sandy mudstone, siltstone, and shale as part of the Passaic Formation (formerly Brunswick) dating from the Lower Jurassic and Upper Triassic Period (Figure 4-1). The Passaic Formation is part of the Newark Supergroup of sedimentary and bedded volcanic rocks. The reddish-brown mudstone, siltstone and shale of this bedrock originated from non-marine sediments deposited from erosion of much older rocks, primarily from the Paleozoic and Precambrian ages.

In more recent geological times, the Hackensack Meadowlands was covered by glacial advances (USEPA and USACE, 1995). The ice sheets scoured and eroded the Hackensack River Valley and then deposited the eroded material as they retreated. As a result, glacial deposits cover most of the bedrock in the area.

The most recent glacial advance carved out a depression in the Hackensack Meadowlands that allowed for the formation of what is called Lake Hackensack (USEPA and USACE, 1995). As

the glacier receded, meltwater filled the lake and deposited alternating layers of sand, silt, and clay on the lake bottom. Coarser soil particles, sands and gravels were deposited during the warmer periods of a year. Fine-grained, suspended silt and clay particles settled out during the winter when there was less runoff into the lake. This deposition pattern resulted in one coarse-grain varve and one fine-grain varve per year. There are areas in the Hackensack Meadowlands where the varved clay stratum is nearly 200 feet thick. As water levels in the ocean and lakes rose, the natural dam that enclosed Lake Hackensack was eroded away. The draining of the lake caused a discontinuous layer of silty sand to deposit over portions of the area. As ocean levels continued to rise, the deposits of organic matter (peat or "meadow mat," and organic silt and clay) created tidal marsh areas in the Hackensack River basin.

The underlying geology of the Radio Tower Site is similar to that of the Arena Site. A preliminary geotechnical field investigation of the Radio Tower Site was performed by Langan Engineering and Environmental Services (Langan) to provide information for the design of the proposed structures, utilities and earthwork (Langan 2011e). The geotechnical investigation consisted of 5 drilled borings and 3 cone probe borings that were performed at select locations within the footprint of the amusement park and water park.

The Radio Tower Site subsurface conditions generally consist of fill materials underlain by organic silt and peat (marsh deposits), varved clay, glacial till, and shale bedrock. The following provide a detailed description of the observed subsurface strata:

- ***Fill*** - A 4 foot to 17-foot-thick layer of fill consisting primarily of brown to black sand with varying amounts of gravel, silt, clay, peat, roots, and debris was encountered in all three borings.

- ***Marsh Deposits*** - A layer of marsh deposits consisting of black peat (meadowmat) and gray organic silt was encountered beneath the fill layer in thicknesses typically ranging from 5.5 feet to 8 feet. A 1.5-foot thick layer of gray silty sand was encountered beneath the marsh deposits in one of the borings.

- ***Varved Clay*** - A stratum of brown varved clay and silt (identified herein as "varved clay") was encountered beneath the marsh deposits. The thickness of this stratum ranged from approximately 32 feet to 45 feet.

- ***Glacial Till*** - Glacial till consisting of reddish brown sand with varying proportions of silt, clay, and gravel was typically encountered beneath the varved clay. This stratum varied in thickness from approximately 10 feet to 19 feet.

- ***Shale*** - Shale rock was encountered beneath the glacial till in all of the drilled borings. In four of the borings, the upper 5 feet to 10 feet of the shale rock was observed to be decomposed or weathered. The top of shale rock was inferred by refusal of advancement of the drilling equipment to be at depths ranging from 68 feet to 80 feet.

According to the National Resource Conservation Service mapping, there are two soil types mapped within the site (Figure 4-2). A description of this soil type is provided below.

- UdouB-Udorthents-Organic Substratum-Urban Land Complex – These soils are found in low areas of marine and estuarine deposits and in uplands. Udorthents consist of areas where various types of material have been used to fill tidal marsh. Dredged material makes up a considerable portion of this unit. The largest area of this soil mapping unit is found in the Hackensack Meadowlands in East Rutherford.

- UR – Urban Land – This soil is characteristic of areas that have been cut and filled or areas in which more than 85 percent of the surface has been urbanized and covered by man-made impervious surfaces such as pavement or buildings. These soil areas tend to be nearly level or gently sloping, with grades from 1 to 5 percent. Also included in this map unit are high-density residential areas where less than 85 percent of the surface is urbanized but the soil material has been reworked or contains Udorthents that have a loamy or wet substratum (USDA 1995).

4.1.2 Impacts

The geology of the underlying bedrock associated with the Amusement Park and Water Park and drainage improvements area would not change from the construction or operation of the Project. No adverse impacts to the underlying glacial till and decomposed bedrock layers would be expected as a result of the Project. The Project will not have any impacts related to the regional geology of the area, although the fill, marsh deposits, and varved clay strata present will compress under the very high column loads to be applied by proposed structures (Langan 2011e).

4.1.3 Mitigation

Due to the compression of the fill, marsh deposits, and varved clay strata that are expected to occur under the very high column loads to be applied by proposed structures, it is proposed that the structures be constructed on pile supported foundations, with piles driven down to existing bedrock to transfer loads from the structures directly to the glacial till or bedrock. This construction technique will avoid any potential impacts to the structures from the compressible materials underlying the Project Area.



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MUSYM	Soil Description	Hydric
UdouB	Udorthents, organic substratum -Urban land complex, 0 to 8 percent slopes	No
UR	Urban Land	No

Map Reference: Promaps Inc., Moorestown, NJ - Flyover Aerial Photography (6-2011); NRCS Soil Boundaries - Bergen County, NJ (2008)

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Amusement Park and Water Park American Dream Meadowlands

Soil Survey Map

LANGAN ENGINEERING & ENVIRONMENTAL SERVICES

Figure 4-2

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Existing site grades will need to be raised by approximately 2 feet to 8 feet to meet proposed finished grades and as much as 5 feet to 9 feet in wetland areas. Loose fill, very soft organic soils, and underlying varved clay will compress under the weight of the new fill. It is anticipated that new fill on the order of approximately 2 feet to 15 feet will need to be placed within the site to meet proposed grades and account for anticipated settlement.

The fill, marsh deposits, and varved clay will compress under the column loads applied by the proposed building and by the associated amusement rides. The column and amusement ride loads will be transferred to the glacial till or bedrock using deep foundations.

In order to reduce post-construction settlements to within tolerable amounts for the proposed on-grade perimeter access road, loading docks, walkways and any other finished surface areas, a surcharge having a height of 10 feet above finished grades should be constructed after filling in the wetland areas. Preliminarily estimates identify that the surcharge will need to remain in place for a period of approximately 9 months. The actual surcharge period will be confirmed by settlement monitoring during construction. As an alternative to surcharging with on grade support, a pile or controlled modulus column supported structural slab could be used.

To minimize any impact that the construction activities may have on other areas of the Radio Tower Site or surrounding areas, a Soil Erosion and Sediment Control Plan and a Soil Reuse Plan will be implemented. These plans are discussed below.

Soil Erosion and Sediment Control Plan

Soil erosion and sediment control measures will be employed to control erosion and minimize sedimentation of nearby tidal wetlands and floodplains. A site-specific Soil Erosion and Sediment Control Plan in accordance with the Standards for Soil Erosion and Sediment Control in New Jersey, certified by the SCS, will be prepared and implemented as a part of the Project's Best Management Practices (BMPs) for construction.

Soil erosion and sediment control measures, as defined in the Soil Erosion and Sediment Control Plan, will be in place prior to any site disturbance activities and will be maintained throughout the construction phase of the Project. The following measures will be incorporated into the Soil Erosion and Sediment Control Plan:

- Turbid discharge from dewatering construction activities will be contained in temporary dewatering basins to control sediment and provide water filtration prior to discharge;

- Soil stockpiles will be placed in well drained areas with adequate temporary soil erosion and sediment control measures, at least 50 feet from wetlands;
- Soil erosion control measures will be inspected after each rain event and corrective measures implemented to ensure adequate function when rip-rap stones, coarse aggregate, silt fence, or hay bales are damaged due to washouts or siltation; and,
- Sediment traps and basins will be cleaned and silt fences, stone outlet structures, and hay bales will have sediment removed when material accumulates as required.

In addition, soil erosion and sediment control features coupled with fencing will be used to demarcate and protect adjacent environmentally sensitive areas that are not to be impacted from the Amusement Park and Water Park Project.

4.2 Land Form

4.2.1 Existing Conditions

The Radio Tower Site is developed with three, 500+ foot high steel lattice radio transmission towers, access roads and a radio transmission building (Figures 1-3 and 1-4). Existing site grades vary throughout the Radio Tower Site and typically range between el 5 and el 15 (NGVD 29 datum) (Figure 4-3). The central portion of the site is occupied by three radio towers where site grades are at approximate el 10. Earth embankments associated with Route 120 and the East Peripheral Road are located on the south and west sides of the site, respectively. Site grades in these areas range from approximately el 6 to el 26 on the south and from el 10 to el 15 on the west. Wetlands located onsite range in elevation from el 3 to el 7. The channels within the ditch located adjacent to the ramp for the East Peripheral Road extend to approximately elevation 1. Topographical features within and adjacent to the Radio Tower Site are shown in Figure 4-3.

The areas adjacent to the Radio Tower Site contain several regional roadways including portions of N.J. Route 3, N.J. Route 120, and the New Jersey Turnpike. These roadways are all fairly flat and contain asphalted roads with grassed shoulders and drainage features. Bridges that allow for the crossing of these roadways provide elevation change to these features.

LEGEND:

RADIO TOWER SITE

DRAINAGE IMPROVEMENT AREA

NJ NAD 27

SOUTH CONNECTOR ROAD

N36°26'02"E 82.52'

N60°52'20"W 10.08'

N36°26'02"E 100.27'

P.O.B.

S53°33'58"E 37.00'

R=230.00'
A=21.95'
D= 5°28'03"
CB=N00°46'25"E
CL=21.94'

NEW JERSEY ROUTE 120

N01°57'36"W 671.04'

N65°02'40"E 417.62'

R=1373.00'
A=553.97'
D= 23°07'03"
CB=N78°28'14"E
CL=550.22'
(NON-TANGENT)

BLOCK 107.02, LOT 3
N/F METRO CENTRAL, LLC
PARCEL CONTAINS
947,202 S.F. OR 21.745 ACRES
MORE OR LESS

R=6048.00'
A=433.80'
D= 4°06'35"
CB=N65°07'34"E
CL=433.71'
(NON-TANGENT)

Radio Towers

Drainage Easement

Radio Tower Transmission Building

N.J. ROUTE 3 WEST

N53°33'58"W 262.48'

S43°05'51"W 730.94'

N53°33'58"W 40.27'

APPROXIMATE LOCATION OF DRAINAGE EASEMENT AS PER CURRENT TAX MAP OF THE BOROUGH OF EAST RUTHERFORD

S43°05'51"W 1162.86'

EAST PERIPHERAL ROAD

S53°33'58"E 148.42'

NEW JERSEY TURNPIKE (WESTERN SPUR)

96-Inch Culvert Under Turnpike

200 0 100 200

SCALE IN FEET

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NJSEA

Amusement Park and Water Park
American Dream Meadowlands

Topographic Survey of Project Area

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Figure 4-3

4.2.2 Impacts

The Amusement Park and Water Park Project will not have impacts on major land forms in the Hackensack Meadowlands District (HMD) or the Meadowlands Sports Complex property. The Project will require the regrading of portions of the Radio Tower site to bring some low areas to the Project's general elevation of approximately 12+ feet NGVD, leading to minor changes in existing land forms on and near the Radio Tower Site. Existing site grades will need to be raised by approximately 2 feet to 8 feet to meet proposed finished grades and as much as 5 feet to 9 feet in wetland areas. Raising the site will not require changes to any of the adjacent roadways or ramps surrounding the Radio Tower Site.

4.2.3 Mitigation

No mitigation is necessary with regard to land form impacts, and no mitigation is proposed.

4.3 Wetlands

4.3.1 Existing Conditions

Several tidal and non-tidal emergent wetland areas dominated by common reed are present on the Radio Tower Site. In addition, tidal wetland areas are present within the New Jersey Turnpike right-of-way where offsite drainage improvements are proposed as part of the Amusement Park and Water Park Project. Wetlands on the Radio Tower Site were delineated in accordance with Federal delineation methodology (Langan 2011a). The USACE has confirmed the accuracy of the delineation on the Radio Tower Site as depicted on Figure 4-4 and issued a Jurisdictional Determination letter dated 30 September 2011, a copy of which is provided in Appendix A. Wetland areas on the Radio Tower Site total approximately 7.36 acres, which includes 0.21 acres of wetland ditches (Table 4-1). Approximately 1.36 acres of wetlands were delineated within the Turnpike right-of-way study area where drainage improvements are proposed (Figure 4-4). A request to update the Radio Tower Site Jurisdictional Determination to include these Turnpike right-of-way wetlands was submitted to the USACE on December 8, 2011. This request is pending with the USACE.

Radio Tower Site

A delineation and survey of the wetlands / waters of the U.S. on the Radio Tower Site was performed in May and June 2011 (Langan 2011a). This delineation was performed in accordance with the methodology established in the Corps of Engineers Wetland Delineation Manual, 1987 and subsequent guidance. Based on this delineation, a total of six (6) wetland and two (2) ditch features were identified, delineated, and surveyed (Figure 4-4 and Table 4-1). As shown on Figure 4-4, two emergent, tidally-influenced wetland areas were identified along the eastern perimeter of the site (Wetland A and Wetland B); two small, non-tidal emergent wetlands and a man-made drainage ditch were identified in the southern portion of the site (Wetland D, Wetland E and Ditch 1); two isolated, non-tidal emergent wetland areas were identified in the western portion of the site (Wetland X and Wetland Y); and a ditch associated with an offsite roadway system (Ditch 2) was also delineated because it straddled the border of the property. A summary of these features is provided in Table 4-1.

Soil borings taken with a hand auger during the delineation revealed soils that showed a high level of prior disturbance as a result of historic filling activities. Large rock boulders and debris were encountered in many of the upland and wetland soil borings. The historic filling of the property is evidenced by Figure 1-5 (Historic Fill Map 1967) and Figure 1-6 (NJGS Historic Fill

LEGEND:

- PHOTOGRAPH LOCATIONS
- DP DATA POINT
- (A34) WETLAND FLAG
- SPRING HIGH WATER (ELEVATION 3.89)
- MEAN HIGH WATER (ELEVATION 3.44)
- NON-ISOLATED WETLANDS/WATERS
- ISOLATED WETLANDS/WATERS
- JURISDICTIONAL WETLANDS/WATERS WITHIN NEW JERSEY TURNPIKE RIGHT-OF-WAY
- PROPERTY LINE

Identified Feature	Wetland Type (Cowardin Classification)	Coordinates (Centerpoint)	Waters of U.S. Classification	Area (Acres)
Wetland A	E2EM5P6d	40.805994° N, 74.070333° W	Wetland directly abutting a RPW	3.1
Wetland B	E2EM5P6d	40.880789° N, 74.067489° W	Wetland directly abutting a RPW	0.97
Wetland D	PEM5A0d	40.804968° N, 74.072131° W	Wetland directly abutting a RPW	0.22
Wetland E	PEM5A0d	40.805206° N, 74.071927° W	Wetland directly abutting a RPW	0.06
Ditch 1	PEM5J0d	40.804812° N, 74.071787° W	Wetland directly abutting a RPW	0.03
Wetland X	PEM5A0d	40.805906° N, 74.072063° W	Isolated Wetland	0.81
Wetland Y	PEM5C0d	40.806551° N, 74.071176° W	Isolated Wetland	1.99
Ditch 2	POW	40.807198° N, 74.072209° W	Isolated Waters (Ditch in Uplands)	0.18
Wetland TW	E2EM5P6d	N/A	Wetland directly abutting a RPW	0.49
Wetland TE	E2EM5P6d	40.804783° N, 74.068656° W	Wetland directly abutting a RPW	0.87

E2EM5P6d - Estuarine Intertidal Emergent Phragmites Irregularly Flooded Oligohaline Partly Drained/Ditched
PEM5A0d - Palustrine Emergent Phragmites Temporarily Flooded Fresh Partly Drained/Ditched
PEM5C0d - Palustrine Emergent Phragmites Seasonallly Flooded Fresh Partly Drained/Ditched
PEM5J0d - Palustrine Emergent Narrow Leaved Persistent Intermittently Flooded, Fresh, Partially Drained/Ditch
POW - Paulstrine Open Water
TNW - Traditional Navigable Waters
RPW - Relatively Permanent Waters

RT MAP 17
SOUTH CONNECTOR ROAD
ISOLATED DITCH 2
WETLAND "Y"
SITE ACCESS ROAD
CULVERT
WETLAND "X"
ISOLATED DITCH 2
NEW JERSEY ROUTE 120
ISOLATED DITCH 2
N.J. ROUTE 3 WEST
WETLAND "E"
WETLAND "D"
DITCH 1
CULVERT
RADIO TOWER 1
BLOCK 107.2
LOT 3
21.75 ACRES
RADIO TOWER 2
RADIO TOWER 3
SPRING HIGH WATER ELEVATION 3.89
MEAN HIGH WATER ELEVATION 3.44
WETLAND "A"
UPLAND
WETLAND "TW"
EAST PERIPHERAL ROAD
SPRING HIGH WATER ELEVATION 3.89
MEAN HIGH WATER ELEVATION 3.44
WETLAND "B"
UNNAMED TRIBUTARY TO CEDAR CREEK RELATIVELY PERMANENT WATER (RPW)
FLOOD
108" CULVERT
TURNPIKE RIGHT-OF-WAY STUDY AREA
NEW JERSEY TURNPIKE (WESTERN SPUR)
APPROXIMATE CENTERLINE OF 96" CMP
WETLAND "TE"

200 0 100 200
SCALE IN FEET

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Amusement Park and Water Park
American Dream Meadowlands

Wetland Delineation Map

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Figure 4-4

TABLE 4-1

WETLANDS IDENTIFIED IN THE PROJECT AREA

Identified Feature	Wetland Type (Cowardin Classification)	Area (Acres)
Wetland A	E2EM5P6d	3.1
Wetland B	E2EM5P6d	0.97
Wetland D	PEM5A0d	0.22
Wetland E	PEM5A0d	0.06
Ditch 1	PEM5J0d	0.03
Wetland X	PEM5A0d	0.81
Wetland Y	PEM5C0d	1.99
Ditch 2	POW	0.18
Wetland TW	E2EM5P6d	0.49
Wetland TE	E2EM5P6d	0.87

E2EM5P6d - Estuarine Intertidal Emergent Phragmites Irregularly Flooded Oligohaline Partly Drained/Ditched
PEM5A0d - Palustrine Emergent Phragmites Temporarily Flooded Fresh Partly Drained/Ditched
PEM5C0d - Palustrine Emergent Phragmites Seasonallly Flooded Fresh Partly Drained/Ditched
PEM5J0d - Palustrine Emergent Narrow Leaved Persistent Intermittently Flooded, Fresh, Partially Drained/Ditch
POW - Paulstrine Open Water

Source: Langan 2011b

Map). As presented in the Remedial Action Workplan (Appendix E), the Radio Tower Site, including wetland areas, is characterized as historic fill. Nine Areas of Concern (AOCs) and five "hot spots" (three of which are located in wetland areas) have been identified onsite. These AOCs and hotspots have been evaluated and delineated within the historic fill onsite. The hotspots contain antimony, extractable petroleum hydrocarbons (EPHs), chlordane, cyanide, dichlorodiphenyltrichloroethane (DDT), mercury, and poly-chlorinated biphenyls (PCBs) exceeding the NJDEP Soil Remediation Standards (SRS).

A summary description of the wetlands and waters of the U.S. observed on the Radio Tower Site is provided below (Langan 2011a).

Wetland A

Wetland A is a 3.10-acre estuarine emergent wetland dominated by common reed. Using the Cowardin classification system, it can be classified as E2EM5P6d (Estuarine Intertidal Emergent Phragmites Irregularly Flooded Oligohaline Partly Drained/Ditched). Wetland A is situated adjacent to an unnamed tributary to the Hackensack River. This wetland extends along the eastern boundary of the property and continues into the New Jersey Turnpike right-of-way. The wetland is drained by the unnamed tributary via direct surface flow, and the tributary is culverted beneath the Turnpike by a 96-inch corrugated metal pipe (CMP). Portions of Wetland A become inundated during high tide events. During low tides the wetland drains and becomes free of standing water. As shown on Figure 4-4, the spring high water elevation in this tidal wetland area is elevation 3.89 (NGVD 29 datum).

Wetland B

Wetland B is an approximate 0.97-acre estuarine emergent wetland dominated by common reed. It is situated adjacent to the unnamed tributary to Cedar Creek and can be classified as E2EM5P6d (Estuarine Intertidal Emergent Phragmites Irregularly Flooded Oligohaline Partly Drained/Ditched). This wetland extends easterly into the New Jersey Turnpike right-of-way and northerly into the Meadowlands Sports Complex. The wetland is drained by the unnamed tributary to Cedar Creek via direct surface flow, and the tributary is culverted beneath the Turnpike by a 108-inch reinforced concrete pipe (RCP). Wetland B likely becomes inundated during major high tide events and during low tides drains of standing water. The wetland's hydrology is influenced by the ebb and flow of the tide and like Wetland "A", the spring high water elevation is 3.89 NGVD 29.

Ditch 1

An approximate 0.03-acre ditch is present in the southwestern corner of the property, just south of the radio transmission building. Vegetation in the ditch is dominated by common reed. The ditch can be classified as POW/PEM (Palustrine open water, palustrine emergent wetland). Based on field observations in May 2011, the ditch appears to occasionally convey excess surface water from Wetland D and Wetland E, to Wetland A during major rain events.

Wetland D

Wetland D is an approximate 0.22-acre palustrine emergent wetland dominated by common reed and can be classified as PEM5A0d (Palustrine Emergent Phragmites Temporarily Flooded Fresh Partly Drained/Ditched). As shown on Figure 4-4, Wetland D is situated near Route 3, Route 120 and the radio tower transmission building. Wetland D is hydrologically driven by precipitation and local surface water runoff. This wetland is directly connected to Ditch 1 and, therefore, surface water likely drains intermittently during major rain events from the Wetland D through Ditch 1 into Wetland A. Thus, Wetland D indirectly drains to the unnamed tributary of the Hackensack River.

Wetland E

Wetland E is situated near the radio transmission building and access road. It is an approximate 0.06-acre palustrine emergent wetland that has formed over old fill soils. Wetland E is dominated by emergent vegetation comprised mainly of common reed, broadleaf cattail (*Typha latifolia*), common three square (*Scirpus pungens*) and spiked rush (*Eleocharis sp.*). This wetland can be classified as PEM5A0d (Palustrine Emergent Phragmites Temporarily Flooded Fresh Partly Drained/Ditched). Wetland E is hydrologically driven by precipitation and local surface water runoff. This wetland is directly connected to Wetland D through a pipe that goes under the access road to the transmission building. Therefore, excess surface water draining from Wetland E flows intermittently through the pipe, through Wetland D then Ditch 1 and Wetland A. As such, Wetland E indirectly flows to the unnamed tributary of the Hackensack River.

Wetland X

Wetland X is an approximate 0.81-acre palustrine emergent wetland dominated by common reed and is situated in the southwest portion of the property. Using the Cowardin system it can be classified as PEM5A0d (Palustrine Emergent Phragmites Temporarily Flooded Fresh Partly Drained/Ditched), although no ditches or drainage features are found in the wetland. The wetland is located in a depression in the landscape and has formed over old fill soil. Elevated gravel access roads wrap around two sides of the wetland which is hydrologically isolated from other features on the property. No evidence of overland drainage or culverted connections to other surface waters or wetlands was observed. Even during the extreme wet

conditions encountered during the field delineation in late May 2011, no surface water was observed leaving this wetland feature.

Wetland Y

Wetland Y is an approximate 1.99-acre palustrine emergent wetland also dominated by common reed. It is situated in the western portion of the property and using the Cowardin system can be classified as PEM5C0d (Palustrine Emergent Phragmites Seasonally Flooded Fresh Partly Drained/Ditched). Despite this classification, no ditches or drainage features occur in the wetland. Like Wetland X, this wetland is located in a depression in the landscape. Its hydrologic input is driven by precipitation and surface water runoff from its upland drainage area. Wetland Y is hydrologically isolated from other features on the property. The ground surface surrounding the wetland is elevated and entirely upland. No overland or culverted connections to other surface waters or wetlands was observed and even during the extreme wet period during the field observations made in late May 2011, no surface water was observed leaving this wetland feature.

Ditch 2

Ditch 2 is a linear stormwater conveyance ditch that was constructed to manage stormwater runoff from the adjacent, newly realigned, State Route 120 and East Peripheral Road ramp system. The on and offsite delineated surface area of the ditch is 0.18 acres and the vegetative community is dominated by common reed and red maple. At the time of the field investigation in May 2011, standing water was found in the ditch. Due to its proximity to the isolated features onsite, the ditch was investigated to determine if there was any connection between it and isolated Wetland X and Wetland Y. The ditch receives surface runoff from the East Peripheral Road and Route 120 during rain events. No visible outfalls or other conveyance features to the ditch from the Radio Tower Site were observed. In addition, the ditch has no obvious means of draining. Thus, it appears that surface water entering the ditch from the offsite roadways is detained without a means of surface water drainage. No surface input was observed from the Radio Tower Site, thereby reinforcing the isolated nature of Wetland X and Wetland Y.

Photographs of several of the delineated wetland areas on the Radio Tower Site are provided as Figures 4-5 through 4-9.

Figure 4-5
Photograph Looking South at Wetland A From Radio Transmission Line Access Road

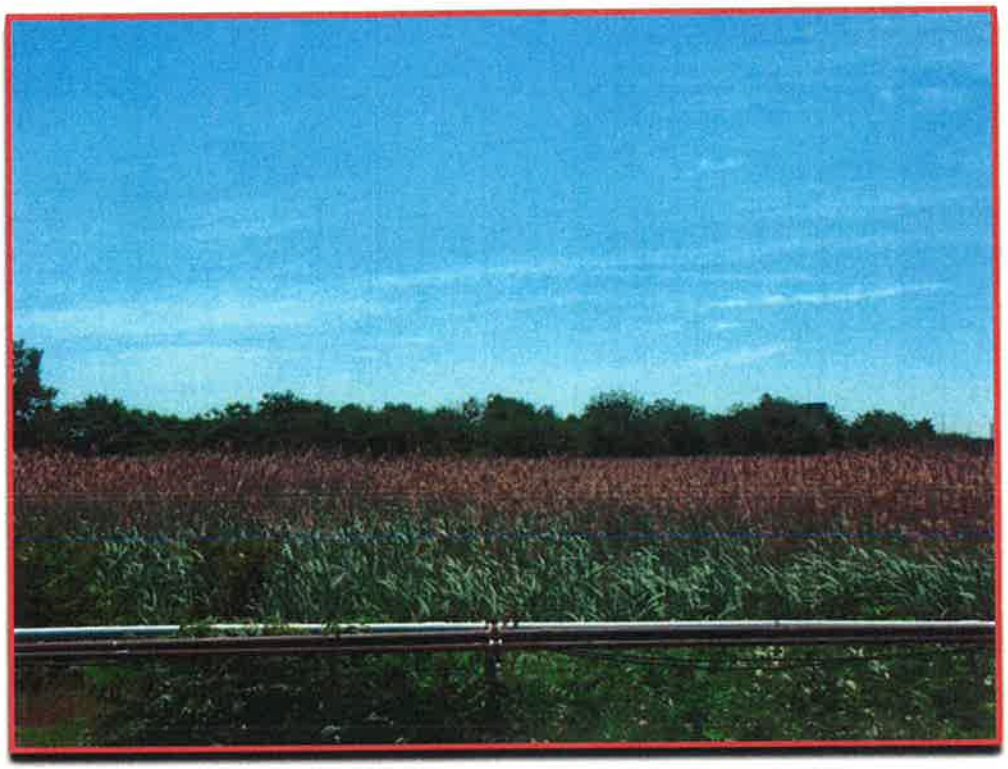


Figure 4-6
Photograph Looking East At Wetland B From Upland Area Near Easternmost Radio Tower

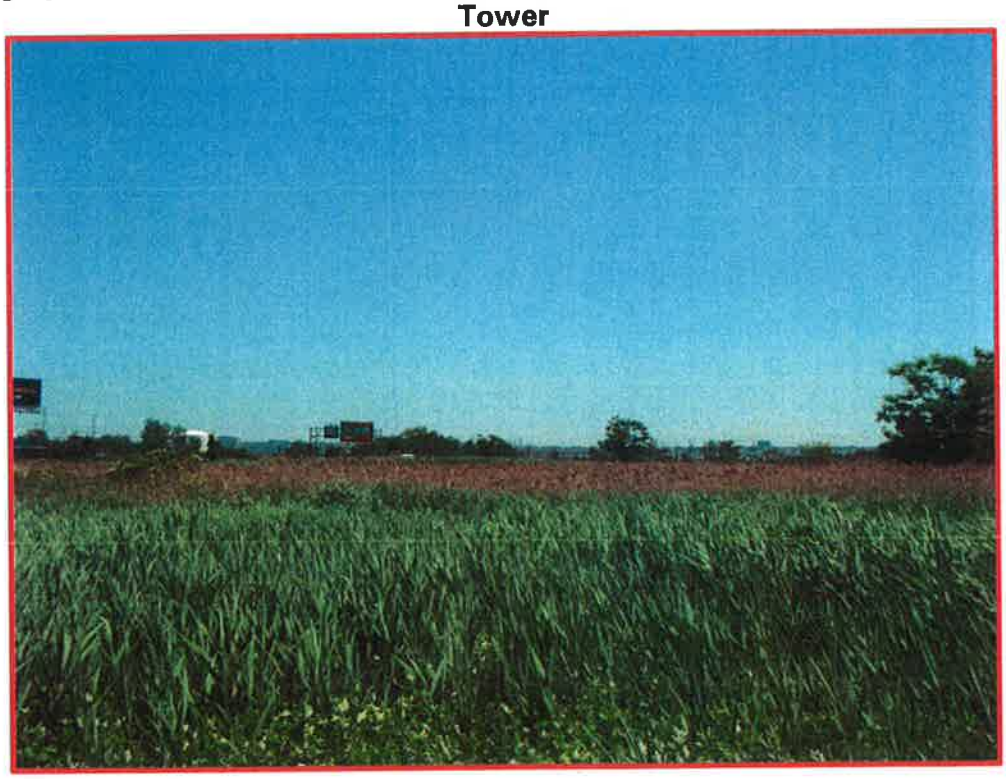


Figure 4-7
Photograph Looking Northeast At Isolated Wetland Y From Site Entrance Road



Figure 4-8
Photograph Looking Northwest At Isolated Wetland X From Site Access Road



Figure 4-9
Photograph Looking Southwest at Wetland E From Entrance Road To Radio Transmission Building



New Jersey Turnpike Right-of-Way

In addition to the wetlands delineated on the Radio Tower Site, approximately 1.36 acres of tidal emergent wetlands are located within or immediately adjacent to the drainage improvement area within the New Jersey Turnpike right-of-way. The wetlands are identified on Figure 4-4 and listed on the Table 4-1 as Wetland TE and Wetland TW, and are described below. The jurisdictional boundaries of these wetlands have been delineated and surveyed, but not yet confirmed by the USACE.

Wetland TW

Wetland TW is situated west of the Turnpike and immediately adjacent to Wetland A delineated on the Radio Tower Site. Wetland TW and Wetland A form a single wetland complex. The eastern boundary of Wetland TW is formed by the fill associated with the southbound Turnpike roadway embankment. This tidal emergent wetland is comprised almost entirely of common reed, and based on the Cowardin system it would be classified as E2EM5P6d (Estuarine Intertidal, Emergent Phragmites Irregularly Flooded Oligohaline Partly Drained/Ditched). Like the onsite Wetland A, it is associated with the unnamed tributary to the Hackensack River. The wetland is drained by the tributary which is culverted beneath the Turnpike by the 96-inch CMP.

The culvert carries the drainage to the east, beneath the Turnpike where it discharges/daylights to the downstream end of the unnamed tributary and Wetland TE.

Wetland TE

Wetland TE is east of and adjacent to the fill forming the northbound Turnpike roadway embankment, and at the downstream outlet of the 96-inch culvert. The wetland is dominated by common reed. Using the Cowardin System, the wetland would be classified as E2EM5P6d (Estuarine Intertidal Emergent Phragmites Irregularly Flooded Oligohaline Partly Drained/Ditched). Extending from the end of the culvert is a channelized tributary that meanders in a southerly direction for approximately 1,000 feet where it passes beneath a bridge carrying the Transco pipeline. From this point the tributary flows in an easterly direction for approximately 700 feet where it empties into to the Hackensack River.

The wetlands present on the Radio Tower Site and Turnpike right-of-way are degraded and fragmented from the region's aquatic ecosystem. The wetlands on the Project site and within the Turnpike right-of-way are dominated by common reed and have been impacted from past activities, resulting in existing fragmented wetlands with limited value. As discussed in the Site Investigation Report contained in Appendix C of the Draft SEIS, the wetlands on the Radio Tower Site have formed on top of historic fill that was placed probably in the 1960s and 1970s. It is important to note that the unnamed tributary to the Hackensack River that flows under the Turnpike and portions of the wetlands immediately adjacent to this tributary historically contained rip-rap. As depicted on Turnpike Construction plans from the 1970s, historically the area from the Turnpike roadway to the Radio Tower Site property line contained an approximately 30 foot wide rip-rap channel. Rip rap was also located at the downstream end of the Turnpike culvert.

The wetlands present on the Radio Tower Site are surrounded by development and fragmented from larger wetland resources located along the Hackensack River and in the region. Developed areas as well as Route 120, Paterson Plank Road, Route 3, the New Jersey Turnpike and the Arena Site peripheral road have lead to the elimination and fragmentation of the wetlands on the Radio Tower Site. Based on the size and developed nature of the surrounding areas, potential wildlife value of the onsite wetlands is limited. Although the wetlands may perform some limited water quality functions, the culverting of the drainage feature has reduced the wetlands ability to exchange waters with the Hackensack River to provide regional water quality benefits.

Wetland delineation, vegetative and wildlife habitat studies were performed in the Project area in 2011 that documented the type and nature of the wetlands on and adjacent to the Project site. Common reed dominates all of the delineated wetlands on the Project site and occupies

the majority of these features, forming dense monoculture stands. Although other vegetative species were present, they do not make up any significant portion of the vegetative communities in the wetlands, thereby leading to a low diversity of vegetation in these wetlands. Common reed's dominance leads to decreases in the diversity of plant species, resulting in low community diversity. In North America, monocultures of Phragmites are generally considered to provide poor quality habitat for wildlife and to support a low diversity of fauna. The wildlife habitat study performed for the Project documented the limited potential for use of the onsite wetlands by waterfowl and migratory birds due to the extensive stands of common reed. In addition, common reed dominated wetlands are the most common type of wetlands in the region (representing 5,200 acres out of the 8,200 acres of wetlands in the Hackensack Meadowlands). Therefore, the wetlands features on the Radio Tower Site are not unique or critical to the region.

4.3.2 Impacts

The wetlands and waterways proposed to be impacted on the Radio Tower Site and within the Turnpike right-of-way are characterized as: 1) being fragmented from major wetland features in the region (i.e., surrounded by development and roadways); 2) exhibiting contamination levels above applicable criteria (see Section 4.11.1); and 3) having been heavily disturbed by previous human activities and operation of the radio towers and Turnpike. Impacts to wetlands from the Amusement Park and Water Park Project, including the drainage area improvements, are presented below according to permanent and temporary impacts. A discussion of impacts on wetland functions and values is also presented.

An application for a Department of the Army permit was submitted to the USACE on October 11, 2011 for the wetland impacts described below. A permit application to request a Water Quality Certificate (WQC) from the New Jersey Department of Environmental Protection (NJDEP) Division of Land Use Regulation was submitted on December 29, 2011 (see Section 5.0) (Langan 2011b and Langan 2011h).

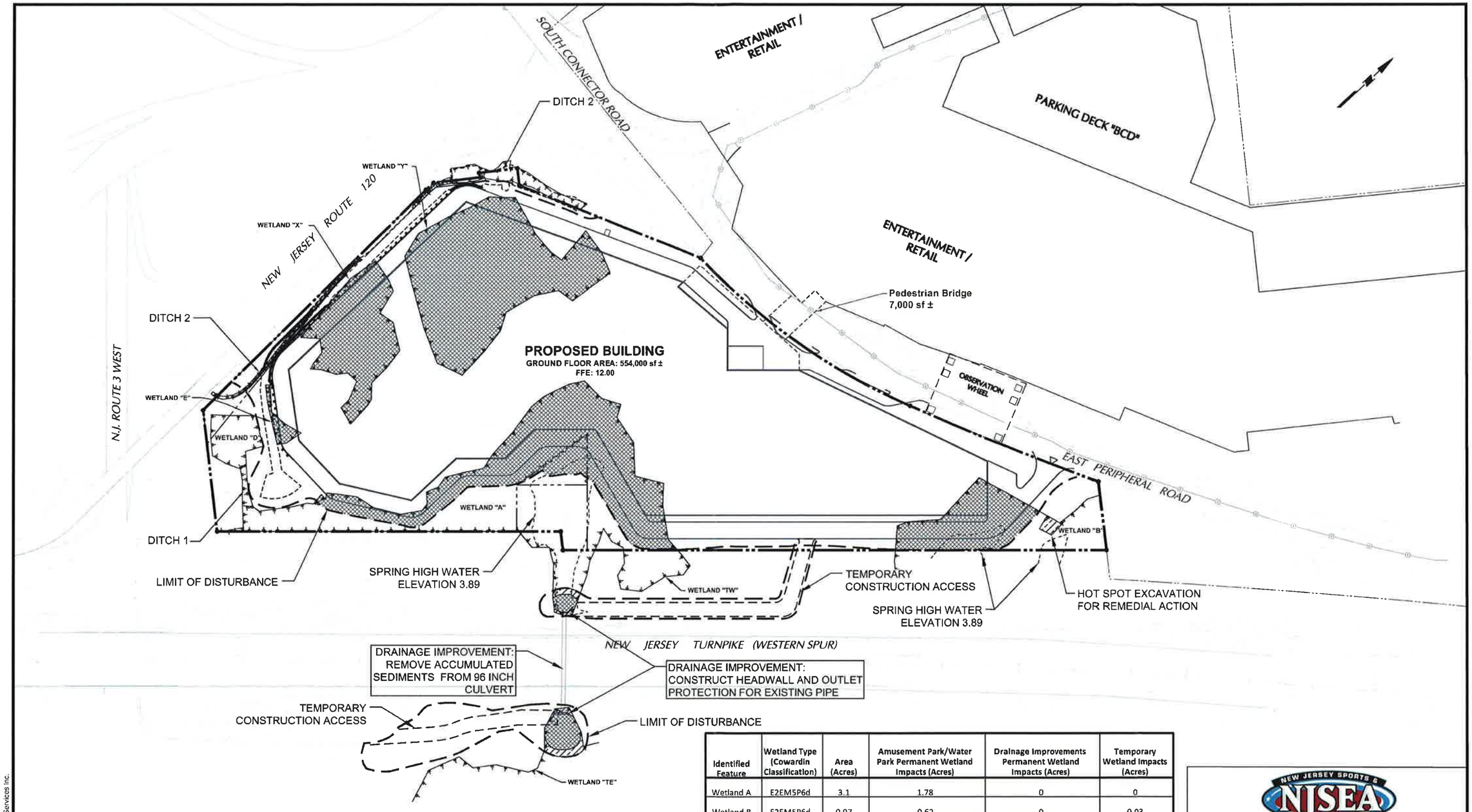
The concept plan presented in the October 2011 Draft Supplemental EIS has been further advanced into an engineered site plan. Projected permanent wetland impacts for the project have been slightly reduced from approximately 5.47 acres to 5.41 acres while temporary impacts have been reduced from 0.66 acres to 0.18 acres.

4.3.2.1 Permanent Impacts

The construction of the Amusement Park and Water Park and associated drainage improvements within the New Jersey Turnpike right-of-way will require the filling of a total of approximately 5.41 acres of tidal and non-tidal emergent wetlands (Figure 4-10 and Table 4-2) (Langan 2011b). Direct wetland impacts from the construction of the Amusement Park and Water Park building and associated perimeter access road on the Radio Tower Site include approximately 2.35 acres of tidal emergent wetlands (Portions of Wetlands A and B); approximately 0.06 acres of non-tidal emergent wetlands (Wetland E); and 2.8 acres of non-tidal, isolated emergent wetlands (Wetlands X and Y). Additionally, approximately 0.05 acres of Wetland A will be impacted from the construction of stormwater outfalls that will discharge stormwater from the Amusement Park and Water Park to the drainage easement. An additional 0.15 acres of tidal emergent wetlands will be impacted as a result of the proposed drainage improvements to the existing 96-inch culvert (i.e., construction of headwalls and outlet protection), which include 0.11 acres of impacts to Wetland TE and 0.04 acres of impacts to Wetland TW.

4.3.2.2 Temporary Impacts

The Amusement Park and Water Park Project will require temporary impacts to approximately 0.18 acres of wetlands associated with the drainage improvements in the Turnpike right-of-way (Figure 4-10 and Table 4-2) and the excavation of a soil "hot spot" on the Radio Tower Site. The drainage improvements will include the removal of accumulated sediment in the 96-inch culvert and construction of new headwalls and scour aprons for outlet protection at each end of the culvert. Temporary impacts to wetlands and waters in the vicinity of the Project Area may occur during the construction phase of the Project as a result of soil movement and disturbance. The disturbance and movement of soil during construction could allow the movement of soil into these adjacent wetlands and waters during rain events.



Identified Feature	Wetland Type (Cowardin Classification)	Area (Acres)	Amusement Park/Water Park Permanent Wetland Impacts (Acres)	Drainage Improvements Permanent Wetland Impacts (Acres)	Temporary Wetland Impacts (Acres)
Wetland A	E2EM5P6d	3.1	1.78	0	0
Wetland B	E2EM5P6d	0.97	0.62	0	0.03
Wetland D	PEM5A0d	0.22	0	0	0
Wetland E	PEM5A0d	0.06	0.06	0	0
Ditch 1	PEM5J0d	0.03	0	0	0
Wetland X	PEM5A0d	0.81	0.81	0	0
Wetland Y	PEM5C0d	1.99	1.99	0	0
Ditch 2	POW	0.18	0	0	0.06
Wetland TE	E1UBLx	0.87	0	0.11	0.05
Wetland TW	E1UBLx	0.49	0	0.04	0.04
TOTAL		8.72	5.26	0.15	0.18

NEW JERSEY SPORTS & EXPOSITION AUTHORITY

Amusement Park and Water Park American Dream Meadowlands

Proposed Wetland Impact Map

LANGAN

Figure 4-10

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TABLE 4-2

WETLAND IMPACT SUMMARY

Identified Feature	Wetland Type (Cowardin Classification)	Area (Acres)	Amusement Park/Water Park Permanent Wetland Impacts (Acres)	Drainage Improvements Permanent Wetland Impacts (Acres)	Temporary Wetland Impacts (Acres)
Wetland A	E2EM5P6d	3.1	1.78	0	0
Wetland B	E2EM5P6d	0.97	0.62	0	0.03
Wetland D	PEM5A0d	0.22	0	0	0
Wetland E	PEM5A0d	0.06	0.06	0	0
Ditch 1	PEM5J0d	0.03	0	0	0
Wetland X	PEM5A0d	0.81	0.81	0	0
Wetland Y	PEM5C0d	1.99	1.99	0	0
Ditch 2	POW	0.18	0	0	0.06
Wetland TE	E1UBLx	0.87	0	0.11	0.05
Wetland TW	E1UBLx	0.49	0	0.04	0.04
TOTAL		8.72	5.26	0.15	0.18

Source: Langan 2011b

4.3.2.3 Impacts on Wetland Functions and Values

The Amusement Park and Water Park Project will impact tidal and non-tidal wetlands on the Radio Tower Site and within the Turnpike right-of-way. The proposed filling of a portion of the tidal wetlands on the site will lead to a decrease in the tidal wetland's overall nutrient and sediment trapping functions, food chain support, wildlife habitat and flood storage. However, these tidal wetlands are currently fragmented from the Hackensack River by the Turnpike and already have limited functions and values based on their current conditions. The non-tidal wetlands are hydrologically isolated from Hackensack River since they do not have a surface water connection. Although the non-tidal wetlands do provide limited functions and values, the isolated nature of the wetlands limits their overall value to the Hackensack River ecosystem.

4.3.3 Mitigation

A wetland mitigation plan will be established in accordance with the Federal Section 404(b)1 Guidelines and Compensatory Mitigation for Losses of Aquatic Resources Rule. These guidelines set forth the standards for evaluating impacts associated with discharges of dredged or fill material and establish requirements for mitigating permittable impacts to waters of the United States. The Guidelines require applicants to follow the mitigation hierarchy of avoidance, minimization and ultimately, compensation for unavoidable impacts.

As discussed in Section 3.0, avoidance of wetland impacts is not practicable given the project purpose. Not building the Amusement Park and Water Park would cause the American Dream Meadowlands Project to be economically unviable. No viable offsite alternatives exist that would avoid impacts to wetlands/waters of the United States. Based on the configuration of the onsite wetlands, it is not possible to avoid impacting them.

The Amusement Park and Water Park Project results in approximately 5.41 acres of tidal and non-tidal permanent emergent wetland impacts, including approximately 5.26 acres of permanent impacts for the construction of Amusement Park and Water Park building and associated infrastructure, and approximately 0.15 acres of permanent impacts for certain off-site drainage improvements.

Through the evaluation of onsite alternative designs for the Amusement Park and Water Park, impacts to wetlands have been minimized from a total of approximately 6.7 acres under Alternative 1 to approximately 5.2 acres under Alternative 3, which is the selected alternative and the least environmentally damaging alternative. The Amusement Park and Water Park Project proposes no onsite parking. Instead, patrons will park at the existing parking lots/parking garages already constructed at the ERC, or arrive by rail or other mass transit. This shared

parking approach results in a significant reduction in potential wetland impacts by reducing the overall footprint of the Amusement Park and Water Park Project. Thus, impacts to wetlands/waters of the United States have been minimized to the extent practicable.

These design considerations notwithstanding, the project, including the drainage improvements adjacent to the Turnpike culvert, will result in approximately 5.41 acres of unavoidable impacts to wetlands.

The Developer will compensate for the 5.41 acres of permanent impacts to tidal and non-tidal emergent wetlands associated with the Project with the purchase of a total of 5.41 credits from the Evergreen MRI3 Mitigation Bank. The Evergreen MRI3 Mitigation Bank, located along the Hackensack River approximately 3,000 feet north of the Project Site, has received approvals from the regulatory agencies (Figure 1-9). The applicant has entered into written agreements with Evergreen Environmental, LLC to reserve and purchase 1.90 Pre-Construction credits and 3.51 Post Construction credits from the Bank.

This compensatory mitigation plan is consistent with the Final Rule for Compensatory Mitigation for Losses of Aquatic Resources (40 CFR Part 230), dated April 10, 2008. The Rule allows for the purchase of credits from an approved mitigation bank if the Project is within the Bank's service area. A Mitigation Banking Instrument for the Evergreen MRI3 Wetland Mitigation Bank was approved by the USACE in February 2012. The Bank's service area encompasses the watershed where the Project site is located. Credits from the Bank will provide mitigation at a ratio of one credit for each acre of wetlands to be filled at the Project Site (1 to 1).

4.4 Water Resources

4.4.1 Existing Conditions

4.4.1.1 Surface Drainage Characteristics

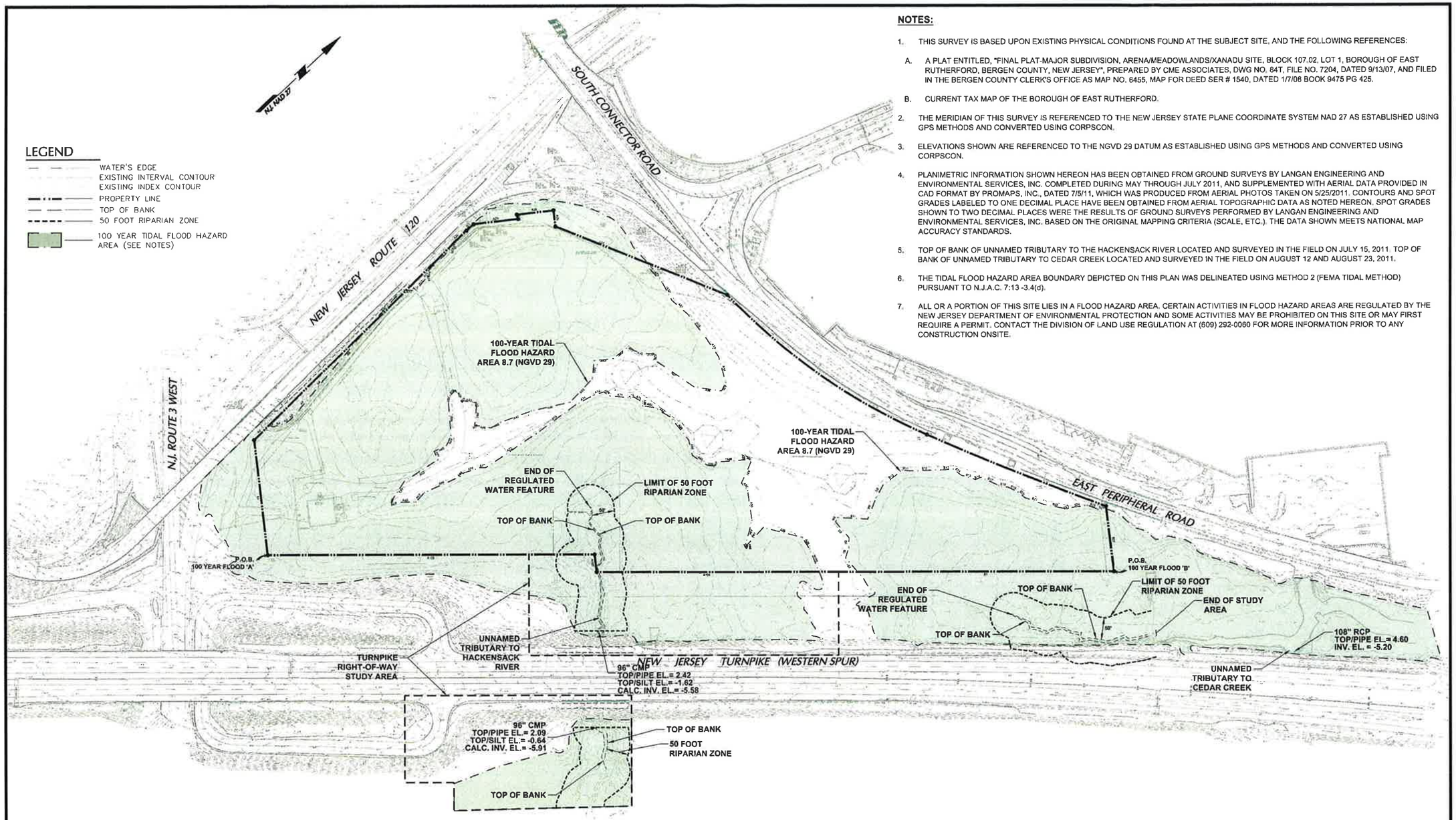
The Radio Tower Site is located in the Hackensack River (Route 3 to Bellmans Creek) HUC-14 Watershed (Figure 4-11). Three major waterways (Hackensack River, Berry's Creek, and Berry's Creek Canal) and three smaller waterways (unnamed tributary to the Hackensack River, an unnamed tributary to Cedar Creek, and Cedar Creek) are the closest waterways to the Radio Tower Site. Of these, the only waterway that is actually located within the boundaries of the Radio Tower Site is the unnamed tributary to the Hackensack River. The unnamed tributary to Cedar Creek and Cedar Creek are located to the northeast of the Radio Tower Site.

Field studies in August 2011 confirmed the location and extent of the current unnamed tributary to the Hackensack River and unnamed tributary to Cedar Creek (Figure 4-12). The top of bank and width of these tributaries were surveyed during low tide periods in August 2011. These unnamed tributaries are both influenced by the tides. The spring high water elevation is 3.89 (NGVD 29 datum).

The Radio Tower Site has two basic watersheds that discharges to two existing culverts (a 96-inch culvert and a 108-inch culvert) that go under the New Jersey Turnpike and allow stormwater to eventually flow to the Hackensack River (Figure 4-13). The existing 96-inch culvert located within the Turnpike right-of-way, which drains the majority of the Radio Tower Site (see Watersheds Ex-1A through Ex-1D on Figure 4-13), is silted up with approximately six feet of sediment and has significantly reduced the current capacity of the culvert. The existing 108-inch culvert, which was cleaned out and partially rebuilt in 2006 as part of the previously approved and constructed ERC project, drains the northeastern portion of the site (see Watershed Ex-2 on Figure 4-13). A portion of Route 120 and the American Dream Meadowlands Entertainment Retail Center (ERC) drains to the Radio Tower Site via two 36-inch culverts at the northwest corner of the site and via a 60-inch culvert near the southeast corner of the site. Stormwater runoff from the western portion of the Radio Tower Site, portions of Route 120, and portions of the ERC pond in ditches and low-lying areas on the site adjacent to Route 120 where it evaporates and/or infiltrates. There appears to be no surface water conveyance of this runoff. Under extreme storm events, ponded stormwater on the western portion of the site overflows onto the eastern portion of the site.



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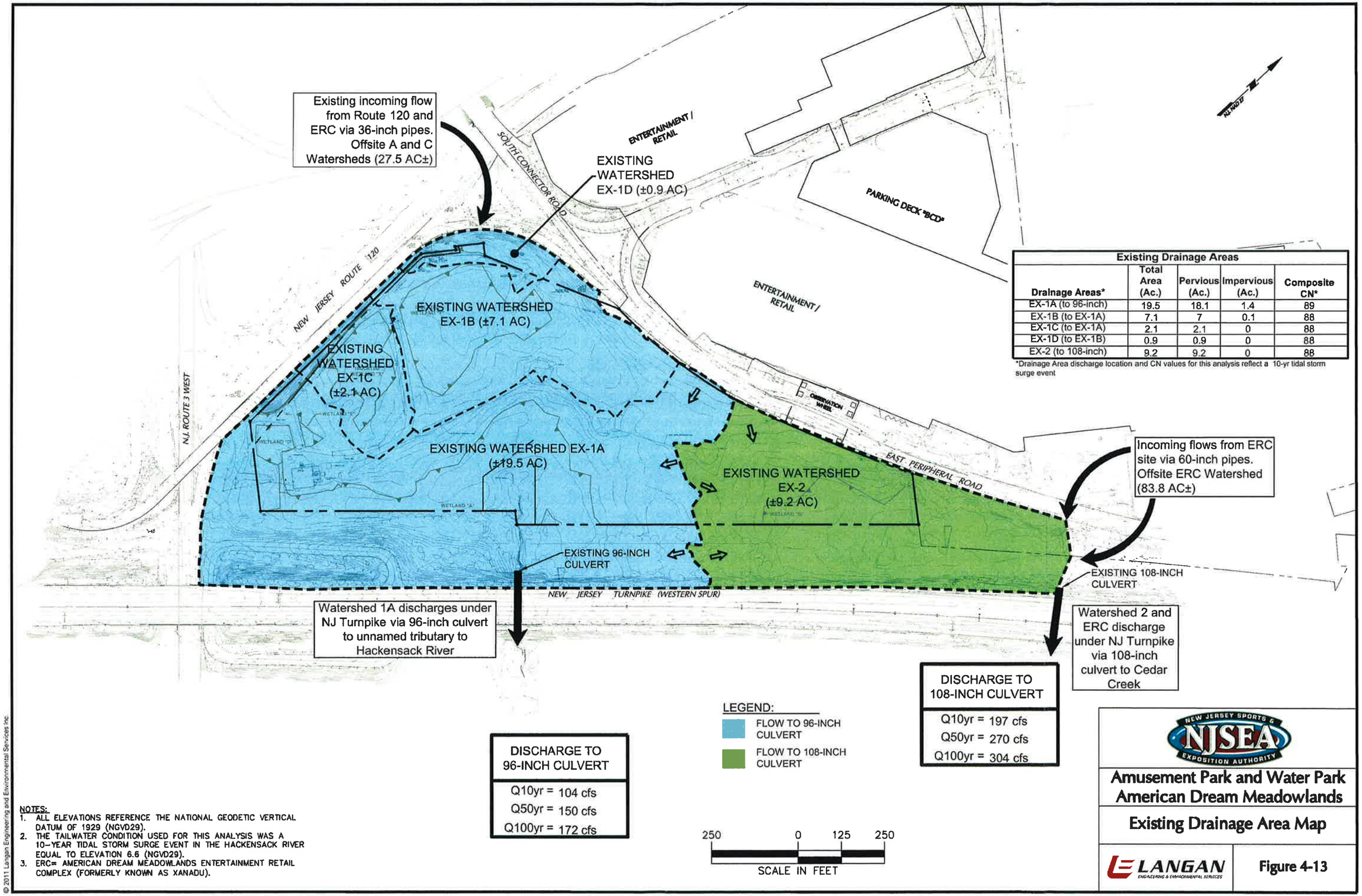
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Amusement Park and Water Park
American Dream Meadowlands
Surface Waters Within Project Area
and Drainage Improvements Area

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Figure 4-12



Existing Drainage Areas

Drainage Areas*	Total Area (Ac.)	Pervious (Ac.)	Impervious (Ac.)	Composite CN*
EX-1A (to 96-inch)	19.5	18.1	1.4	89
EX-1B (to EX-1A)	7.1	7	0.1	88
EX-1C (to EX-1A)	2.1	2.1	0	88
EX-1D (to EX-1B)	0.9	0.9	0	88
EX-2 (to 108-inch)	9.2	9.2	0	88

*Drainage Area discharge location and CN values for this analysis reflect a 10-yr tidal storm surge event

NOTES:
1. ALL ELEVATIONS REFERENCE THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD29).
2. THE TAILWATER CONDITION USED FOR THIS ANALYSIS WAS A 10-YEAR TIDAL STORM SURGE EVENT IN THE HACKENSACK RIVER EQUAL TO ELEVATION 6.6 (NGVD29).
3. ERC= AMERICAN DREAM MEADOWLANDS ENTERTAINMENT RETAIL COMPLEX (FORMERLY KNOWN AS XANADU).

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Amusement Park and Water Park
American Dream Meadowlands

Existing Drainage Area Map

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Figure 4-13

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4.4.1.2 Surface Water Quality

The NJDEP Surface Water Quality Standards (N.J.A.C. 7:9B) classify the reach of the Hackensack River closest to the Radio Tower Site as an SE-2 water body. SE waters are estuarine, with salinities greater than 3.5 parts per thousand (ppt) at mean high tide. According to the 2010 *State Water Quality Inventory Report*, the Hackensack River in the vicinity of the Radio Tower Site is an impaired waterbody (NJDEP 2010). The biennial List of Water Quality Limited Waters or "303(d) List" identifies waters that are not attaining designated uses because they do not meet surface water quality standards despite the implementation of technology-based effluent limits. This report identified that the Hackensack River (from Route 3 to Bellmans Creek) as not being in attainment for the following: Ammonia (Un-ionized), Benzo(a)pyrene (PAHs), Cadmium, Chlordane, Dieldrin, DDD, DDE, DDT, Dioxin, Heptachlor epoxide, Mercury in fish tissue, Mercury in the water column, Dissolved Oxygen, PCB in fish tissue and turbidity.

No additional surface water sampling was completed for the Amusement Park and Water Park Project. Water quality data for the region was provided in the August 2004 EIS (NJSEA 2004). Because of the tidal nature of unnamed tributary to the Hackensack River on the eastern portion of the Radio Tower Site, it can be expected that the water quality of this onsite water feature is similar in nature to that of the nearby Hackensack River.

4.4.1.3 Groundwater Quality

Under the NJDEP Ground Water Quality Standards (N.J.A.C. 7:9-6) classification system, the groundwater formation within the Radio Tower Site would be classified as "Class III – Ground Water with Uses other than Potable Water Supply". Class III groundwaters are not suitable for potable water use, due to natural hydrogeologic characteristics or natural water quality (i.e., saline ground water). Class III groundwaters do not meet the special ecological significance criteria of Class I groundwater formations, such as those that contribute to a freshwater Level 1 watershed or those located on State park lands. Shallow groundwater in and around the Project Area is not used for potable water and is most likely saline due to the close proximity of the tidally influenced Hackensack River and Berry's Creek.

4.4.2 Impacts

4.4.2.1 Surface Drainage Impacts

The construction of the Amusement Park and Water Park will not require the filling of any surface waters on the Radio Tower Site. The only activity that will occur within surface waters

is associated with drainage improvements proposed within the Turnpike right-of-way. These drainage improvements include the construction of new headwalls and scour aprons for outlet protection at either end of the existing 96-inch CMP culvert and the cleaning out of the culvert to remove accumulated sediment. These drainage improvements will provide positive drainage of the surface water conveyance system and will have a positive impact on the drainage of the Radio Tower Site. Proposed changes to the stormwater management system on and around the Radio Tower Site and their associated impacts are further discussed in Section 4.13.2.

The Amusement Park and Water Park Project will result in an increase in impervious area associated with the proposed buildings and perimeter access road. The Project will increase stormwater flows, primarily comprised of clean roof runoff, from the Radio Tower Site. Pursuant to the State Stormwater Management Rules at N.J.A.C. 7:8-5.4(a)3.iv, water quantity control is not required because the Radio Tower Site drains to the Hackensack River, a tidal waterbody. A downstream quantity analysis is only required if there is an increase in the volume of stormwater runoff that could increase flood damages below the point of discharge (i.e., downstream). Based on a pre-application meeting with the NJDEP Division of Land Use Regulation, a downstream analysis of the channels downstream of the Turnpike is not warranted because there are no buildings or developed properties downstream that might be impacted by increased flooding.

The engineering stormwater analysis performed for the Amusement Park and Water Park Project concluded that the overall impacts on the existing watershed will be minimal (Langan 2011i). See the Stormwater Management Report provided in Appendix C. The drainage area to the 96-inch culvert will be increased slightly by approximately 3 acres, while alternatively the drainage area to the 108-inch culvert will be decreased by approximately 3 acres (Figure 4-14; also see Table 4-11 in Section 4.13.2). The rise in water surface elevations will be minimal for both the 96-inch and 108-inch culverts (See Table 4-12 in Section 4.13.2). The peak surface water elevations are lower than the lowest elevation to satisfy the New Jersey Turnpike Authority's requirement to maintain at least one foot of freeboard between their roadway and peak backwater elevation for the 100-year storm event. During the FEMA peak 100-year tidal storm surge event (el. 8.7 NGVD) the peak water surface on either side of the culvert is determined by the Hackensack River and not by runoff from the Radio Tower Site. See the Flood Study Engineering Report provided in Appendix D.

Existing incoming flow from Route 120 and ERC via 36-inch pipes. Offsite A and C Watersheds (27.5 AC±)

PROPOSED WATERSHED PR-1C (±2.7 AC)

PROPOSED WATERSHED PR-1A (±15.0 AC)

PROPOSED WATERSHED PR-2 (±6.2 AC)

PROPOSED WATERSHED- PR-1B (±11.9 AC)

Incoming flows from ERC site via 60-inch pipes. Offsite ERC Watershed (83.8 AC±)

EXISTING 96-INCH CULVERT

EXISTING 108-INCH CULVERT

Watershed 1A discharges under NJ Turnpike via 96-inch culvert to unnamed tributary to Hackensack River

Watershed 2 and ERC discharge under NJ Turnpike via 108-inch culvert to Cedar Creek

ENTERTAINMENT / RETAIL

PARKING DECK "BCD"

SOUTH CONNECTOR ROAD

NEW JERSEY ROUTE 120

N.J. ROUTE 3 WEST

EAST PERIPHERAL ROAD

NEW JERSEY TURNPIKE (WESTERN SPUR)

ISOLATED WETLAND "C"

ISOLATED WETLAND "B"

WETLAND "D"

WETLAND "A"

CONSERVATION AREA

Proposed Drainage Areas

Drainage Areas*	Total Area (Ac.)	Pervious (Ac.)	Impervious (Ac.)	Composite CN*
PR-1A (to PR-1B)	15	0.62	14.38	97
PR-1B (to 96-inch)	11.9	5.75	6.15	93
PR-1C (to PR-1B)	2.7	1.23	1.47	93
PR-2 (to 108-inch)	6.2	6.2	0	88

*Drainage Area discharge location and CN values for this analysis reflect a 10-yr tidal storm surge event

DISCHARGE TO 96-INCH CULVERT	
Q10yr =	143 cfs
Q50yr =	195 cfs
Q100yr =	218 cfs

DISCHARGE TO 108-INCH CULVERT	
Q10yr =	198 cfs
Q50yr =	274 cfs
Q100yr =	308 cfs

LEGEND:
- FLOW TO 96-INCH CULVERT
- FLOW TO 108-INCH CULVERT

250 0 125 250
SCALE IN FEET

NOTES:
1. ALL ELEVATIONS REFERENCE THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD29).
2. THE TAILWATER CONDITION USED FOR THIS ANALYSIS WAS A 10-YEAR TIDAL STORM SURGE EVENT IN THE HACKENSACK RIVER EQUAL TO ELEVATION 6.6 (NGVD29).
3. ERC= AMERICAN DREAM MEADOWLANDS ENTERTAINMENT RETAIL COMPLEX (FORMERLY KNOWN AS XANADU).

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NEW JERSEY SPORTS & EXPOSITION AUTHORITY

Amusement Park and Water Park American Dream Meadowlands

Proposed Drainage Area Map

LANGAN ENGINEERING & ENVIRONMENTAL SERVICES

Figure 4-14

A water quantity analysis for the 10-, 50-, and 100-year storm during a 10-year tidal surge with a combined tailwater elevation of 6.6 (NGVD 1929) under post-development conditions was performed (Langan 2011i). The 96-inch culvert, which is currently filled with sediment, has the capacity to handle the runoff from the Radio Tower Site when it is cleaned out. For the purposes of this analysis, it was assumed that the maximum allowable headwater at the 96-inch culvert will be the low point of the natural berm (el. 8.9), which splits flow between the 96-inch culvert watershed (Watersheds PR-1A to PR-1D on Figure 4-14) and the 108-inch culvert watershed (Watershed PR-2 on Figure 4-14).

The analysis indicates there will be a 0.25 foot (3-inch) increase in the backwater peak elevation for the 100-year storm on the upstream (site) side of the 96-inch culvert to elevation 7.26, which is well below the assumed maximum elevation of 8.9. The New Jersey Turnpike Authority's requirement to maintain at least one foot of freeboard between their roadway and peak backwater elevation for the 100-year storm event is met (Appendix C).

Based on a water quantity analysis for the water flowing to the 108-inch culvert, there will be a negligible 0.02 feet (0.24-inch) increase in the backwater peak elevation on the upstream (site) side of the culvert for the 100-year storm. This peak elevation (el. 7.4) is approximately 1.7 feet lower than the lowest elevation of the adjacent Turnpike, which satisfies the New Jersey Turnpike Authority's requirement to maintain at least one foot of freeboard between their roadway and peak backwater elevation for the 100-year storm event.

A hydrologic analysis was also performed to determine the impact of the proposed improvements on the tailwater developed at the upstream stormwater outfalls which convey offsite flow through the Radio Tower Site to the 96-inch and 108-inch culverts (Langan 2011i). The tailwater affects will be minimal. A water quantity analysis for the 100-yr storm during a 10-yr tidal surge with a combined tailwater elevation of 6.6 under pre- and post-development conditions was performed. The analysis indicates there will be a negligible 0.04 (0.48-inch) foot increase in the backwater peak elevation (7.47 feet to 7.51 feet) for the 100-yr storm on the upstream side of the site at the existing 36-inch pipes, which is below the 0.2 foot (2.40-inch) increase allowed.

4.4.2.2 Water Quality Impacts

The proposed stormwater management system for the Amusement Park and Water Project will increase stormwater runoff to the existing drainage system (i.e., unnamed tributary to the Hackensack River) by directing proposed rooftop runoff and runoff from the proposed perimeter access road to this drainage feature within the drainage easement on the Radio Tower Site (see Section 4.13.2). As part of the rooftop runoff design that is proposed for the Amusement Park

and Water Park Project, drainage from building rooftops will be discharged to the head of the drainage easement on the Radio Tower Site that discharges to the unnamed tributary to the Hackensack River. Since the rooftop runoff will be free of vehicular contaminants, impacts on water quality as a result of the rooftop runoff designs are not anticipated.

The runoff from the Project's other impervious surfaces will be treated prior to discharge to the natural drainage features to meet the applicable total suspended solids (TSS) removal rate (Langan 2011i). The southwestern portion of the Project's impervious area (approximately 2.4 acres) will be discharged to a proposed wet pond to be constructed with vegetated side slopes for water quality treatment. The wet pond will discharge to the wetlands near the drainage easement associated with the unnamed tributary to the Hackensack River. An NJDEP-approved manufactured water quality treatment device (Imbrium Jellyfish) will be installed and treat the remaining impervious areas (access road) on the northeastern portion of the Project Site. This water quality concept will be reviewed by the NJDEP as part of the multi-permit application process, which includes a Flood Hazard Area Permit and Water Quality Certification.

Construction Related Impacts

Impacts to the existing water quality of regional water bodies (i.e., Hackensack River) may result from construction activities associated with the Amusement Park and Water Park Project. Although the water quality in the receiving waters is categorized as "impaired," any impacts as a result of potential increased siltation generated from construction-related activities will be of concern; however, these impacts can be minimized through the use of appropriate mitigation measures (see Section 4.4.3).

Wastewater Related Impacts

As discussed in Section 4.13.2.2, a new force main for sanitary sewerage will be constructed from the Amusement Park and Water Park facility to the existing sewer infrastructure on the ERC site that connects to the existing sanitary system pump station located north of ERC Building A (Triple Five Development 2011). From that point, the sewerage will be carried along with other sanitary waste from the Arena Site redevelopment project to the East Rutherford pump station on the north side of the Racetrack in a system built as part of the Meadowlands Xanadu Redevelopment Project. The additional wastewater flow that will be generated by the Amusement Park and Water Park Project has been estimated at 127,000 gallons per day (gpd) based upon NJDEP regulations (N.J.A.C. 7:14A-23) (Table 4-3). An application for a Treatment Works Approval (TWA) for the proposed wastewater collection and conveyance system for the Amusement Park and Water Park Project will be submitted to the NJDEP Division of Water Quality for the Project (see Section 5.3.8).

4.4.2.3 Groundwater Impacts

Potential impacts to groundwater are expected to be minimal as a result of the construction and operation of the Amusement Park and Water Park Project. The filling of wetlands onsite may eliminate some of the potential water quality functions they currently provide, which include filtration of stormwater before infiltration to local groundwater resources. Considering that the local groundwater is not used for potable sources, is primarily fed by tidal watercourses, and does not appear to support any substantial natural resources, this loss of groundwater recharge is not anticipated to be significant.

TABLE 4-3

SANITARY SEWER DESIGN FLOW COMPUTATION

Prior Meadowlands Xanadu Redevelopment Projecct Sewer Flows[1]

Building	Establishment Name	Selected Type of Establishment Based on NJDEP Categories	Proposed Gross Area		Proposed Unit of Measurement		NJDEP Unit Flow[2]		Anticipated Design Flow	
Entertainment Retail Center	Leasable Specialty Entertainment	Stores and Shopping Centers	2,000,000	SF	2,000,000	SF	0.1	GPD/SF	200,000	GPD
	Restaurants[3]	Average Restaurant	200,000	SF	8,696	Seats	35	GPD/Seat	304,348	GPD
	Common Area[4]		500,000	SF	500,000	SF	0.1	GPD/SF	50,000	GPD
		SUBTOTAL	**2,700,000**	**SF**					**554,348**	**GPD**
Office Complex	4 Office Buildings	Office Building	**1,760,000**	**SF**	1,760,000	SF	0.1	GPD/SF	**176,000**	**GPD**
Hotel	Hotels[5]	Hotels			520	Bedrooms	75	GPD/Bedroom	39,000	GPD
	Restaurant[6]	Average Restaurant			250	Seats	35	GPD/Seat	8,750	GPD
	Conference Facility[7]	Catering/Banquet Hall			750	Persons	20	GPD/Person	15,000	GPD
		SUBTOTAL	**500,000**	**SF**					**62,750**	**GPD**
Baseball Field	Minor League Baseball Field[8]	Sports Stadium			8,000	Seats	3	GPD/Seat	**24,000**	**GPD**
		Total Prior Meadowlands Xanadu Project Sewer Flows (Rounded up)							**820,000**	**GPD**

Proposed Sewer Design Flows for New Project Component

Amusement Park / Water Park	Restaurant[9]	Average Restaurant			200	Seats	35	GPD/Seat	7,000	GPD
	Restrooms (Amusement Park)[10]	Fairgrounds			6,000	Persons	5	GPD/Person	30,000	GPD
	Restrooms/Showers (Water Park)[11]	Multimember Swimming Pool			6,000	Persons	15	GPD/Person	90,000	GPD
		Total New Project Component Sewer Design Flows (Rounded up)							**127,000**	**GPD**
		Total Rdevelopment Project Sanitary Sewer Design Flows (Rounded up)							**947,000**	**GPD**

Notes:

1. Sewer Design Data based on plans entitled, "Meadowlands Xanadu~East Rutherford~Bergen County~New Jersey, Proposed Utility Plan", dated October 30, 2003 and revised January 19, 2004 as prepared by Langan Engineering and Environmental Services. NJDEP TWA approval for the prior project sewer flows received on October 7, 2004.
2. Unit flow based on NJDEP Technical Requirements For Treatment Works Approval Applications, N.J.A.C. 7:14A-23.3 Projected flow criteria.
3. Restaurant seats estimated based on 23 SF/Seat (200,000/23 = 8,696 seats).
4. Common Area measurement unit assumed to be same as stores and shopping center measurement unit (0.1 GPD/SF).
5. Hotel measurement based on number of bedrooms (assume 520 bedrooms).
6. Restaurant measurement based on number of seats (250 seats), inclusive of washrooms and turnover.
7. Conference Facility measurement based on number of people (assume 1 person/seat x 750 seats).
8. Baseball Field measurement based on Sports Stadium (3 GPD/seat x 8000 seats).
9. Amusement/Water Park Restaurant estimated at 200 seats.
10. Amusement Park Restroom estimated at 5 GPD per person (Fairgrounds) x 6,000 estimated occupancy capacity.
11. Water Park Restrooms/Showers estimated at 15 GPD per visitor (Multimember Swimming Pool) x 6,000 estimated occupancy capacity, and includes sewer flows associated with operating and maintaining the water rides and pools.

4.4.3 Mitigation

4.4.3.1 Surface Water Quality

Stormwater Management Mitigation

One primary objective of the proposed stormwater management plan is to reduce potential impacts on receiving water bodies from stormwater pollutant loadings in comparison to current conditions in and around the Radio Tower Site, and thereby reduce potential long-term cumulative impacts to the Hackensack River from site-generated stormwater pollutant loadings. The majority of the new impervious surfaces being proposed on the Radio Tower Site will consist of building rooftop areas, thereby minimizing the introduction of potential petroleum hydrocarbons and other vehicular pollutants into nearby waterways.

The project design includes several types of long-term best management practices (BMPs) to minimize potential adverse water quality impacts generated during operation of the Amusement Park and Water Park Project. Long-term stormwater quality controls include the use of catch basin traps to capture floating debris to limit the amount of incidental oil and petroleum products in stormwater that enters the drainage system from the perimeter access road. Maintenance of these catch basins will contribute to the removal of pollutants prior to entering adjacent waters. Street sweeping will also be performed on a regular basis to remove sediments and pollutants from the perimeter access road.

Considering the relatively small increase in impervious paved surface area (approximately 2.5 acres) resulting from the construction of the Amusement Park and Water Park, and that these areas will be treated prior to discharge in accordance with NJDEP regulations with manufactured devices, no impacts on water quality are anticipated from the operation of the Project. No patron parking areas are proposed on the Radio Tower Site which would increase the volume of salt needed for deicing of parking areas. Food waste storage areas will be properly managed in order to discourage flocks of roosting birds from gathering on rooftop areas and to minimize the accumulation of animal wastes on rooftops.

The proposed minimization and mitigative measures described above are being coordinated with NJDEP in their review for compliance with the NJDEP Stormwater Management Regulations as part of the multi-permit application process for the Project (see Section 5).

Construction Related Mitigation

Temporary impacts to the water quality of both on-site and off-site water bodies as a result of siltation associated with earth movement and vegetative removal activities will be monitored during the construction of the Amusement Park and Water Park Project. A construction related Stormwater Pollution Prevention Plan (SWPP) and soil erosion and sediment control plan will be implemented prior to the start of construction and will be maintained throughout the construction period.

The site-specific soil erosion and sediment control plan will be prepared in accordance with the Standards for Soil Erosion and Sediment Control in New Jersey, certified by the Soil Conservation District (SCD), and will be implemented as part of the Project's BMPs for construction. Details of the measures to be incorporated into the soil erosion and sediment control plan for construction of the Amusement Park and Water Park Project are provided in Section 4.1.3.

Wastewater Management

Wastewater from the Amusement Park and Water Park Project will be treated at the wastewater treatment plant operated by the BCUA in Little Ferry (see Section 4.13.2). The additional flows to the plant from the Project will increase discharges into the Hackensack River from this plant; however, proper treatment of the wastewater from the Project at the BCUA plant will minimize the potential for impacts on the water quality of the Hackensack River resulting from this discharge.

4.4.3.2 Groundwater Quality

Measures that will be implemented to reduce potential impacts to groundwater during construction and operation of the Amusement Park and Water Park Project include storage of construction equipment on paved parking areas or areas where surface material is compacted so as to be relatively impermeable; proper storage and disposal of all liquid products; storage of fuel, oil, and cleansing agents on paved areas; and, immediate cleanup of any spills or leaks.

4.5 Floodplains

4.5.1 Existing Conditions

The majority of the Radio Tower Site is located within the FEMA-mapped 100-year tidal floodplain of the Hackensack River (el. 9 NGVD 29 datum) (Figures 4-12 and 4-15). In addition to the tidal floodplain of the Hackensack River, the unnamed tributary to the Hackensack River on the Radio Tower Site has a contributory drainage area greater than 50 acres, and as such, pursuant to the Flood Hazard Area Control Act Rules (N.J.A.C. 7:13), has its own regulatory fluvial flood hazard area associated with it. As discussed with the NJDEP Land Use Regulation Program, a fluvial flood study of this tributary was performed to identify the extent of the fluvial flood hazard area associated with this surface water feature (See the Flood Study Engineering Report provided in Appendix D). A request for a Flood Hazard Area Verification was submitted to the NJDEP Division of Land Use Regulation on December 29, 2011 to confirm the regulatory extent of NJDEP's jurisdiction of the flood hazard areas (see Section 5.3.6).

4.5.2 Impacts

To construct the Amusement Park and Water Park Project, approximately 13.36 acres of low-lying area currently found within the 100-year tidal floodplain on Radio Tower Site will be filled to a base elevation of approximately 12 feet NGVD (Figure 4-16). Because the 100-year floodplain on the Radio Tower Site is governed by tidal flooding, proposed filling of low-lying sections in the flood hazard area will have a negligible effect on current regional flooding conditions within the overall Hackensack River floodplain. This is due to the fact that reductions in flood storage volume resulting from development within the 100-year tidal floodplain are minor in comparison to the magnitude and extent of the 100-year tidal flood from the tidal waterbody.

A water quantity analysis for the 10-, 50-, and 100-year storm during a 10-year tidal surge with a combined tailwater elevation of 6.6 (NGVD 1929) under post-development conditions was performed (Langan 2011i). Based on this analysis, the surface water elevation increase of stormwater flowing to the 96-inch and 108-inch culverts will be negligible. During the FEMA peak 100-yr tidal storm surge event (el. 8.7 NGVD), the peak water surface on either side of the culvert is determined by the Hackensack River and not by runoff from the Radio Tower Site.

The results of the existing and proposed hydrologic and hydraulic analyses have concluded that no flooding impacts will occur upstream or downstream of the Amusement Park and Water Park Project. A formal stormwater management report providing the water quantity analysis was prepared and submitted to the NJDEP Division of Land Use Regulation (Appendix C). This

ZONE X

ZONE X

ZONE

20

ZONE X

ZONE AE
(EL 9)

NEW JERSEY TPKE

95

ONE
X

BERGEN COUNTY

IDSON COUNTY

13

ZONE X

N

LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD EVENT

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water surface elevation of the 1% annual chance flood.

ZONE A No base flood elevations determined.

ZONE AE Base flood elevations determined.

ZONE AH Flood depths of 1 to 3 feet (usually areas of ponding); base flood elevations determined.

ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

ZONE AR Area of special flood hazard formerly protected from the 1% annual chance flood event by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood event.

ZONE A99 Area to be protected from 1% annual chance flood event by a Federal flood protection system under construction; no base flood elevations determined.

ZONE V Coastal flood zone with velocity hazard (wave action); no base flood elevations determined.

ZONE VE Coastal flood zone with velocity hazard (wave action); base flood elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% annual chance floodplain boundary

0.2% annual chance floodplain boundary

Floodway boundary

Zone D boundary

CBRS and OPA boundary

Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or velocities.

300 150 0 300

Scale in Feet

Map Reference: FEMA Flood Insurance Rate Map, Hackensack Meadowlands Commission, NJ (Panel 262) (9-2005)

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NEW JERSEY SPORTS & EXPOSITION AUTHORITY NJSEA

Amusement Park and Water Park
American Dream Meadowlands

FEMA Flood Insurance Rate Map

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Figure 4-15

LEGEND:

- PROPERTY LINE
- TRIBUTARY CENTERLINE
- PROPOSED LIMIT OF DISTURBANCE
- TOP OF BANK
- 50 FOOT RIPARIAN ZONE
- 100 YEAR TIDAL FLOOD HAZARD AREA (SEE NOTES)
- PERMANENT TIDAL FLOOD HAZARD AREA IMPACTS 588,839 SF (13.52 AC)
- PERMANENT RIPARIAN ZONE IMPACTS 9,504 SF (0.22 AC)
- TEMPORARY RIPARIAN ZONE IMPACTS 6,224 SF (0.14 AC)

NOTES:

1. THIS SURVEY IS BASED UPON EXISTING PHYSICAL CONDITIONS FOUND AT THE SUBJECT SITE, AND THE FOLLOWING REFERENCES:
   - A. A PLAT ENTITLED, "FINAL PLAT-MAJOR SUBDIVISION, ARENA/MEADOWLANDS/XANADU SITE, BLOCK 107.02, LOT 1, BOROUGH OF EAST RUTHERFORD, BERGEN COUNTY, NEW JERSEY", PREPARED BY CME ASSOCIATES, DWG NO. 84T, FILE NO. 7204, DATED 9/13/07, AND FILED IN THE BERGEN COUNTY CLERK'S OFFICE AS MAP NO. 6455, MAP FOR DEED SER # 1540, DATED 1/7/08 BOOK 9475 PG 425.
   - B. CURRENT TAX MAP OF THE BOROUGH OF EAST RUTHERFORD.
2. THE MERIDIAN OF THIS SURVEY IS REFERENCED TO THE NEW JERSEY STATE PLANE COORDINATE SYSTEM NAD 27 AS ESTABLISHED USING GPS METHODS AND CONVERTED USING CORPSCON.
3. ELEVATIONS SHOWN ARE REFERENCED TO THE NGVD 29 DATUM AS ESTABLISHED USING GPS METHODS AND CONVERTED USING CORPSCON.
4. PLANIMETRIC INFORMATION SHOWN HEREON HAS BEEN OBTAINED FROM GROUND SURVEYS BY LANGAN ENGINEERING AND ENVIRONMENTAL SERVICES, INC. COMPLETED DURING MAY THROUGH JULY 2011, AND SUPPLEMENTED WITH AERIAL DATA PROVIDED IN CAD FORMAT BY PROMAPS, INC., DATED 7/5/11, WHICH WAS PRODUCED FROM AERIAL PHOTOS TAKEN ON 5/25/2011. CONTOURS AND SPOT GRADES LABELED TO ONE DECIMAL PLACE HAVE BEEN OBTAINED FROM AERIAL TOPOGRAPHIC DATA AS NOTED HEREON. SPOT GRADES SHOWN TO TWO DECIMAL PLACES WERE THE RESULTS OF GROUND SURVEYS PERFORMED BY LANGAN ENGINEERING AND ENVIRONMENTAL SERVICES, INC. BASED ON THE ORIGINAL MAPPING CRITERIA (SCALE, ETC.). THE DATA SHOWN MEETS NATIONAL MAP ACCURACY STANDARDS.
5. TOP OF BANK OF UNNAMED TRIBUTARY TO THE HACKENSACK RIVER LOCATED IN THE FIELD ON JULY 15, 2011. TOP OF BANK OF UNNAMED TRIBUTARY TO CEDAR CREEK LOCATED IN THE FIELD ON AUGUST 12 AND AUGUST 23, 2011.
6. THE TIDAL FLOOD HAZARD AREA BOUNDARY DEPICTED ON THIS PLAN WAS DELINEATED USING METHOD 2 (FEMA TIDAL METHOD) PURSUANT TO N.J.A.C. 7:13 -3.4(d)
7. ALL OR A PORTION OF THIS SITE LIES IN A FLOOD HAZARD AREA. CERTAIN ACTIVITIES IN FLOOD HAZARD AREAS ARE REGULATED BY THE NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SOME ACTIVITIES MAY BE PROHIBITED ON THIS SITE OR MAY FIRST REQUIRE A PERMIT. CONTACT THE DIVISION OF LAND USE REGULATION AT (609) 292-0060 FOR MORE INFORMATION PRIOR TO ANY CONSTRUCTION ONSITE
8. A TOTAL OF 15 TREES TO BE PLANTED WITHIN THE RIPARIAN ZONE TREE MITIGATION AREA. THE TREES TO CONSIST OF 5 BLACK CHERRY, 5 EASTERN COTTONWOOD, AND 5 PIN OAK. ALL TREES TO BE STAKED ON SLOPES GREATER THAN 3:1 AND STAKES TO BE COMPLETELY REMOVED APPROXIMATELY 1 YEAR AFTER TREE INSTALLATION.

N.J. NAD 27

SOUTH CONNECTOR ROAD

NEW JERSEY ROUTE 120

N.J. ROUTE 3 WEST

TIDAL FLOOD HAZARD AREA ELEVATION 8.7 (NGVD 29)

PROPOSED BUILDING
GROUND FLOOR AREA: 554,000 sf ±
FFE: 12.00

END OF REGULATED WATER FEATURE

LIMIT OF 50 FOOT RIPARIAN ZONE

TOP OF BANK

LIMIT OF DISTURBANCE (TYP.)

HOT SPOT EXCAVATION FOR REMEDIAL ACTION

EAST PERIPHERAL ROAD

UNNAMED TRIBUTARY TO CEDAR CREEK

END OF STUDY AREA

108" RCP
TOP/PIPE EL.= 4.60
INV. EL. = -5.20

NEW JERSEY TURNPIKE (WESTERN SPUR)

TURNPIKE RIGHT-OF-WAY STUDY AREA

ACCUMULATED SEDIMENTS TO BE REMOVED FROM 96" CULVERT

END OF TOP OF BANK

TREE IMPACTS / MITIGATION IN RIPARIAN ZONE

15 TREES APRROXIMATELY 2.5 TO 3-INCHES IN DIA. TO BE PLANTED. SEE NOTE 8.

EXISTING TREE (TYP.)

TREE IMPACTS / MITIGATION SUMMARY

TREE IMPACTS WITHIN PERMANENTLY DISTURBED RIPARIAN ZONE AREAS - 499 SF (0.01 AC)	
TREE IMPACTS WITHIN TEMPORARILY DISTURBED RIPARIAN ZONE AREAS - 698 SF (0.02 AC)	
RIPARIAN ZONE MITIGATION AREA TO BE PLANTED WITH TREES - 2,812 SF (0.06 AC)*	

* NON-WOODED PERMANENT RIPARIAN ZONE DISTURBANCE (I.E. EMERGENT PHRAGMITES WETLAND) WILL BE MITIGATED FOR AS PART OF THE OFFSITE WETLAND MITIGATION PROPOSAL FOR THE PROJECT.

200 0 100 200
SCALE IN FEET

NEW JERSEY SPORTS & EXPOSITION AUTHORITY

Amusement Park and Water Park
American Dream Meadowlands

Proposed Floodplain Impacts Map

LANGAN ENGINEERING & ENVIRONMENTAL SERVICES

Figure 4-16

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report was submitted to NJDEP on December 29, 2011 as part of the Multi-Permit Application that included a request for a Flood Hazard Area Individual Permit (see Section 5.3.6).

4.5.3 Mitigation

To mitigate for any potential flooding from tidal events, the elevations of the first floor of the Amusement Park and Water Park buildings will be set at elevation 12 (NGVD 29 datum), which is more than the minimum one foot above the 100-year tidal flood elevation of 9 feet NGVD required by FEMA and the NJDEP Division of Land Use Regulation. The perimeter access road will be constructed 1 foot above the 100-year tidal floodplain elevation. Any utility areas in the building below el. 9 will be dry flood-proofed in accordance with the Flood Hazard Area Control Act Rules (N.J.A.C. 7:13) requirements.

The Amusement Park and Water Park's stormwater management system will be designed to provide adequate collection and conveyance of site stormwater runoff for localized fluvial storm events. Further details of the proposed stormwater management system for the Amusement Park and Water Park are provided in Section 4.13.2.1.

4.6 Riparian Lands

4.6.1 Existing Conditions

Riparian lands, or tidelands, are those lands now or formerly flowed by the mean high water tide, which are held in trust by the State unless released by a riparian instrument such as a tidelands grant (N.J.A.C. 7:7E-1.1 et seq.). Lands formerly flowed by the mean high water tide as well as tideland conveyances are shown on a series of tideland maps prepared by the State of New Jersey. Riparian lands in and around the Radio Tower Site, including the adjacent roadways, are shown on NJDEP Tideland map 714-2160. The tidelands map information for the areas in and around the Radio Tower Site is shown on Figure 4-17.

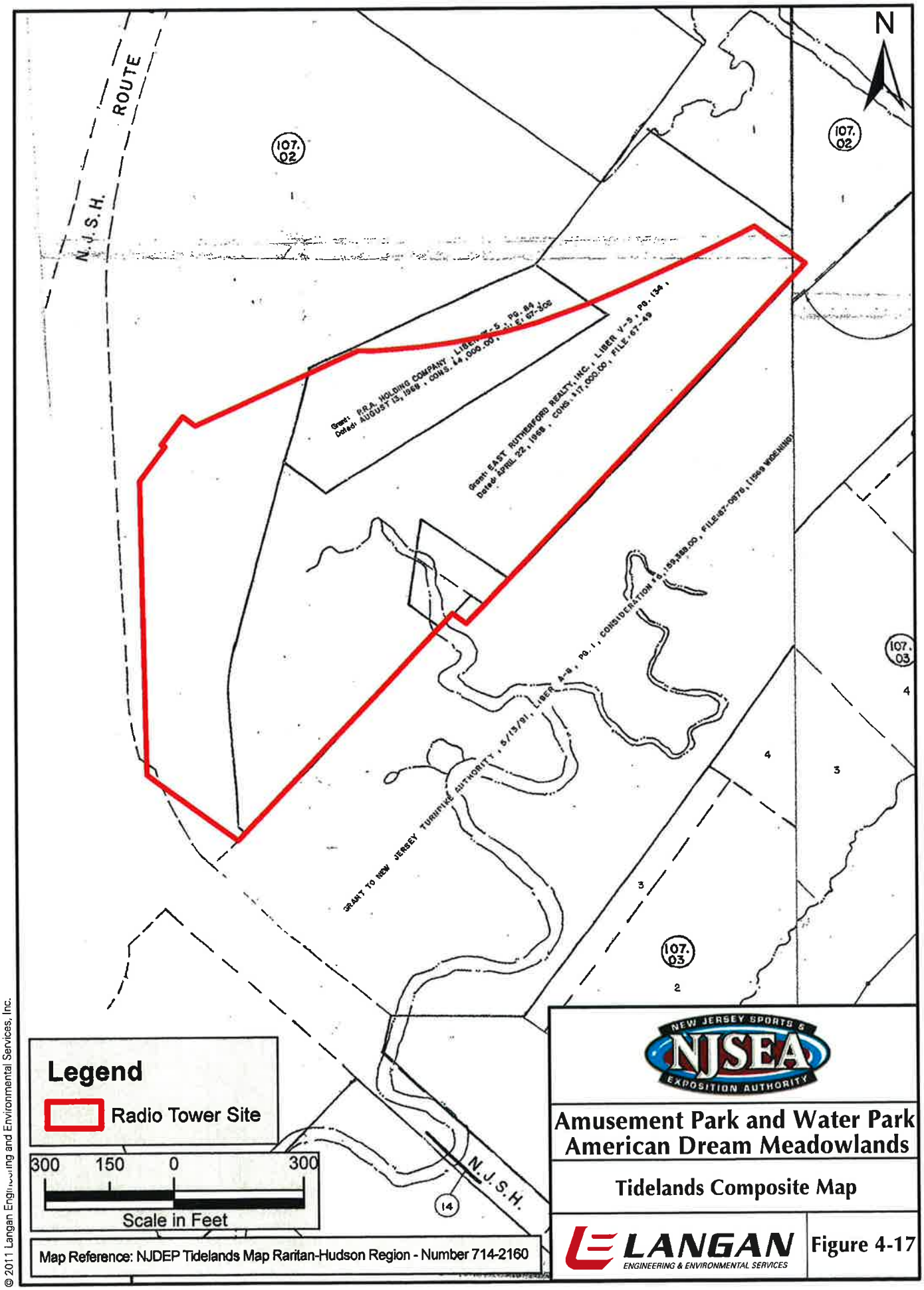
The Amusement Park and Water Park Project Area is covered by three riparian grants. A tidelands grant was issued for portions of the Arena Site and the northwest portion of the Radio Tower Site on January 19, 1982 by the State of New Jersey. The NJSEA executed an amendment to the 1973 Contract of Sale between the State of New Jersey and the NJSEA (Liber S-6, Pages 21-25), wherein the State conveyed its interests in all presently and formerly flowed tidelands on the Arena Site. Whereas the tideland maps show the tidelands instrument applying only to the portions of the Meadowlands Sports Complex located to the west of N.J. Route 120, the amendment specifically references and describes "Site 2" as being the Arena Site. The NJDEP Tideland Map No. 714-2160 shows the Arena Site grant area extending into and covering the northwest portion of the Radio Tower Site. With regards to the remainder of the Radio Tower Site, two tidelands grants were previously issued by the State of New Jersey. One was issued to the P.R.A. Holding Company on August 13, 1968 (Liber W-5, Page 84). Another was issued to East Rutherford Realty, Inc. on April 22, 1968 (Liber V-5, Page 134).

4.6.2 Impacts

With the issuance of a tidelands grant to the NJSEA by the State for the entire Meadowlands Sports Complex property in 1982 the State relinquished any tidelands interest in that property, including the Arena Site. With the issuance of tidelands grants to the P.R.A. Holding Company and East Rutherford Realty, Inc. the State relinquished any tidelands interest in the remainder of the Radio Tower Site. Therefore, no tideland instruments are necessary for the proposed filling or work within mapped formerly flowed tidelands or existing tidal waters by the Project.

4.6.3 Mitigation

No mitigation is necessary with regard to riparian lands, and no mitigation is proposed.



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4.7 Vegetation

4.7.1 Existing Conditions

An assessment of the vegetation present on the Radio Tower Site was completed by Langan in May, June, August and September 2011. A vegetative cover map was prepared showing the major vegetative communities on the Radio Tower Site (Figure 4-18). Vegetated portions of the Radio Tower Site were divided into different cover types including old field uplands, upland *Phragmites*, upland tree line, tidally influenced wetlands, non-tidal wetlands, isolated non-tidal wetlands, and isolated non-tidal wetland ditches. Approximately 96% (20.92 acres) of the site is vegetated while the remaining 4% (0.83 acres) is comprised of buildings, access drives, and radio towers (Figure 4-18).

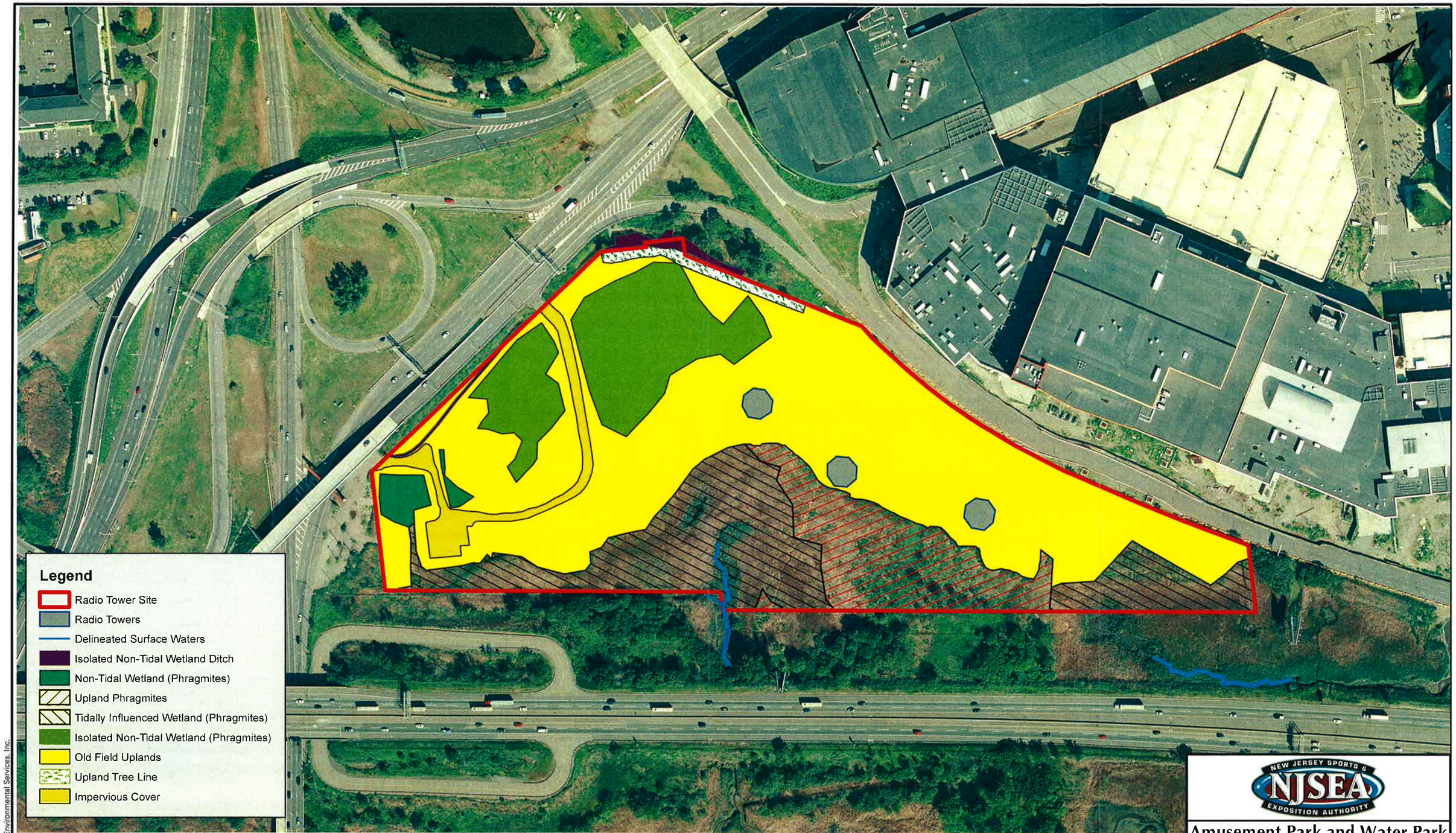
Table 4-4 provides a list of vegetation species observed during the 2011 field investigations. The dominant species of vegetative communities identified onsite have been divided into wetland and upland assemblages. The vegetation onsite is typical for the region, that is, opportunistic species which reproduce quickly and in large quantities to rapidly colonize disturbed areas.

4.7.1.1 Wetland Vegetation

Wetland vegetation covers approximately 7.28 acres (33%) of the Radio Tower Site. Wetland areas include tidally influenced emergent wetlands and non-tidal emergent wetlands. Tidally influenced wetlands comprise approximately 4.09 acres and are dominated by monotypic stands of common reed (*Phragmites australis*). Non-tidal wetland areas onsite total approximately 3.19 acres. The majority of the non-tidal wetland areas including isolated non-tidal wetlands, non-tidal wetlands, and isolated non-tidal wetland ditches are also dominated by common reed (*Phragmites australis*). In the non-tidal wetland areas where common reed is not dominant, common three square (*Scirpus pungens*), purple loosestrife (*Lythrum salicaria*), broadleaf cattail (*Typha latifolia*), and yellow nutsedge (*Cyperus esculentus*) are dominant.

4.7.1.2 Upland Vegetation

Vegetated upland areas onsite are identified on the Vegetative Cover Map as 'old field uplands', 'upland *Phragmites*', and 'upland tree line' (Figure 4-18). Vegetated upland areas onsite total approximately 13.64 acres (or 63% of the site). Old field uplands are generally dominated by mugwort (*Artemisia vulgaris*), foxtail (*setaria sp.*), common reed (*Phragmites australis*), crown vetch (*Coronilla varia*), and goldenrod (*Solidago spp.*). Upland *Phragmites* areas are dominated by common reed (*Phragmites australis*) and mile-a-minute weed (*Persicaria perfoliata*) with



200 100 0 200

Scale in Feet

Map Reference: Promaps Inc., Moorestown, NJ - Flyover Aerial Photography (6-2011);
Langan Engineering & Environmental Services Wetland Delineation Plan (8-31-2011);
Langan Engineering & Environmental Services NJDEP Division of Land Use Regulation Jurisdictional Area Map (9-08-2011)

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Vegetative Cover Map

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Figure 4-18

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Table 4-4
Vegetative Species Observed On The Radio Tower Site During 2011 Field Studies

Scientific Name	Common Name
Acer negundo	box elder
Ageratina altissima	white snakeroot
Ailanthus altissima	tree-of-heaven
Ambrosia artemisifolia	common ragweed
Artemesia vulgaris	mugwort
Asclepias syriaca	common milkweed
Celastrus orbiculatus	Oriental bittersweet
Cirsium vulgare	bull thistle
Coronilla varia	crown vetch
Cuscuta sp.	dodder
Cyperus esculentus	yellow nutsedge
Daucus carota	Queen Anne's lace
Elaeagnus augustifolia	Russian olive
Heterotheca subaxillaris	camphorweed
Juncus effusus	soft rush
Lonicera tatarica	tatarian honeysuckle
Lythrum saclicaria	purple loosestrife
Oenothera biennis	common evening primrose
Parthenocissus quinquefolia	Virginia creeper
Persicaria perfoliata	mile-a-minute vine
Phragmites australis	common reed
Phytolacca americana	common pokeweed
Plantago major	common plantain
Pluchea odorata	saltmarsh fleabane
Polygonum sp.	smartweed
Polygonum cuspidatum	Japanese knotweed
Populus deltoides	eastern cottonwood
Rhus copallina	dwarf sumac
Rhus typhina	staghorn sumac
Rubus sp.	blackberry
Setaria sp.	foxtail
Scirpus americanus	common three-square
Silene noctiflora	night flowering catchfly
Solanum carolinense	horse nettle
Solanum nigrum	black nightshade
Solidago spp.	goldenrod
Toxicodendron radicans	poison ivy
Vicia angustifolia	narrow leaved vetch

several tree of heaven (*Ailanthus altissima*) individuals scattered throughout. The upland tree line is dominated by tree of heaven (*Ailanthus altissima*) and box elder (*Acer negundo*) in the overstory with mugwort (*Artemisia vulgaris*), pokeweed (*Phytolacca americana*), oriental bittersweet (*Celastrus orbiculatus*), Virginia creeper (*Parthenocissus quinquefolia*), and white snakeroot (*Ageratina altissima*) in the understory. Various other species were noted in the upland areas and are listed in Table 4-4.

4.7.2 Impacts

Approximately 18 acres of vegetated area will be impacted from the construction of the Amusement Park and Water Park, perimeter access road and drainage improvement on the Radio Tower Site (Figure 4-19). Permanent impacts include approximately 2.39 acres of tidal wetland, 2.85 acres of non-tidal wetland, and 12.76 acres of upland. In addition to the 18 acres of vegetation impacts on the Radio Tower Site, approximately 0.15 acres of vegetated wetlands will be permanently impacted from the construction of the drainage improvements (i.e. rip-rap and headwall construction) within the Turnpike right-of-way.

The 18 acres of vegetated area to be impacted includes approximately 0.22 acres of flood hazard area riparian zone impacts associated with the riparian zone along the unnamed tributary to the Hackensack River (Figure 4-16). Approximately 0.03 acres of the 0.22 acres includes disturbances to woody vegetation. This disturbance to trees is necessary in order to construction the required drainage improvements proposed to the existing 96-inch culvert. The remainder of the riparian zone to be disturbed is vegetated by common reed.

Approximately 0.09 acres of vegetated wetlands in the Turnpike right-of-way will be temporarily impacted from the grading activities associated with the drainage improvements proposed for the 96-inch culvert. Approximately 0.06 acres of a non-tidal drainage ditch will also be temporarily impacted from the construction of a new wet basin along the Route 120 ramp. Additionally, approximately 0.03 acres of non-tidal wetlands will be temporarily impacted from a "hot" spot soil excavation area identified in the remedial investigations that have been completed on the Radio Tower Site. These temporarily disturbed areas are anticipated to revegetate after completion of the drainage improvements and remedial activities.

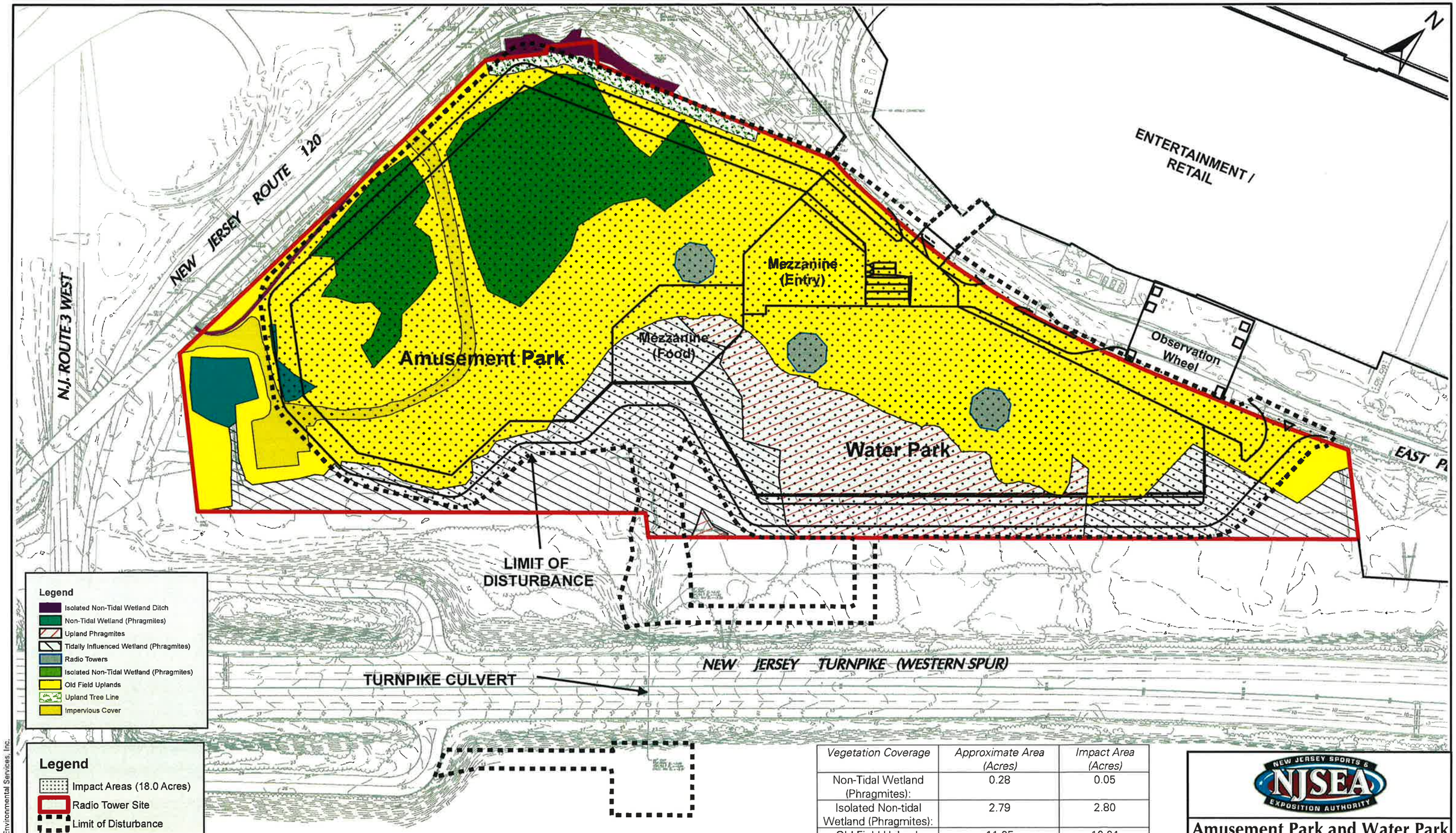
As mentioned previously, the common reed dominated vegetation onsite is typical for the region and known to colonize disturbed area. Therefore, no unique vegetative areas will be impacted as a result of the Amusement Park and Water Park Project. Wetlands to be impacted by the Amusement Park and Water Park Project have been disturbed in the past, are dominated by common reed, and are generally categorized as low wetland value.

4.7.3 Mitigation

The project site will include landscaped areas that will be planted with native trees and shrubs. These areas include the perimeter of the amusement park and water park building and the wet basin that is proposed as part of the stormwater management system. Various landscaping and planting schemes will be used to screen foundations, electrical and mechanical equipment, and loading docks as well as to provide an aesthetically pleasing environment. Plantings will also be introduced around the new structure, their foundations and at appropriate locations along the perimeter access road.

The 0.22 acres of riparian zone impacts will be mitigated for in accordance with the riparian zone policy of the Food Hazard Area Control Act Rules (N.J.A.C. 7:13). Riparian zone impacts to those riparian zones with trees (both temporary and permanent impacts) (approximately 0.03 acres) will be mitigated for by planting trees in approximately 0.06 acres of the existing riparian zones on the project site. The applicant is proposing to fulfill the mitigation for the remainder of the permanent riparian zone to areas currently comprised of common reed (approximately 0.15 acres) through the wetland mitigation plan (see Section 4.3.3).

Impacts to adjacent vegetated areas that will not be directly eliminated as a result of the Amusement Park and Water Park Project will be avoided during construction through the implementation of best management practices that would include the staging of equipment or temporary stockpile areas in already disturbed areas or areas that will eventually consist of impervious surfaces so as to not disturb any vegetation that will remain after completion of the Amusement Park and Water Park Project. The implementation of soil erosion and sediment control measures discussed in Section 4.1.3 of this Supplemental EIS will ensure that impacts to downstream vegetation are minimized.



Vegetation Coverage	*Approximate Area (Acres)*	*Impact Area (Acres)*
Non-Tidal Wetland (Phragmites):	0.28	0.05
Isolated Non-tidal Wetland (Phragmites):	2.79	2.80
Old Field Upland:	11.05	10.04
Tidally Influenced Wetland (Phragmites):	4.09	2.39
Upland Phragmites:	2.49	2.49
Upland Tree Line:	0.24	0.23
Total Impact Area		**18.00**

Langan Engineering & Environmental Services - Concept Plan (9-21-2011)
Langan Engineering & Environmental Services - Wetland Delineation Plan (8-31-2011);
Langan Engineering & Environmental Services - NJDEP Division of Land Use Regulation Jurisdictional Area Map (9-08-2011)

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Vegetation Area Impacts Map

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Figure 4-19

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4.8 Wildlife Habitat

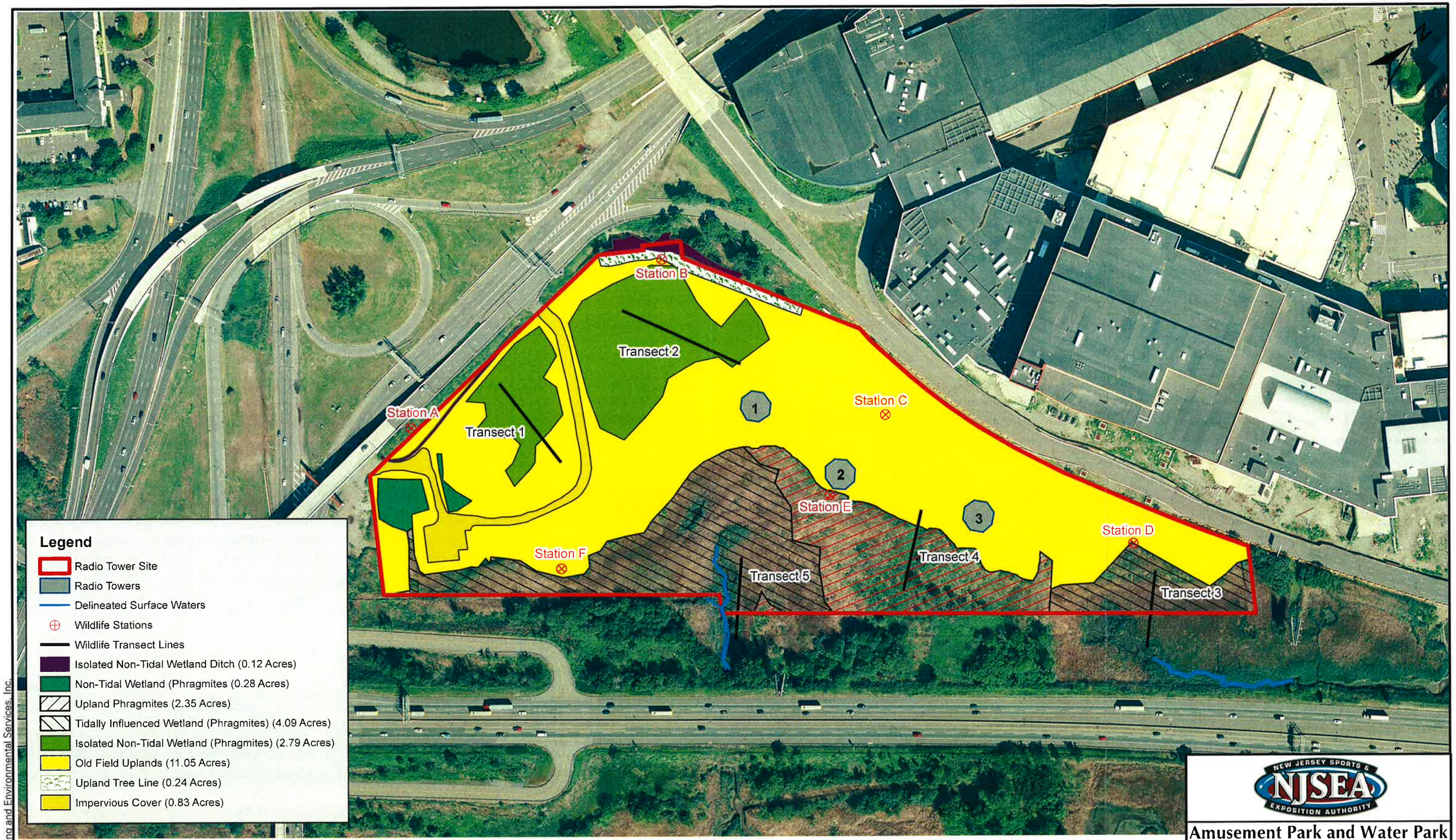
4.8.1 Existing Conditions

A wildlife survey of the Radio Tower Site was conducted in August and September 2011 by Langan to define and map the wildlife habitats and observe wildlife utilization of the habitats (Langan 2011f) (Appendix D of the DSEIS). The wildlife survey was conducted over five separate visits during this time period. A total of six observation stations were located in representative habitat types and were repeatedly and randomly visited during each of the separate site visits. In general, surveys were conducted in the early morning hours (6:00 a.m. to 8:00 a.m.) and early evening hours (5:00 p.m. to 7:00 p.m.) when no precipitation was forecast for the day. The presence of wildlife was recorded at each station for approximately 15 to 20 minutes. Data on the presence of wildlife were collected in the field based on visual or auditory identification. Secondary indicators of wildlife presence such as tracks or scat were also recorded. The Habitat Suitability Study documenting the wildlife survey is provided in Appendix D of the DSEIS.

A Wildlife Habitat Survey Plan was prepared to identify the seven general wildlife habitats identified on the Radio Tower Site (Figure 4-20). The seven general wildlife habitats include:

- Isolated Emergent Non-Tidal Wetlands (*Phragmites*)
- Tidally-Influenced Emergent Wetlands (*Phragmites*)
- Non-tidal palustrine emergent wetlands
- Isolated non-tidal wetland ditches
- *Phragmites*-dominated uplands
- Old field uplands
- Upland tree line

The results of the wildlife survey are summarized below. The location of the wildlife survey stations (Stations A thru F and Transects 1 thru 5) are shown on Figure 4-20. Data logs of observed wildlife are provided in the Habitat Suitability Report provided in Appendix D of the DSEIS.



Map Reference: Promaps Inc., Moorestown, NJ - Flyover Aerial Photography (6-2011);
Langan Engineering & Environmental Services Wetland Delineation Plan (8-31-2011);
Langan Engineering & Environmental Services NJDEP Division of Land Use Regulation Jurisdictional Area Map (9-08-2011)

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Wildlife Habitat Survey Plan

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Figure 4-20

Six species of songbirds were observed during the site investigations. These birds are likely involved in a southward migration along the Atlantic Flyway, utilizing the habitats of the Meadowlands for feeding and resting during their long journey. Some may be year round residents. The largest number of avian species was observed from Station E. Many of these species utilized the radio towers as resting areas. The next highest number of avian species observed within the site were from Stations A and C. The lowest overall diversity of wildlife species observed occurred from Station D. None of the species identified onsite during the wildlife field survey visits are identified by NJDEP as threatened or endangered species, with the exception of a transient osprey (*Pandion haliaetus*) which was observed from Station C flying over the ERC building located to the north of the Radio Tower Site.

No nests were observed during the site visits. Avian species that were documented at almost every monitoring event include grey catbird (*Dumetella carolinensis*), redwing blackbird (*Agelaius phoeniceus*), mourning dove (*Zenaida macroura*), and unidentified gull species. Less frequent avian species identified include American robin (*Turdus migratorius*), osprey (*Pandion haliaetus*), American kestrel (*Falco sparverius*), blue-winged warbler (*Vermivora pinus*), rock dove (*Columba livia*), field sparrow (*Spizella pusilla*), song sparrow (*Melospiza melodia*), house sparrow (*Passer domesticus*) and yellowthroat (*Geothlypis trichas*).

Evidence of mammalian species were found in less abundance and included meadow vole (*Microtus pennsylvanicus*) and groundhog (*Marmota monax*) burrows located in the upland areas near Stations B, C, and D. Raccoon (*Pryocyon lotor*) tracks were also observed between Stations A and B adjacent to the access road. The species documented are abundant in the region and are common to urban and developed areas. No amphibians were observed during the field visits.

The drainage improvement area within the Turnpike right-of-way property was not included in the habitat field assessment. These offsite areas contain tidal emergent wetland habitats dominated by *Phragmites,* a narrow open water channel of the unnamed tributary to the Hackensack River, and upland areas comprised of *Phragmites* and a few mature trees. It is expected that the same wildlife species that utilize the Radio Tower Site utilize the Turnpike right-of-way property given its immediate proximity to the Radio Tower Site.

Additionally, as identified in the September 18, 2011 letter from the National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS), the Hackensack River and its tributaries are identified as migratory pathways and nursery and forage areas for various anadromous fish and are considered Essential Fish Habitat (EFH) pursuant to the Magnusson-Stevens Fishery Conservation and Management Act (Appendix A). Fisheries resources and associated habitat are discussed in Section 4.10.

4.8.2 Impacts

Approximately 18 acres of wildlife habitat area will be impacted from the construction of the Amusement Park and Water Park and perimeter access road and drainage improvements on the Radio Tower Site (Figure 4-19). Permanent impacts include approximately 2.39 acres of tidal emergent wetlands dominated by *Phragmites,* 2.85 acres of non-tidal wetland dominated by *Phragmites,* and 12.76 acres of upland. In addition to the 18 acres of wildlife habitat impact on the Radio Tower Site, approximately 0.23 acres of wetlands will be permanently impacted from the construction of the drainage improvements (i.e. rip-rap and headwall construction) within the Turnpike right-of-way. Approximately 0.15 acres of tidal emergent wetlands in the Turnpike right-of-way will be temporarily impacted from the construction of the drainage improvements. Additionally, approximately 0.03 acres of wetlands will be temporarily impacted from the excavation of soil in a "hot spot" identified on the Radio Tower Site. These temporarily disturbed areas are anticipated to revegetate after completion of the drainage improvements and remedial work.

The potential value of the wildlife habitat associated with these areas is limited due to past activities which have resulted in habitat fragmentation of the Radio Tower Site (Langan 2011f). The construction of Route 3, the Turnpike and Meadowlands Sports Complex has isolated the Radio Tower Site from the Hackensack River and any major wetland complexes. The wetlands on the Radio Tower Site are only connected to the river through two culverts under the Turnpike. Therefore, the loss of wildlife habitat resulting from the Amusement Park and Water Park Project is considered to be relatively minor in significance.

Short-term impacts would include mortality to non-mobile or less mobile species including nesting birds, reptiles, and amphibians that may be using the existing wildlife habitat on or adjacent to the Radio Tower Site. It is anticipated that mobile species would relocate to other nearby wildlife habitat during construction.

Avian Species

It is anticipated that the construction of the Amusement Park and Water Park will not directly impact regional populations of migratory birds. The wildlife habitat existing on and around the Radio Tower Site is typical for disturbed areas in the region and, therefore, the loss of this wildlife habitat from the construction of the Amusement Park and Water Park Project should not have any significant impacts to regional wildlife populations.

There is minimal open water habitat present onsite. Minor disturbance to the unnamed tributary of the Hackensack River associated with the construction of new headwalls and scour aprons

will result in a marginal disruption of suitable staging area habitat for migratory waterfowl. However, these impacts will be temporary in nature since the open water areas will remain after the drainage improvements are completed.

The impact to migratory birds resulting from the loss of tidal wetland habitat dominated by common reed and old field upland areas is expected to be minor, given that these habitat types are common in the region.

Reptiles and Amphibians

Salinity data of the water bodies of the nearby Hackensack River and Cedar Creek, as presented in the August 2004 EIS, indicates that the waters have salinity levels ranging from one to 10 parts per thousand (ppt) (NJSEA 2004). These salinity levels are difficult for amphibians to tolerate and, therefore, the Radio Tower Site does not appear to provide suitable habitat for amphibians. Common reptiles such as the Snapping turtle, Painted turtle, Eastern garter snake and Northern brown snake are expected to be present. Impacts to these species, if present, would be direct and possibly permanent given their limited mobility.

Mammals

The construction of the Amusement Park and Water Park is expected to have minimal impact on local and regional mammal populations. Construction impacts, specifically from filling and clearing activities, would result in the elimination and/or relocation of some common mammalian species including muskrat, Norway rat, and eastern cottontail. The filling of common reed emergent wetlands is not anticipated to have a regional effect because of the large expanse of common reed wetlands throughout the Hackensack Meadowlands.

Fisheries and Benthic Communities

The construction of the drainage improvements associated with the unnamed tributary to the Hackensack River will result in temporary impacts to fisheries and benthic communities of this watercourse. These impacts are discussed in Section 4.10.

4.8.3 Mitigation

The off-site wetland mitigation plan that is currently being developed for the Amusement Park and Water Park Project is expected to provide beneficial habitat improvements for wildlife in the region.

4.9 Threatened and Endangered Species

4.9.1 Existing Conditions

The existing conditions of the Radio Tower Site for threatened and endangered species were documented through mapped information review, agency correspondence, and field observations. In order to identify potential habitat for threatened and endangered species on the Radio Tower Site, the following was completed:

- Submitted written correspondence to the New Jersey Natural Heritage Program (NJNHP);
- Reviewed NJDEP Landscape Project GIS mapping;
- Reviewed comments provided by staff of NJDEP's Division of Fish and Wildlife Program concerning threatened and endangered species on the Radio Tower Site; and
- Submitted written correspondence to the National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS).

Written correspondence was submitted to the NJNHP on August 16, 2011 to obtain a list of specific threatened and endangered species known to occur on or within the vicinity of the site (Appendix A). In their response dated August 29, 2011, the NJNHP indicates that a mapping and database search identified potential habitat for the following:

- State threatened yellow-crowned night-heron *(Nyctanassa violacea)*;
- Two State Species of Special Concern: glossy ibis (*Plegadis falcinellus*) and snowy egret (*Egretta thula)*;
- Northern harrier (*Circus cyaneus*), which is a state endangered bird species for breeding populations, and a Species of Special Concern for non-breeding populations.

No additional potential habitat for any rare wildlife was identified by NJNHP within ¼ mile of the site. Subsequently, a Habitat Suitability Assessment study was performed to further evaluate the potential habitat on the Radio Tower Site for species identified by the regulatory agencies processes (Appendix A) (Langan 2011f).

The New Jersey Landscape Project Habitat Mapping identifies potential habitat on specific portions of the Radio Tower Site for the above referenced species (Figure 4-21). Potential habitat for the yellow-crowned night-heron, glossy ibis and snowy egret is mapped within the isolated ditch system located along the Route 120/East Peripheral Road ramps and in the tidal wetland (Wetland A) in the southeastern portion of the site extending to the Turnpike 96-inch culvert.



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NJDEP Landscape Project
Habitat Map

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Figure 4-21

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Potential habitat for "non-breeding" northern harrier is also mapped within the tidal wetland area (Wetland B) in the northeastern portion of the Radio Tower Site and extends towards the Turnpike's 104-inch culvert associated with Cedar Creek. This area is not mapped as habitat for any breeding populations of northern harrier and thus, is not considered habitat for a state endangered species. This conclusion is further supported by a review of the NJDEP Landscape Project GIS mapping data for the tidal wetland feature (Wetland B) in question.

NJDEP's Landscape Project data identifies habitat with a ranking of "3" for state threatened species and a ranking of "4" for state endangered species. The landscape project ranking assigned to the onsite tidal wetland area in question (Wetland B) is "3", which does not indicate the presence of breeding populations of northern harrier. This conclusion was confirmed by phone conference with Mr. Patrick Warner of the NJDEP Fish and Wildlife Department on September 15, 2011, who indicated that on the Radio Tower Site the northern harrier was ranked for foraging/sighting (non-breeding) and thus was given the rank of "3" for this wetland area (the ranking of "3" is associated with the yellow-crowned night-heron); whereas the property located to the north Paterson Plank Road (offsite) was ranked as "4" - state endangered because it was considered an area used for foraging for breeding populations of northern harrier.

Written correspondence was received from Ms. Kelly Davis of NJDEP's Division of Fish and Wildlife, dated July 25, 2011, as part of the overall response from the NJDEP's Permit Readiness Checklist process (Appendix A). Ms. Davis identified habitat onsite for yellow-crowned night-heron, glossy ibis, snowy egret, and the great blue heron (*Ardea herodias*), another Species of Special Concern. The great blue heron was not identified by either the NJNHP correspondence or by NJDEP's Landscape Project mapping. However, a discussion of the great blue heron is provided based on Ms. Davis' correspondence.

The NMFS did not identify any threatened or endangered species within the Amusement Park and Water Park Project area (Appendix A).

Table 4-5 below provides a summary of the different threatened and endangered species habitat and species of special concern habitat identified on the Radio Tower Site and the sources of the identification.

Table 4-5

List of Threatened and Endangered Species Habitat and Species of Special Concern Habitat Identified On the Radio Tower Site

Common Name	Latin Name	Ranking	Source
Yellow-Crowned Night-Heron	*Nyctanassa violacea*	State Threatened	NJNHP; NJDEP Landscape Project GIS Mapping; NJDEP emailed comments
Glossy Ibis	*Plegadis falcinellus*	Species of Special Concern for breeding populations; Regional Priority for non-breeding populations	NJNHP; NJDEP Landscape Project GIS Mapping; NJDEP emailed comments
Snowy Egret	*Egretta thula*	Species of Special Concern for breeding populations; Regional Priority for non-breeding populations	NJNHP; NJDEP Landscape Project GIS Mapping; NJDEP emailed comments
Northern Harrier	*Circus cyaneus*	State Endangered for breeding populations Species of Special Concern for non-breeding populations	NJNHP; NJDEP Landscape Project GIS Mapping
Great Blue Heron	*Ardea herodias*	Species of Special Concern for breeding populations	NJDEP comment

Source: Langan 2011f

As discussed in Section 4.8.1, a wildlife habitat survey was conducted in August and September 2011 as part of the Amusement Park and Water Park Project. None of the species listed in Table 4-5 were observed during these field investigations.

In addition to the wildlife field surveys conducted, a Habitat Suitability Assessment was completed to determine if habitat is present onsite for the above referenced species (Appendix D of the DSEIS) (Langan 2011f). The study was prepared in accordance with the section of the NJDEP Water Quality Management Planning Rules that lists the requirements of a Habitat Suitability Determination (N.J.A.C. 7:15-5.26), and specifically addresses whether the Radio Tower Site contains suitable habitat for the threatened and endangered species identified by the NJDEP. The assessment concluded that there is only potential habitat for one state listed threatened or endangered species on the Radio Tower Site: the yellow-crowned night-heron, a state threatened bird species.

Research was conducted in accordance with the "Standards for Conducting Endangered or Threatened Wildlife or Plant Species Habitat Impact Assessment" pursuant to the Coastal Zone Management Rules (N.J.A.C. 7:7E-3C.2). Specific attention was given to potential foraging habitat for the yellow-crowned night-heron, glossy ibis, northern harrier, snowy egret, and great blue heron. In preparation for the field assessment, information regarding the nesting, foraging, and perching behavior for these species as well as habitat requirements from a variety of sources was collected. These sources included information from the websites of the NJDEP Division of Fish and Wildlife, The National Audubon Society, Cornell Lab of Ornithology, New World Encyclopedia, and the U.S. Fish and Wildlife Service.

Based upon the field assessment, mapped information and characteristics of the species of interest, on-site vegetative communities consisting of wetlands and open grasslands could potentially provide marginal forging habitat for northern harrier, snowy egret, glossy ibis, and great blue heron. Wooded swamps or scrub/shrub thickets typical of yellow-crowned night-heron habitat and barrier islands typical of nesting habitat for yellow-crowned night heron were not identified on the Radio Tower Site (see Table 4-6).

Table 4-6

Summary of Selected Species Habitat Evaluation for the Radio Tower Site

Common Name	Latin Name	Ranking	Source	Observed Onsite During Wildlife Survey	Presence of Suitable Habitat Onsite for Species
Yellow-Crowned Night-Heron	*Nyctanassa violacea*	State Threatened	NJNHP NJDEP Landscape Project GIS Mapping NJDEP emailed comments	No	No habitat for nesting or roosting; no significant foraging habitat
Glossy Ibis	*Plegadis falcinellus*	Species of Special Concern for breeding populations; Regional Priority for non-breeding populations	NJNHP NJDEP Landscape Project GIS Mapping NJDEP emailed comments	No	No habitat for nesting or roosting; no significant suitable foraging habitat
Snowy Egret	*Egretta thula*	Species of Special Concern for breeding populations; Regional Priority for non-breeding populations	NJNHP NJDEP Landscape Project GIS Mapping NJDEP emailed comments	No	No habitat for nesting or roosting; limited foraging habitat
Northern Harrier	*Circus cyaneus*	State Endangered for breeding populations Species of Special Concern for non-breeding populations	NJNHP NJDEP Landscape Project GIS Mapping	No	No habitat for nesting or roosting; marginal foraging habitat
Great Blue Heron	*Ardea herodias*	Species of Special Concern for breeding populations	NJDEP Landscape Project GIS Mapping	No	Marginal habitat for nesting or roosting; marginal foraging habitat

Source: Langan 2011f

4.9.2 Impacts

It is anticipated that there would be no impacts associated with any threatened or endangered species from the construction of the Amusement Park and Water Park and the proposed drainage area improvements. Threatened or endangered species often have very specific niches and are usually found in less developed areas with minimal human use and larger expanses of habitat than are present on and around the Radio Tower Site.

4.9.3 Mitigation

No mitigation is necessary with regard to potential impacts to threatened and endangered species. Therefore, no mitigation is proposed.

4.10 Aquatic and Benthos Habitat

4.10.1 Existing Conditions

As documented in the August 2004 EIS prepared for the Meadowlands Xanadu Redevelopment Project, numerous studies have been conducted by the USEPA and USACE and as part of the Meadowlands Xanadu Redevelopment Project to document aquatic and benthic species communities within Cedar Creek and the adjacent Hackensack River (NJSEA 2004). Similar to the Hackensack River and other water bodies within the Hackensack Meadowlands, water features and their associated habitats located in and around the Radio Tower Site are stressed due to low dissolved oxygen concentrations and exceedances of other water quality parameters.

The aquatic and benthos habitat of the Radio Tower Site and adjacent Turnpike right-of-way is limited to the unnamed tributary of the Hackensack River in the southeast portion of the site that drains through the existing 96-inch culvert (Figure 4-11). This unnamed tributary is a narrow water feature, approximately 2 to 4 feet in width, located within dense stands of common reed wetlands. The tributary associated with the 96-inch culvert extends approximately 100 feet onto the Radio Tower site within the designed drainage easement from the southern property boundary along the New Jersey Turnpike (Figures 4-3 and 4-12). This tributary is tidally influenced and has a Spring High Water elevation of 3.89 feet (NGVD 29 datum).

The unnamed tributary to the Hackensack River was identified by NJDEP in their January 24, 2012 letter as an anadromous species migration corridor (Appendix A).

4.10.2 Impacts

As part of the Amusement Park and Water Park Project, drainage improvements are proposed within the Turnpike right-of-way including the construction of two new headwalls for the existing 96-inch culvert and associated scour aprons. The impacts proposed to the aquatic and benthos habitats within the small, tidal tributary associated with this culvert are expected to be minor due to the limited size of the aquatic habitat associated with the unnamed tributary and temporary nature of the proposed work. The construction of new headwalls and outlet protection at both ends of the Turnpike culvert will permanently impact approximately 0.02 acres of aquatic habitat. The construction of these drainage improvements will result in the temporary displacement of fish, shellfish, and invertebrate communities currently utilizing this habitat.

The unnamed tributary, being tidal in nature, may support anadromous fish. As such, work within the channel of this waterbody should not occur from April 1 through June 30. The temporary plugging of the Turnpike culvert, to restrict water movement off of the construction area, during this timing restriction window can allow for activities to occur on the west side of the Turnpike and on the Radio Tower Site during this period.

The existing unnamed tributary to the Hackensack River will not be directly impacted from the construction of the Amusement Park and Water Park building and associated perimeter access road on the Radio Tower Site. The proposed stormwater outfalls from the Amusement Park and Water Park Project will discharge immediately adjacent to the western end of the unnamed tributary. The construction activities on the Radio Tower Site will result in short term, indirect impacts to aquatic and benthic resources. These impacts will include turbidity and siltation of waters from earthwork activities.

The USACE has performed a review of the proposed Amusement Park and Water Park Project activities that might adversely affect Essential Fish Habitat (EFH) (See USACE Public Notice in Appendix A). The proposed work could cause the disruption of habitat for various lifestages of some EFH-designated species as a result of a temporary increase in turbidity during construction. The USACE made a preliminary determination that the site-specific adverse effects are not likely to be substantial because it is expected that fish populations would avoid the small area of disturbance. Further consultation with NOAA was recommended by the USACE.

4.10.3 Mitigation

Short-term impacts to aquatic and benthos habitat will be mitigated through the implementation of soil erosion and sediment controls, which will be in place prior to the commencement of any earthwork onsite to minimize impacts to water quality. A discussion of soil erosion and sediment control measures proposed for the Amusement Park and Water Park Project are provided in Sections 4.13 and 4.22. After completion of the improvements to the drainage area in and around the Turnpike culvert and within the Radio Tower Site drainage easement, voluntary recolonization of the aquatic habitat will likely occur.

4.11 Resource Contamination

4.11.1 Existing Conditions

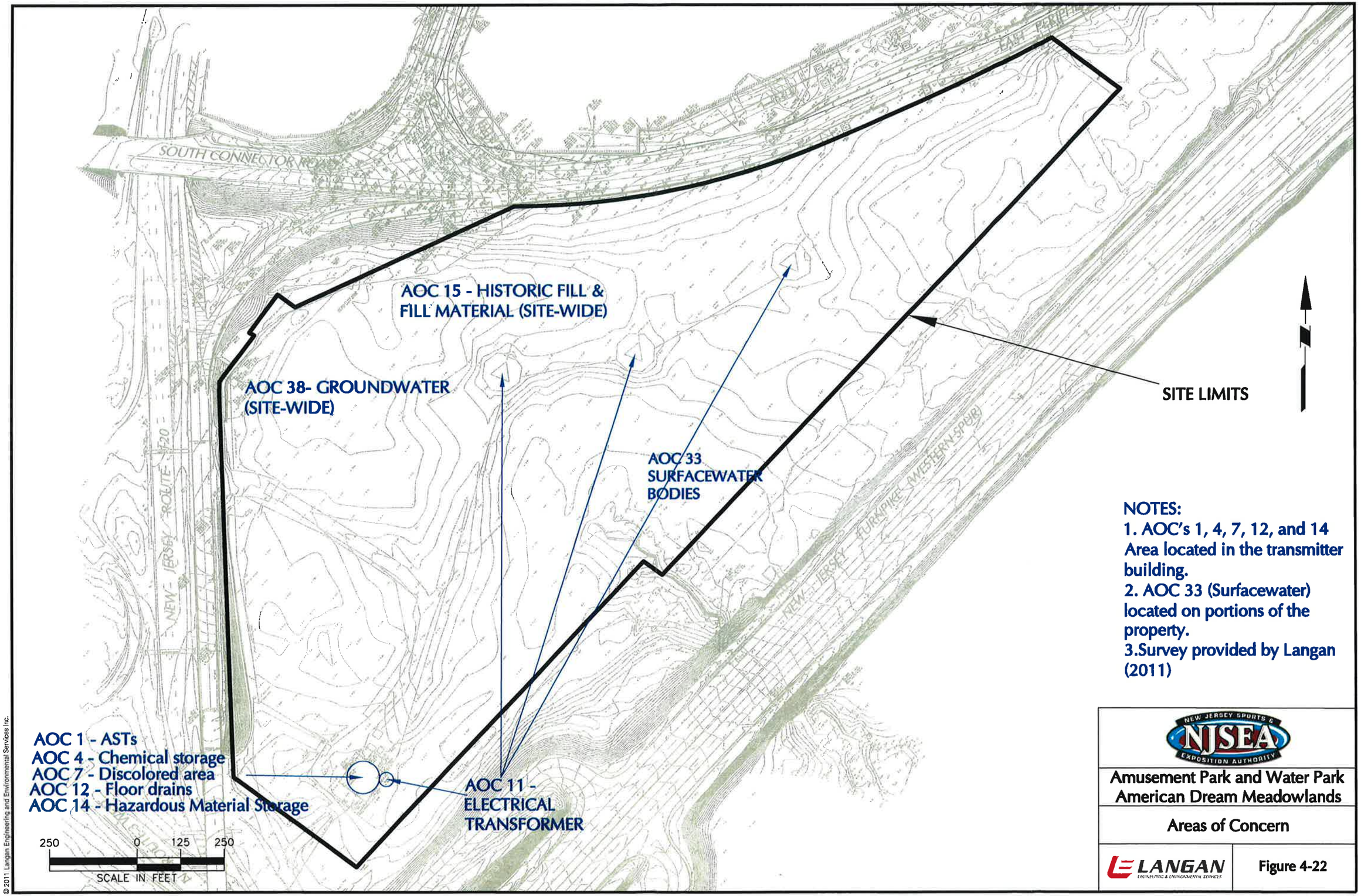
A Preliminary Assessment Report (PAR) for the Radio Tower Site was prepared to evaluate potential contaminants and remedial areas on the property (Appendix B; Langan 2011c). The PAR identified a total of nine Areas of Concern (AOCs), five of which are located within the existing radio transmission building (Figure 4-22). A summary of the nine AOCs identified on the Radio Tower Site and recommendations for further evaluation and remedial steps are listed in Table 4-7. A Site Investigation Report (SIR) was also prepared for the Radio Tower Site that present and interpreted the investigative results for the Areas of Concern (AOCs) identified on the Radio Tower Site in the PAR (Appendix C, Langan 2011d).

The nine AOCs identified in the PAR, with the exception of AOC 12 – Floor drain collection system, were investigated and the results presented in the SIR. Floor drains (AOC 12) are not expected to exist within the radio transmission building. The other eight AOCs were evaluated through the implementation of a surface and subsurface investigation. The investigation included the collection and laboratory analysis of soil, groundwater and concrete samples. These samples were collected in February 2008, July 2011 and August 2011.

The soil samples obtained during these investigations identified semi-volatile organic compounds (SVOCs), poly-chlorinated biphenyls (PCBs), one pesticide compound (chlordane), extractable petroleum hydrocarbons (EPH) and metals above their NJDEP Non-Residential Soil Remediation Standards (SRS). These soil sample results confirm that there are historic fill type compounds on the property consistent with the historic fill classification as defined by the NJDEP in the Technical Requirements for Site Remediation (N.J.A.C. 7:26E-1.8 and 4.6) (Table 4-8).

The soil sample results also identified the presence of non-historic fill type compounds (antimony, EPH, PCBs and chlordane) (Figure 4-23). Based on the results of the site investigation sampling conducted after the completion of the PAR, additional investigation for PCBs greater than 1.0 mg/kg, chlordane, and cyanide in the soil and mercury in the groundwater was recommended. No further investigation was recommended for antimony, EPH, and DDT. These compounds have been delineated within the fill and will be excavated and disposed of in accordance with the proposed remedial actions.

The remedial investigation activities performed for the RIR included soil borings and temporary well points to further investigate and delineate PCBs, chlordane, and cyanide in the soil and mercury in the groundwater. These RI activities were performed by Langan in October 2011.



NOTES:
1. AOC's 1, 4, 7, 12, and 14 Area located in the transmitter building.
2. AOC 33 (Surfacewater) located on portions of the property.
3.Survey provided by Langan (2011)

NEW JERSEY SPORTS & EXPOSITION AUTHORITY

Amusement Park and Water Park
American Dream Meadowlands

Areas of Concern

LANGAN ENGINEERING & ENVIRONMENTAL SERVICES

Figure 4-22

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Table 4-7

Summary of Areas of Concern on the Radio Tower Site

Area of Concern	Designation	Description	Recommendations in October 2011 Preliminary Assessment Report	Status
Aboveground Storage Tanks (ASTs)	AOC 1	Two aboveground storage tanks (ASTs) located in basement of transmitter building	Properly decommission ASTs	Borings were advanced to investigate stained concrete located beneath the ASTs. Concrete results were below the NJDEP Site Remediation Standards (SRS) and no further Site Investigations (SI) and Remedial Investigations (RI) are recommended. As recommended in the Remedial Action Workplan (RAW), the two ASTs shall be properly decommissioned prior to demolition of the transmitter building.
Chemical storage / Hazardous material storage	AOC 4 & AOC 14	Various sized containers located in garage, basement and boiler room of transmitter building	Containers should be removed and properly disposed. After removal, a floor inspection is recommended.	Samples were collected to investigate the concrete beneath the storage areas and the results were below the NJDEP SRS. No further SI/RI investigations are recommended. As recommended in the RAW, the chemical containers should be removed and disposed of prior to demolition.
Transformers	AOC 11	Former electric transformers located outside of the transmitter building. Transformers and capacitors located in radio tower sheds	Soil and concrete sampling conducted. No further investigation is recommended. No investigation required for sheds.	As recommended in the RAW, electrical transformers/capacitors should be removed and disposed of.
Discolored Spill Area	AOC-7	Discolored/stained concrete observed beneath emergency generator	Concrete sampling recommended	Borings were advanced to investigate the discolored concrete. Concrete results were below the NJDEP SRS. No further SI/RI investigations are recommended.
Floor Drains	AOC 12	No floor drains observed; portions of building slab covered with debris and/or containers	Inspect slabs for floor drains following debris removal	After the debris and containers are removed and prior to demolition, a final floor inspection is recommended to verify the absence of floor drains. As recommended in the RAW, further investigation may be needed if floor drains are found.
Historic Fill	AOC 15	Historic Fill located site-wide	No further soil investigation	The RAW proposes to establish institutional (Deed Notice) and engineering controls (e.g. asphalt pavement, concrete, landscaped areas) to address the historic fill that will remain on the property above the unrestricted use NJDEP soil remediation standards. The historic fill contains Polynuclear Aromatic Hydrocarbons (PAHs) and metals. Areas containing historic fill will be disturbed during site redevelopment activities. Antimony, extractable petroleum hydrocarbons (EPH), chlordane, cyanide, dichlorodiphenyltrichloroethane (DDT), mercury, and Polychlorinated Biphenyl Compounds (PCBs) greater than 1.0 mg/kg were identified and delineated within the historic fill. As recommended in the RAW, these "hot spot" areas will be excavated and properly disposed of.
Surface Water Bodies	AOC 33	Tidal and non-tidal wetlands on the eastern and western portions	Conduct SI and Ecological Evaluation (EE)	The SI and EE were conducted and identified historic fill site-wide, including the wetlands, and contains concentrations of PAHs and metals above the NJDEP Non-Residential Direct Contact Soil Remediation Standards (NRDCSRS). As identified in the RAW, the contaminants have been delineated and will be included in the Deed Notice for soil and Classification Exception Area (CEA) for groundwater. Antimony, EPH, chlordane, cyanide, DDT, mercury, and PCBs greater than 1.0 mg/kg were identified and delineated within the historic fill. As recommended in the RAW, these "hot spot" areas will be excavated and properly disposed of.
Groundwater	AOC 38	Site-wide groundwater	Determine if groundwater quality has been impacted by historic fill	The groundwater quality evaluation revealed that groundwater is impacted by historic fill. Synthetic Precipitation Leaching Procedure (SPLP) mercury was reported below the NJDEP default SPLP criteria. As recommended in the RAW, one permanent monitoring well and a CEA are proposed for the historic fill compounds in groundwater.

Source: Langan 2011c and Langan 2011h

ROUTE 120

PROPOSED BUILDING FOOTPRINT

PROPOSED BUILDING
632,000 sf ±
FFE: 12.00

TRANSMITTER BUILDING

PROPERTY LINE

NEW JERSEY TURNPIKE (WESTERN SPUR)

EAST PERIPHERAL ROAD

REFER TO "NJ TURNPIKE AUTHORITY RIGHT-OF-WAY DRAINAGE IMPROVEMENTS" PLANS FOR IMPROVEMENTS IN THIS AREA

Sample Location:	NJDEP Class IIA GW Quality Standards (ug/L)	TMW-1
Date:		8/25/2011
Sample Units:		ug/L
Analyte		
Volatile Organics		
Methylene chloride	3	6.8
Metals		
Aluminum	200	3610
Lead	5	241
Manganese	50	455
Sodium	50000	560000

Sample Location:	NJDEP Class IIA GW Quality Standards (ug/L)	TMW-4
Date:		8/25/2011
Sample Units:		ug/L
Analyte		
Volatile Organics		
Methylene chloride	3	6.3
Semi-Volatiles		
Bis(2-ethylhexyl)phthalate	3	9.35
Metals		
Aluminum	200	9210
Lead	5	78
Manganese	50	3150
Nickel	100	198
Selenium	40	44
Sodium	50000	3180000
Zinc	2000	3180

Sample Location:	NJDEP Class IIA GW Quality Standards (ug/L)	TMW-2	TMW-2A
Date:		8/25/2011	10/14/2011
Sample Units:		ug/L	ug/L
Analyte			
Volatile Organics			
Methylene chloride	3	11	
Metals			
Aluminum	200	1390	NA
Lead	5	368	NA
Manganese	50	870	NA

Sample Location:	NJDEP Class IIA GW Quality Standards (ug/L)	TMW-3	TMW-3A
Date:		8/25/2011	10/14/2011
Sample Units:		ug/L	ug/L
Analyte			
Volatile Organics			
Methylene chloride	3	7.4	NA
Semi-Volatiles			
Bis(2-ethylhexyl)phthalate	3	11	NA
Metals			
Aluminum	200	9130	NA
Antimony	6	19	NA
Barium	6000	3650	NA
Cadmium	4	1.1	NA
Chromium	70	139	NA
Lead	5	2830	NA
Manganese	50	1990	NA
Selenium	40	42	NA
Sodium	50000	588000	NA
Zinc	2000	3870	NA
Mercury	1	1.3	NA

LEGEND:

- 2008 LANGAN SOIL SAMPLE LOCATIONS
- 2011 LANGAN SI SOIL SAMPLE LOCATIONS
- 2011 LANGAN RI SOIL SAMPLE LOCATIONS
- TEMPORARY MONITORING WELL LOCATIONS
- EXCEEDANCE OF NJDEP IMPACT TO GROUNDWATER SOIL REMEDIATION STANDARDS
- EXCEEDANCE OF NJDEP RESIDENTIAL OR NON-RESIDENTIAL SOIL REMEDIATION STANDARDS
- EXCEEDANCE OF NJDEP CLASS IIA GROUNDWATER QUALITY STANDARD

NOTES:

1. BASEMAP PROVIDED BY 2011 LANGAN SURVEY.
2. SAMPLE LOCATIONS WITHOUT CHEM BOXES DID NOT CONTAIN SAMPLE RESULTS EXCEEDING APPLICABLE NJDEP STANDARDS. C6A-F ANALYZED FOR LEAD-NE
3. SAMPLES S-5G, S-4F-2, C-6B, C-6D, C-6F, C-2G, C-2H-2, C-2J, C-2L, C-2N, F-1A, F-1B, F-1C AND F-1D WERE COLLECTED FOR CONTINGENT ANALYSIS BUT WERE NOT ANALYZED BY THE LAB.

150 0 75 150
SCALE IN FEET

NEW JERSEY SPORTS & EXPOSITION AUTHORITY

Amusement Park and Water Park American Dream Meadowlands
Site Investigation Soil and Groundwater Analytical Results

LANGAN ENGINEERING & ENVIRONMENTAL SERVICES

Figure 4-23

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Table 4-8

Site-Wide Historic Fill Concentrations

Historic Fill Parameters	Number of Samples Collected	Site Investigation Concentrations Max./Avg. (mg/kg)	NJDEP Historic Fill Criteria Max./Avg. (mg/kg)
Benzo(a) anthracene	21	3.2/0.36	160/1.37
Benzo(a)pyrene	21	2.8/0.28	120/1.89
Benzo(b)fluoranthene	21	3.3/0.40	110/1.91
Benzo(k)fluroanthene	21	1.2/0.07	93/1.79
Indeno(1,2,3-cd)pyrene	21	1.4/0.14	67/1.41
Dibenzo(a,h)anthracene	21	0.52/0.02	25/1.24
Arsenic	23	24/10.21	1098/13.15
Beryllium	22	0.99/0.08	80/1.23
Cadmium	22	31/4.84	510/11.15
Lead	26	6300/840	10700/574
Zinc	24	3300/594	10900/575

The groundwater samples collected during these investigations identified SVOCs and metals above their Groundwater Quality Standards (GWQS). The groundwater results indicate that the historic fill has influenced groundwater quality. The appropriate groundwater remedial action would be the establishment of a Classification Exception Area (CEA). A CEA is for natural groundwater quality that does not and will not meet the GWQS.

Based on the SIR and RIR results, Langan has developed remedial measures for the site that are presented in the Remedial Action Workplan (RAW) (Appendix E) (Langan 2011h). The RAW includes the scope of work for "hot spot" excavation areas (EPH, PCBs greater than 1.0 mg/kg, cyanide/antimony/DDT, and chlordane), engineering and institutional controls for the historic fill material, a Soil Reuse Proposal (SRP), and a Classification Exception Area (CEA) for groundwater for PAHs and metals (including mercury). One permanent monitoring well will be installed to monitor the groundwater for the proposed CEA.

In addition to the proposed remedial actions, the RAW includes the following documents: a health and safety plan (HASP); soil reuse plan (SRP); perimeter air monitoring plan (PAMP); and, a Hazardous Materials Inspection Report (Hazmat). The HASP, SRP and PAMP address the protocol for worker health and safety; handling and management of on-site and off-site fill and concrete; and, air and dust monitoring for the contaminants on site. The Hazmat report includes the investigation and findings of the asbestos and lead-based paint survey. Additional sampling (lead/asbestos/concrete/brick/caulk) is recommended prior to demolition of the three

radio tower sheds. The concrete from the demolition of the existing structures will be crushed and used on the property as fill. Any imported fill material to be place beneath the proposed "cap" (i.e. concrete, structures) will be similar in contaminant type and concentration to the existing historic fill and non-historic fill.

4.11.2 Impacts

The result of the 2008 and 2011 site investigations indicate that semi-volatile organic compounds (SVOCs), metals, EPH, antimony, chlordane and PCBs above the NJDEP Non-Residential SRS exist within the fill material on the Radio Tower Site at 18 of the 30 sampling locations and in the native soils at 3 of the 4 sampling locations (Appendices B and C of the DSEIS and Appendix E) (Langan 2011c Langan 2011d, Langan 2011h, Langan 2011k). These samples were collected throughout the Radio Tower Site including the uplands and wetlands. The NJDEP Non-Residential SRS is being used as the remediation standard since the proposed redevelopment would consist of an indoor amusement park and water park. The exceedances of the NJDEP Impact to Groundwater (IGW) SRS have been addressed through groundwater sampling.

A majority of the types and concentrations of the compounds detected at the Radio Tower Site (i.e. PAHs, arsenic, beryllium, cadmium, lead and zinc) are in accordance with the NJDEP's definition of typical historic fill material as set forth in Table 4-2 of the Technical Requirements for Site Remediation (Table 4-8). The remaining compounds detected at the property, which are not listed on NJDEP's Historic Fill Database, consist of EPH, antimony, chlordane and PCBs. However, these compounds have been detected in the fill material throughout the Radio Tower Site and are attributed to the fill material on the property.

The results of the groundwater investigation reported that volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs) and metals were found above their respective NJDEP GWQS. The VOCs have been determined to be related to a laboratory contaminant and are not a concern. The SVOCs and metal compounds were also detected in the soil related to the fill material.

4.11.3 Mitigation

The site remediation process is being overseen by a Licensed Site Remediation Professional (LSRP) who has prepared and approved a Remedial Action Workplan, Soil Reuse Plan, and Health and Safety Plan. These documents will provide direction and guidance on minimizing potential impacts to humans and the environment during construction and operation of the Amusement Park and Water Park Project due to the presence of contaminated resources on the Radio Tower Site. The Remedial Action Workplan, Soil Reuse Plan, and Health and Safety Plan have been prepared in accordance with the New Jersey Technical Requirements for Site Remediation. The remedial documents prepared by Langan will be submitted to the NJDEP Site Remediation Program.

4.12 Solid Waste and Recycling

4.12.1 Existing Conditions

Several types of waste disposal facilities operate in New Jersey (NJDEP 2006). There are no solid waste disposal facilities located in Bergen County that are currently accepting solid waste. The majority of solid waste generated within the county is either recycled or disposed of at out-of-state facilities through transfer stations. Table 4-9 lists the transfer stations located in Bergen County and identifies the types of waste that each can handle as well as statistics from the January 2006 New Jersey *Solid Waste Management & Sludge Management State Plan Update* about capacity. Table 4-9 identifies facilities located in Bergen County that are permitted to handle various recyclable materials.

In addition to solid wastes, electronic and computer waste can be disposed of at the BCUA Computer and Electronics Recycling Depot at their Moonachie, New Jersey facility (BCUA 2003). Equipment including computer monitors, laptop computers, printers, keyboards, fax machines, hard drives, modems, speakers, and electrical wiring can be recycled or reclaimed at the BCUA facility.

A Recycling Plan for the ERC was provided in the January 2008 Quarterly Progress Report submitted to the Hearing Officers (NJSEA and Meadowlands Management 2008). The Recycling Plan was developed with guidance from the New Jersey Mandatory Source Separation and Recycling Act and the Bergen County Recycling Plan. The plan identifies potential waste streams to be recycled (i.e., metal, glass, plastic, paper, corrugated cardboard); how recycling can occur in different areas within the ERC (i.e., common areas, tenants, employee offices); and how recyclable materials will be separated and stored onsite until vendor pickup. Non-mandatory recycling items such as computers and electronics, household batteries, fluorescent lights, and food wastes are also discussed. The plan discusses the potential use of products that have recycled content and biodegradable properties including paper products (i.e., bathroom tissue, paper towels and paper napkins), utensils and trash bags.

Table 4-9

Solid Waste Facilities Currently Permitted in Bergen County

Facility Type	Facility Name	Authorized Waste[1]	Capacity	Utilized 2001[2]	Percent Utilized
Transfer Station	NJMC - Erie	13, 13C, 23, 27	1,143,144 cy	Not Open	-------
	Englewood City	10, 13, 13C	99 tpd	17,931 tons	60.40%
	BFI - Fairview	10, 13, 13C, 23, 25, 27	800 tpd	225,452 tons	93.90%
	Garofalo Recycle/Transfer	10, 13, 13C, 23, 27	600 tpd	139,240 tons	77.40%
	WMTNJI - Hillsdale	10, 13, 13C, 23, 27	900 tpd	154,357 tons	57.20%
	National Transfer	10, 13, 13C, 23, 27	80 tpd	28,954 tons	120.60%
	S&L Zeppetelli	13, 13C, 27	20 tpd	4,234 tons	70.60%
	BCUA	10, 13, 13C, 23, 25, 27	Closed	506,646 tons	33.80%
	WMTNJI - North Arlington	10, 13, 13C, 23, 27	2,000 tpd	102,492 tons	17.10%
	WMTNJI - Perry Street	10, 13, 13C, 23, 27	500 tpd	111,457 tons	74.30%
	Miele Sanitation	10, 13, 13C	90 tpd	19,477 tons	72.10%
Class B	PJR Industries	A, B&B, C	1,500 tpd	NA	-------
	Red Rock Land Devt	C, A, B&B	250 tpd	Not Open	-------
	Miele Sanitation	A, C, B&B, W, TP, L	75 tpd	3,248 tons	14.40%
Class C	Abma & Son Farm Compost	L	10,000 cy/yr	7,140 cy	71.40%
	Allendale Borough	L	10,000 cy/yr	8,915 cy	89.20%
	Alpine Borough	L	10,000 cy/yr	10,000 cy	100.00%
	NJMC Kingsland Park LF	L, G, B, WC	50,000 cy/yr	NA	-------
	Closter Borough	L, G	10,000 cy/yr	9,980 cy	99.80%
	Demarest Borough	L	10,000 cy/yr	8,979 cy	89.80%
	Fair Lawn Borough	L	10,000 cy/yr	10,000 cy	100.00%
	Franklin Lakes Borough	L	10,000 cy/yr	2,050 cy	20.50%
	Glen Rock Borough	L	10,000 cy/yr	29,435 cy	294.40%
	Harrington Park Borough	L	10,000 cy/yr	4,666 cy	46.70%
	Haworth Borough	L	10,000 cy/yr	13,895 cy	139.00%
	Leonia Borough	L	10,000 cy/yr	11,920 cy	119.20%
	Mahwah Township	L	14,000 cy/yr	11,311 cy	80.80%
	Northvale Township	L	10,000 cy/yr	NA	-------
	Norwood Borough	L	10,000 cy/yr	5,505 cy	55.10%
	Oakland Borough	L, B	10,000 cy/yr	3,804 cy	38.00%
	Old Tappan Borough	L	10,000 cy/yr	10,740 cy	107.40%

Table 4-9

Solid Waste Facilities Currently Permitted in Bergen County

Facility Type	Facility Name	Authorized Waste[1]	Capacity	Utilized 2001[2]	Percent Utilized
	Paramus Borough	L	10,000 cy/yr	3,065 cy	30.70%
	Ridgewood Borough	L, B	30,000 cy/yr	46,463 cy	155.00%
	River Edge Borough	L	10,000 cy/yr	6,055 cy	60.60%
	Riverside Cemetery	L	10,000 cy/yr	319 cy	3.20%
	Tenafly Borough	L, G	10,000 cy/yr	10,973 cy	109.70%
	Wyckoff Township	L	20,000 cy/yr	40,702 cy	203.50%

1. Transfer Station Authorized Waste Abbreviations

10 = Municipal (household, commercial, institutional) Waste
13 = Bulky Waste
13C = Construction and Demolition Waste
23 = Vegetative Waste
25 = Animal and Food Processing Waste
27 = Dry Industrial Waste

1. Class B and Class C Recyclable Materials:

A = Asphalt
B = Brush
B&B = Brick and Block
C = Concrete
G = Grass
L = Leaves
TP = Tree Parts
W = Wood (unpainted, not chemically-treated)
WC = Wood Chips

2. Capacity Units

cy = cubic yards
cy/yr = cubic yards/year
tpd = tons per day
tpy = tons per year

Source: NJDEP 2006

4.12.2 Impacts

Construction Phase

Solid waste typically generated during construction of developments includes concrete, asphalt, wood, drywall, glass, metals, and other composite materials. Based upon New Jersey regulations (N.J.A.C. 7:26A-1 et seq.) these types of construction debris are classified as Class B recyclables. Based upon a USEPA study that examined several case studies, including office and retail, it was determined that an average construction debris generation rate for nonresidential construction was 3.98 pounds per square foot (lbs./sq. ft.) or 0.00199 tons/sq. ft. (USEPA 1998).

To estimate the potential generation of construction debris during the construction phase of the Amusement Park and Water Project, the total square footage of the Project (639,000 square feet) was multiplied by the construction debris rate of 0.00199 tons per square foot, yielding an estimated total of 1,272 tons. Assuming a 20 month construction period with a five-day work week, the Amusement Park and Water Park Project will generate approximately 12.7 tons of construction debris per working day.

The solid waste generated during construction of the Amusement Park and Water Park Project must be either recycled or sent to a transfer facility. Facilities in Bergen County that are permitted by the NJDEP to recycle Class B recyclable materials are identified in Table 4-9. These facilities have adequate capacity to handle the volume of Class B recyclables that will be generated.

Operation Phase

An estimate of the solid waste that may be generated during operation of the Amusement Park and Water Park Project was determined by taking the average waste generation rate from available references for different building classifications (i.e., commercial retail, office, and hotel) and applying it to the project components (Table 4-10). The rate of solid wastes generated by different uses has been estimated by others in studies of solid waste production (CIWMB 2003).

Table 4-10

Projected Solid Waste Production During Operation Phase

Project Component	Proposed Size (SF)	Generation Rate (lb./sq. ft./day)	Generation Rate (tons/day)	Non-Recyclable and Recyclables		
				Non-Recyclable (tons/day)	Class A (tons/day)	Class B Class C (tons/day)
Amusement Park	318,000	0.017	2.70	0.08	1.39	1.23
Water Park	236,000	0.017	2.01	0.13	1.17	0.70
		Total	4.709	0.21	2.56	1.93

Source: CIWMB 2003

Based on the permits for the facilities located in Bergen County, these facilities have capacities that exceed the generation rate of the Amusement Park and Water Park Project. Therefore, the generation of waste and recyclables during operation of the Amusement Park and Water Park Project can be accommodated by Bergen County facilities.

The recycling policy for the Amusement Park and Water Park Project will require the recycling of paper, glass, and other Class A recyclables. The paper must be separated from the remainder of the waste. Not all solid wastes generated by the Project will be amenable to recycling. Computer and electronic equipment, including computer monitors, laptop computers, printers, keyboards, fax machines, hard drives, modems, speakers, and electrical wiring can be recycled or reclaimed at the BCUA facility in Moonachie. Solid wastes other than computer and electrical equipment that are not considered recyclables will be transported to a transfer station. Regardless of whether the solid waste will be recycled or sent to a transfer company for disposal, the facility will be contacted in advance so that scheduling and other details can be arranged.

Based on the estimated quantities of solid waste to be produced by the Amusement Park and Water Park Project and the limits of the Bergen County permitted solid waste and recycling facilities, these facilities should have sufficient capacity to accept all solid waste produced during operation of the Project.

4.12.3 Mitigation

A recycling program will be developed and implemented for the construction phase of the Amusement Park and Water Park Project. The 2008 Recycling Plan for the ERC will be updated to include the Amusement Park and Water Park Project.

4.13 Utilities and Infrastructure

4.13.1 Existing Conditions

As described in the August 2004 Final EIS, the Meadowlands Sports Complex contains a network of utilities and related infrastructure that supports its current facilities (i.e., MetLife Stadium, the Izod Center Arena, and the Meadowlands Racetrack) (NJSEA 2004). As part of the construction of the ERC structures, improvements were made to these existing utilities and infrastructure systems to accommodate additional development on the Arena Site. These improvements included the construction of a new sanitary sewer collection and conveyance system, improvements to and additions to the surface water collection system for stormwater management, and new connections and distribution systems for potable water.

4.13.1.1 Stormwater Management

The Radio Tower Site is flat, partially covered by wetlands, and partially located in the Hackensack River tidal floodplain (el 8.7 NGVD 29 datum). In addition to stormwater generated from rainfall on the site, a portion of Route 120 and the ERC drains to the Radio Tower Site via two 36-inch culverts at the northwest corner of the site and via a 60-inch culvert near the southeast corner of the site.

Stormwater runoff from the western portion of the Radio Tower Site, portions of Route 120, and the ERC to the Radio Tower Site ponds in ditches and low-lying areas of the site adjacent to Route 120 where it evaporates and/or infiltrates (Figure 4-13). There appears to be no surface water conveyance of this runoff. The eastern portion of the site discharges to two existing culverts (a 96-inch culvert and a 108-inch culvert) that run under the New Jersey Turnpike and allow stormwater to flow to the Hackensack River. Under extreme storm events, ponded stormwater on the western portion of the site overflows onto the eastern portion of the site.

The existing 96-inch culvert, which drains the majority of the Radio Tower Site (see Watersheds Ex-1A through Ex-1D on the Existing Drainage Area Map – Figure 4-13), is silted up with approximately six feet of sediment, which has significantly reduced the current capacity of the culvert. The existing 108-inch culvert, which was cleaned out and partially rebuilt in 2006 as part of the previously approved and constructed ERC project, drains the northeastern portion of the site (see Watershed Ex-2 on the Existing Drainage Area Map – Figure 4-13), and also accepts stormwater discharge from the ERC facility directly.

The existing drainage areas are provided on Table 4-11. Peak discharges under existing conditions for the drainage areas to both the 96-inch and 108-inch culverts are shown on Figure 4-13. A summary of the peak flow, percent of culvert capacity at maximum allowable headwater and maximum water surface elevation under existing conditions is listed in Table 4-12.

4.13.1.2 Sanitary Sewer Service

The Radio Tower Site is located within the sewer service area serviced by the Bergen County Utilities Authority (BCUA) Little Ferry wastewater treatment facility. The existing radio transmission building on the Radio Tower Site is connected to the local sanitary sewer system. There is an existing 15-inch diameter PVC sewer main located to the north of the Radio Tower Site, between Building A of the ERC and BCD Deck (Figure 4-24). The 15-inch diameter PVC flows to a 21-inch diameter PVC gravity sewer main that discharges into an existing pump station located on the north side of Building A, along the northbound side of Route 120. This existing pump station services the ERC buildings.

4.13.1.3 Potable Water Service

The water purveyor in the vicinity of the Radio Tower Site is United Water New Jersey, Inc. Water service is provided to the existing radio transmission building on the Radio Tower Site. There is an existing 16-inch diameter DIP water main, which services the ERC, located to the north of the Radio Tower Site within the East Peripheral Road (Figure 4-24). The existing ERC system is interconnected (looped) into two of United Water's water main systems located along Route 120 and Paterson Plank Road. Based upon historical pressure testing during the Xanadu development process (circa 2004) the local water pressure was operating at approximately 100 psi.

4.13.1.4 Natural Gas Service

An 8-inch gas main is located beneath the East Peripheral Road. The ERC building tied into the existing 8-inch gas main, located immediately west of the Arena Site, beneath the N.J. Route 120 right-of-way.

TABLE 4-11

Summary of Radio Tower Site Drainage Areas Under Existing and Proposed Conditions

Summary of Radio Tower Property Drainage Area to 96-inch Culvert

	Existing Drainage Area	Proposed Drainage Area	Net Change in Drainage Area	Water Quality Notes:
Pervious Area	25.0 Acres	12.4 Acres	-12.6 Acres	Proposed pervious areas sheet drain towards 96-inch culvert
Impervious Pavement Area[1]	1.5 Acres	3.8 Acres	2.3 Acres	Proposed impervious areas to be treated for TSS removal prior to discharge towards 96-inch culvert
Roofed Area[2]	0.1 Acres	13.2 Acres	13.1 Acres	Proposed roof areas to be directly discharged towards 96-inch culvert
Total Drainage Area[3]	26.6 Acres	29.4 Acres	2.8 Acres	

Summary of Radio Tower Property Drainage Area to 108-inch Culvert

	Existing Drainage Area	Proposed Drainage Area	Net Change in Drainage Area	Water Quality Notes:
Pervious Area	9.2 Acres	6.2 Acres	-3.0 Acres	Proposed pervious areas sheet drain towards 96-inch culvert
Impervious Pavement Area[1]	0.0 Acres	0.0 Acres	0.0 Acres	Proposed impervious areas to be treated for TSS removal prior to discharge towards 96-inch culvert
Roofed Area[2]	0.0 Acres	0.0 Acres	0.0 Acres	Proposed roof areas to be directly discharged towards 96-inch culvert
Total Drainage Area[3]	9.2 Acres	6.2 Acres	-3.0 Acres	

Notes:

1. Impervious area does not include roofed area.
2. Roof areas are considered clean per NJAC 7:8 and can be directly discharged without TSS removal treatment.
3. For purposes of this chart, Total Drainage Area is the area from the project site and from the area between the Turnpike and the Radio Tower Property. Total Drainage Area does not include portions of Route 120 and the ERC areas that drain through the Radio Tower Property.

Source: Langan 2011i

TABLE 4-12

Summary of Radio Tower Site Discharges to the Turnpike Culverts Under Existing and Proposed Conditions

	Summary of Discharge to the 96-inch Culvert						
	Existing Conditions (With Approved ERC)			Proposed Conditions (With ERC and Radio Tower Site)			
24-hour SCS Type III Storm Event	Peak Flow (cfs)	Percent of culvert capacity at max allowable headwater	Max. Water Surface Elev.	Peak Flow (cfs)	Percent of culvert capacity at max allowable headwater	Max. Water Surface Elev.	Increase (feet)
10 Year	104	25%	6.75	143	35 %	6.88	0.13
50 Year	150	37%	6.91	195	48 %	7.12	0.21
100 Year	172	42%	7.00	218	53 %	7.25	0.25

	Summary of Discharge to the 108-inch Culvert						
	Existing Conditions (With Approved ERC)			Proposed Conditions (With ERC and Radio Tower Site)			
24-hour SCS Type III Storm Event	Peak Flow (cfs)	Percent of culvert capacity at max allowable headwater	Max. Water Surface Elev.	Peak Flow (cfs)	Percent of culvert capacity at max allowable headwater	Max. Water Surface Elev.	Increase (feet)
10 Year	197	51%	6.93	198	51 %	6.94	0.01
50 Year	270	69%	7.22	274	70 %	7.24	0.02
100 Year	304	78%	7.39	308	79 %	7.41	0.02

Notes:

1. All elevations reference the National Geodetic Vertical Datum of 1929 (NGVD29).
2. The tailwater condition used for this analysis was a 10-year tidal storm surge event in the Hackensack River equal to elevation 6.6.
3. These results are based on a preliminary study performed by Langan Engineering.
4. The lowest elevation of the New Jersey Turnpike adjacent to the natural basin immediately upstream of the 108-inch culvert is el. 9.1.
5. The lowest elevation of the New Jersey Turnpike adjacent to the natural basin upstream of the 96-inch culvert is approximately el. 20.
6. The maximum allowable headwater elevation adjacent to the New Jersey Turnpike is el 8.1 near the 108-inch pipe.
7. The lowest elevation which separates the overland flow between the 96-inch and 108-inch pipes is el.8.9.
8. The maximum 108-inch culvert capacity given a headwater elevation of 8.1 is approximately 390 cfs based on a submerged outlet and Mannings Eqn.
9. The maximum 96-inch culvert capacity given a headwater elevation of 8.9 is approximately 410 cfs based on a submerged outlet and the Mannings Eqn.
10. This analysis is based on the current (2004) NJ 24-hour rainfall data.

Source: Langan 2011i

LEGEND

- EXISTING GAS MAIN
- PROPOSED GAS MAIN
- EXISTING SANITARY SEWER
- PROPOSED SANITARY SEWER
- EXISTING WATER MAIN
- PROPOSED WATER MAIN

REFERENCE:
EXISTING BOUNDARY, UTILITY AND TOPOGRAPHIC INFORMATION OBTAINED FROM A PLAN ENTITLED "BOUNDARY & TOPOGRAPHIC SURVEY" FOR BLOCK 107.02, LOT 3, AS PREPARED BY LANGAN ENGINEERING, DATED 12/29/2011.

EXISTING SANITARY SEWER PUMP STATION

FORCEMAIN TO EAST RUTHERFORD PUMP STATION

PROPOSED SANITARY FORCE MAIN

ENTERTAINMENT / RETAIL

SOUTH CONNECTOR ROAD

MAINTAIN EXISTING 15" PVC SANITARY SEWER MAIN

PARKING DECK "BCD"

MAINTAIN EXISTING 12" DIP WATER MAIN

CONNECT TO EXISTING SANITARY MANHOLE (INV. 2'±)

ENTERTAINMENT / RETAIL

NEW JERSEY ROUTE 120

PROPOSED SANITARY PUMP STATION

CONNECT TO EXISTING 16" DIP WATER MAIN

PROPOSED SANITARY LATERAL

Pedestrian Bridge
7,000 sf ±

Mezzanine (Entry)
49,000 sf ±

MAINTAIN EXISTING 16" DIP WATER MAIN

Amusement Park
318,000 sf ±

Mezzanine (Food)
29,000 sf ±

CONNECT TO EXISTING 16" DIP WATER MAIN

MAINTAIN EXISTING 8" GAS MAIN

Water Park
236,000 sf ±

EAST PERIPHERAL ROAD

200 0 100 200
SCALE IN FEET

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NEW JERSEY SPORTS & EXPOSITION AUTHORITY

Amusement Park and Water Park
American Dream Meadowlands

Preliminary Utilities Plan

LANGAN

Figure 4-24

4.13.1.5 Electric Service

The electricity provider in the vicinity of the Radio Tower Site is Public Service Electric & Gas Company (PSE&G). Electric lines in the vicinity of the Radio Tower Site include both overhead and underground lines. Aboveground lines run to the radio transmission building and three radio towers.

4.13.1.6 Telephone Service

Telephone service in the vicinity of the Radio Tower Site is provided by Verizon. Telephone lines in the vicinity of the site include both overhead and underground lines.

4.13.2 Impacts

The location and capacity of the existing utilities and infrastructure currently serving the Radio Tower Site will require modifications and improvements to adequately serve the Amusement Park and Water Park. Potential impacts on these existing utilities and the new services to be provided are described below.

4.13.2.1 Stormwater Management

The construction of the Amusement Park and Water Park Project will include the construction of a new stormwater management system on the Radio Tower Site. The proposed stormwater management system will comply with NJDEP's Flood Hazard Area Control Act Rules (NJAC 7:13) and Stormwater Management Rules (NJAC 7:8).

Water Quantity

The engineering stormwater analysis performed for the Amusement Park and Water Park Project concluded that the overall impacts on the existing watershed will be minimal (Langan 2011i). The drainage area to the 96-inch culvert will be increased by approximately 3 acres, while alternatively the drainage area to the 108-inch culvert will be decreased by approximately 3 acres (Figure 4-14 and Table 4-11). The rise in water surface elevations for both the 96-inch and 108-inch culverts will be minimal (Table 4-12). The peak surface water elevations are lower than the lowest elevation to satisfy the New Jersey Turnpike Authority's requirement to maintain at least one foot of freeboard between their roadway and peak backwater elevation for the 100-year storm event. During the FEMA peak 100-year tidal storm surge event (el. 8.7 NGVD), the peak water surface on either side of the culvert is determined by the Hackensack

River and not by runoff from the Radio Tower Site. See the Stormwater Management Report provided in Appendix C.

A water quantity analysis for the 10-, 50-, and 100-year storm during a 10-year tidal surge with a combined tailwater elevation of 6.6 (NGVD 1929) under post-development conditions was performed (Langan 2011i)(Appendix C). The 96-inch culvert, which is currently filled with sediment, has the capacity to handle the runoff from the Radio Tower Site when it is cleaned out. For the purposes of this analysis, it was assumed that the maximum allowable headwater at the 96-inch culvert will be the low point of the natural berm (el. 8.9) which splits flow between the 96-inch culvert watershed (see Watersheds PR-1A to PR-1D on the Proposed Drainage Area Map Figure 4-13) and the 108-inch culvert watershed (see Watershed PR-2 on the Proposed Drainage Area Map). The analysis indicates there will be a 0.25 foot (3-inch) increase in the backwater peak elevation for the 100-year storm on the upstream (site) side of the 96-inch culvert to elevation 7.26, which is well below the assumed maximum elevation of 8.9 (Table 4-12). The New Jersey Turnpike Authority's requirement to maintain at least one foot of freeboard between their roadway and peak backwater elevation for the 100-year storm event is met.

Based on a water quantity analysis for the water flowing to the 108-inch culvert, there will be a negligible 0.02 foot (0.24-inch) increase in the backwater peak elevation on the upstream (site) side of the culvert for the 100-year storm (Table 4-12). This peak elevation (el. 7.4) is approximately 1.7 feet lower than the lowest elevation of the adjacent Turnpike, which satisfies the New Jersey Turnpike Authority's requirement to maintain at least one foot of freeboard between their roadway and peak backwater elevation for the 100-year storm event.

A hydrologic analysis was also performed to determine the impact of the proposed improvements on the tailwater developed at the upstream stormwater outfalls which convey offsite flow through the Radio Tower Site to the 96-inch and 108-inch culverts (Langan 2011i). The tailwater affects will be minimal. A water quantity analysis for the 100-yr storm during a 10-yr tidal surge with a combined tailwater elevation of 6.6 under pre- and post-development conditions was performed. The analysis indicates there will be a negligible 0.04 foot (0.48-inch) increase in the backwater peak elevation (7.47 feet to 7.51 feet) for the 100-year storm on the upstream side of the site at the existing 36-inch pipes, which is below the 0.2 foot (2.40-inch) increase allowed.

Based on a pre-application with the NJDEP Division of Land Use Regulation, a downstream analysis of the channels downstream of the Turnpike is not required since there are no buildings or developed properties downstream that might be impacted by increased flooding.

The stormwater management design will be reviewed by the NJDEP as part of the Land Use permit process.

Water Quality

The proposed stormwater management system for the Amusement Park and Water Project will increase stormwater runoff to the existing drainage system (i.e., unnamed tributary to the Hackensack River) by directing proposed rooftop runoff and runoff from the proposed perimeter access road to the drainage easement on the Radio Tower Site (Langan 2011i). As part of the rooftop runoff design that is proposed for the Amusement Park and Water Park Project, drainage from building rooftops will be discharged to the head of the drainage easement that discharges to the unnamed tributary to the Hackensack River. Since the rooftop runoff will be free of vehicular contaminants, impacts on water quality as a result of the rooftop runoff designs are not anticipated.

The runoff from the Project's other impervious surfaces will be treated prior to discharge to the natural drainage features to meet the applicable total suspended solids (TSS) removal rate. The southwestern portion of the Project's impervious area (approximately 2.4 acres) will be discharged to a proposed wet pond to be constructed with vegetated side slopes for water quality treatment. The wet pond will discharge to the wetlands near the drainage easement associated with the unnamed tributary to the Hackensack River. An NJDEP-approved manufactured water quality treatment device (Imbrium Jellyfish) will be installed and treat the remaining impervious areas (access road) on the northeastern portion of the Project Site. This water quality concept will be reviewed by the NJDEP as part of the multi-permit application process, which includes a Flood Hazard Area Permit and Water Quality Certification.

4.13.2.2 Sanitary Sewer Service

As shown on Figure 4-24, a new force main will be constructed from the Amusement Park and Water Park facility to the sewer infrastructure on the ERC site that connects to the existing sanitary system pump station located north of ERC Building A (constructed as part of the Meadowlands Xanadu Redevelopment Project). From that point, the sewerage will be carried along with other sanitary waste from the Arena Site to the East Rutherford pump station on the north side of the Racetrack. The additional wastewater flow that will be generated by the Amusement Park and Water Park Project has been estimated at 127,000 gallons per day (gpd) based upon NJDEP regulations (N.J.A.C. 7:14A-23) (Table 4-3).

An application for a Treatment Works Approval (TWA) for the proposed wastewater collection and conveyance system for the Amusement Park and Water Park Project will be submitted to

the NJDEP Division of Water Quality for the Amusement Park and Water Park Project (see Section 5.3.8).

4.13.2.3 Potable Water Service

As shown on Figure 4-24, two new connections to the existing water main located within the East Peripheral Road will be constructed to serve the Amusement Park and Water Park. The new water line will be separate from the existing water line that currently serves the ERC.

A calculation for the project water demand is provided in Table 4-13. The construction of the Amusement Park and Water Park will resulting the increase in the average water demand flows by 121,600 gallons per day from what was initially approved for the Meadowlands Xanadu Project. Discussions with representatives of United Water indicated that the projected new demand of the Amusement Park and Water Park will be serviceable. Based upon historical pressure testing during the Xanadu development process (circa 2004) the local water pressure was operating at approximately 100 psi. A Water Main Extension Permit will not be required for the Amusement Park and Water Park Project, as the new flow for the Project has been included in United Water's Master Permit for 2012 (see Section 5.3.9).

4.13.2.4 Natural Gas Service

The Amusement Park and Water Park will tie into the existing gas main located beneath the East Peripheral Road. No other impacts are anticipated.

4.13.2.5 Electric Service

The Project will require the construction of new underground lines to the Amusement Park and Water Park buildings. No other impacts are anticipated.

4.13.2.6 Telephone Service

Area telephone service is provided by Verizon through a series of overhead and underground telephone lines. Existing overhead lines will be relocated underground and new telephone conduit and vault will be proposed onsite for the new buildings. No other impacts are anticipated.

TABLE 4-13

Average Potable Water Demand Calculations

Prior Meadowlands Xanadu Redevelopment Project Demand Flows [1]

Building	Establishment Name	NJDEP Establishment Category	Proposed Gross Area	Proposed Unit of Measurement	NJDEP Unit Demand [2]	Average Water Demand
Entertainment Retail Complex	Leasable Specialty Entertainment	Store/Office Building	2,000,000 SF	2,000,000 SF	0.125 GPD/SF	250,000 GPD
	Restaurants[3]	Restaurant	200,000 SF	28,698 Persons	10 GPD/Person	286,980 GPD
	Common Area[4]		500,000 SF	500,000 SF	0.125 GPD/SF	62,500 GPD
		Subtotal	**2,700,000 SF**			**599,480 GPD**
Office Complex	4 Office Buildings	Store/Office Building	1,760,000 SF	1,760,000 SF	0.125 GPD/SF	**220,000 GPD**
Hotel	Hotel[5]	Hotel		1,090 Persons	75 GPD/Person	81,750 GPD
	Restaurant[6]	Restaurant		825 Persons	10 GPD/Person	8,250 GPD
	Conference Facility[7]	Restaurant		750 Persons	10 GPD/Person	7,500 GPD
		Subtotal	**500,000 SF**			**97,500 GPD**
Baseball Field	Minor League Baseball Stadium[8]			8,050 Persons	10 GPD/Person	**80,500 GPD**
			Total Prior Meadowlands Xanadu Project Demand Flows			**997,480 GPD**

Proposed Demand Flows For New Project Component

Amusement Park / Water Park	Water Park-Operations[9]	—				25,000 GPD
	Restaurant[10]	Restaurant		660 Persons	10 GPD/Seat	6,600 GPD
	Restrooms (Amusement Park)[11]	Restaurant (Sanitary Demand)		6,000 Persons	5 GPD/Person	30,000 GPD
	Restrooms/Showers (Water Park) [12]	Swimming Pool or Bathhouse		6,000 Persons	10 GPD/Person	60,000 GPD
			Total New Project Component Average Water Demand Flows			**121,600 GPD**
			Total Redevelopment Project Average Water Demand Flows			**1,119,080 GPD**

Notes:

1. Water design data based August 2004 EIS
2. Unit demand based on the NJDEP safe drinking water act regulations at N.J.A.C. 7:10-12.6, "Table 1: Average Daily Water Demand."
3. Restaurant measurement based on 1 person/seat (8,696 seats) plus 10% for employees/total seats (870 employees) multiplied by a factor of 3 for turnover rate for kitchen and sanitary demand.
4. Common Area measurement unit assumed to be same as store measurement unit (0.125 GPD/SF).
5. Hotel measurement based on people (assume 2 persons/room (520 rooms) plus 50 employees).
6. Restaurant measurement based on 1 person/seat (250 seats) plus 10% for employees/total seats (25 employees) multiplied by a factor of 3 for turnover rate for kitchen and sanitary demand.
7. Conference Facility measurement assumed to be same as restaurant measurement for sanitary and kitchen demand (assume 1 person/seat (750 seats)) multiplied by a factor of 1 for turnover rate.
8. Baseball Field measurement assumed to be same as restaurant for kitchen and sanitary demand (assume 1 person/seat (8000 seats) plus 50 employees) multiplied by a factor of 1 for turnover rate.
9. Water Park Operations water make-up demand during normal operations and maintenance of water rides and pools.
10. Amusement/Water Park Restaurant estimated at 200 seats plus 10% for employees multiplied by a factor of 3 for turnover rate for sanitary and kitchen demand.
11. Amusement Park Restroom Demand assumes 5 GPD per person (restaurant sanitary demand) x 6,000 estimated occupancy rate.
12. Water Park Restrooms/Showers Demand assumes 10 GPD per person (swimming pool or bathhouse) x 6,000 estimated occupancy rate.

4.13.3 Mitigation

No significant adverse impacts on utilities or infrastructure will occur as a result of construction or operation of Amusement Park and Water Park. As no significant impacts are anticipated, needs for mitigation measures will be minimized. Demand for services will be discussed with the respective utility providers in the near future.

4.14 Traffic and Transportation

4.14.1 Existing Conditions

The August 2004 EIS provided an extensive discussion on traffic and transportation concerning the Arena Site at the Meadowlands Sports Complex and a project-specific Traffic Impact Study (TIS) (NJSEA 2004; TRC 2004a). As part of the TIS, key locations for study were identified and existing conditions documented. The TIS was approved by the NJDOT with the issuance of a Major Access Permit (NJDOT Permit No. A-120-N-N033-2004). In addition, existing conditions regarding parking, transit and air navigation were discussed in the August 2004 EIS.

Since the issuance of the August 2004 EIS, all of the roadway improvements and access points presented in the TIS for the redevelopment project at the Arena Site have been constructed and are operational; except for the new ramp from Route 120 Northbound to the northern portion of the Arena Site, which is constructed but not fully operational at this time. In addition, other regional roadway improvements have been completed in and around the Meadowlands Sports Complex. The completed roadway improvements include:

- Additional ramps and lanes on the Arena Site;
- New service road along Route 120 Northbound;
- New flyover ramp from Route 3 Eastbound to Route 120 Northbound Service Road;
- Additional lane on ramp from Route 120 Southbound to Route 3 Westbound;
- Additional lane on Route 120 Southbound adjacent to Meadowlands Sports Complex;
- Additional lanes on the New Jersey Turnpike Interchange 18W Sports Complex access ramps;
- Reconfiguration of the New Jersey Turnpike Interchange 16W with additional lanes and ramps;
- Additional lane on Route 3 Eastbound Sports Complex Access Ramp;
- New flyover from Route 120 Southbound to Route 3 Eastbound; and,
- Additional lanes, widening and shoulders on Paterson Plank Road to Route 17.

In addition to the above completed roadway improvements, several additional improvements are in progress and include:

- Replacement of Route 3 structure over the Passaic River;
- Additional lanes and shoulders at the Route 3 Passaic River crossing; and,
- Rehabilitation of both Eastbound and Westbound Route 3 structures over the Hackensack River.

Besides these completed roadway improvements, mass transit improvements completed in the past few years at the Meadowlands Sports Complex and ongoing development of a regional traffic signal management program by the NJMC will help traffic operating condition in the region. New Jersey Transit, in concert with the NJSEA, constructed a rail station and rail line adjacent to the Stadium connecting the Meadowlands Sports Complex to the regional NJ Transit rail system. The rail service became operational in 2010 for events at the Stadium and full service will be provided with the opening of American Dream Meadowlands. The NJMC is developing the Meadowlands Adaptive Signal System for Traffic Reduction (MASSTR), which is a traffic signal program to help traffic flow in the Meadowlands by immediately adapting to current traffic conditions (see Appendix F of the DSEIS).

4.14.2 Impacts

The Amusement Park and Water Park will not require any additional public roadway improvements. The existing Meadowlands Sports Complex roadways (South Connector Road and East Peripheral Road) on the Arena Site will remain with this expansion of the entertainment component. The existing roadways are not part of the redevelopment footprint for the Amusement Park and Water Park, and will remain as main circulation roads for vehicular traffic and circulation at the Meadowlands Sports Complex. Vehicular access points to the Amusement Park and Water Park facility will be by two connections along the East Peripheral Road: the proposed loading dock and a maintenance/emergency access point just north of the support foundation for the observation wheel (see Figure 1-8 in Section 1.1.2.1). As discussed in Section 1.1.2.2, patrons of the Amusement Park and Water Park will arrive, by rail, other mass transit, or park underneath the adjacent ERC and related parking decks. No patron parking will be provided at the Amusement Park and Water Park site. Therefore, modifications or extensions of the existing roadway network are not required for the Amusement Park and Water Park Project.

A Traffic Impact Assessment (TIA) was prepared in 2011 to determine the additional trips from the Amusement Park and Water Park Project and compare them with the original traffic permit presented in the TIS (Appendix F of the DSEIS) (TRC Engineers 2011). The TIA concluded that the roadway improvements constructed over the past several years for the redevelopment project at the Arena Site combined with other regional road improvements, as well as the new rail line, have improved traffic conditions in the Meadowlands Sports Complex area. Based on criteria set forth in the New Jersey State Highway Access Management Code, the Amusement Park and Water Park Project results in a minimal increase in traffic compared to the original redevelopment project at the Arena Site since the overall 10 percent Daily Trip criteria is not exceeded. In addition, the Amusement Park and Water Park will generate less than 200 new Peak Hour trips on the State Highway System. The additional traffic anticipated from the

Amusement Park and Water Park would not substantially increase projected traffic volumes compared to the original redevelopment project at the Arena Site. These conclusions are based on a conservative approach that did not take into consideration potential trip reduction factors such as mass transit (rail and bus), internal trips, and pass-by trips (see Appendix F of the DSEIS).

Based on discussions with the NJDOT and in accordance with the New Jersey State Highway Access Management Code (N.J.A.C 16:47), it was determined that a Major Access Permit Application should be submitted to the NJDOT to allow for the review of the potential traffic increases associated with the Amusement Park and Water Park Project (See Section 5.3.14). The application was submitted to the NJDOT in October of 2011. The NJDOT has reviewed the application and issued a Major Access Permit for the Project (see the March 14, 2012 NJDOT letter and permit in Appendix A), confirming that the traffic from the Amusement Park and Water Park will not generate a significant increase in traffic. As a result of the anticipated increase in mass transit and other factors, vehicular traffic should be further reduced below those projected in the TIA.

4.14.3 Mitigation

No additional offsite public roadway or roadway improvements are required for the Amusement Park and Water Park Project. The roadway improvements required under the 2004 NJDOT Major Access Permit have been completed and are operational, except for the new ramp from NJ Route 120 Northbound to the northern portion of the Arena Site which is constructed but not fully operational at this time. The NJDOT review of the 2011 TIA has confirmed that no additional traffic impact study or additional mitigation measures are required for the new Amusement Park and Water Park component to the redevelopment project at the Arena Site. In addition to the roadway work required under the 2004 Major Access Permit, the roadway improvements described above in 4.14.1 have been completed and the rail station at the Meadowlands Sports Complex is operational.

In addition, the Developer is working with NJ Transit and others to increase mass transit use by patrons coming to the American Dream Meadowlands Project. With the addition of a rail station at the Meadowlands Sports Complex in 2010, venues at the Sports Complex are now seeing the use of mass transit by patrons visiting the Sports Complex. Ridership for football events at the Stadium have been between 8,500 and 12,000 fans. With future daily rail service to the Meadowlands Sports Complex and improved bus service, the Developer anticipates a substantial increase in the use of mass transit by American Dream Meadowlands patrons and employees and a concomitant decrease in automobile traffic.

The Developer also envisions a wide range of programs to be explored and potentially implemented as part of the overall transportation management plan for the American Dream Meadowlands Project. Each program would help to increase the use of mass transit by patrons and employees. These programs include:

- Expanding service to the American Dream Meadowlands Project Site from existing mass transit hubs;
- Marketing promotions and packages encouraging the use of mass transit;
- Employee incentives to use mass transit;
- Marketing incentives for off peak visits; and,
- Preferred patron carpool parking and ride/car-sharing.

4.15 Air Quality

4.15.1 Existing Conditions

The existing conditions of the region around the Radio Tower Site were presented in the August 2004 EIS (NJSEA 2004). Air quality information including criteria and standards, regional sources of emissions, regional air quality, mobile source carbon monoxide and Clean Air Act Conformity were discussed.

The criteria pollutants relevant to the Amusement Park and Water Park Project construction and operation are CO, O_3 and its precursors – NO_2 and Volatile Organic Compounds (VOC). While the NO_2 and VOC are evaluated on a regional basis by the relevant Metropolitan Planning Organization (MPO), in this case the North Jersey Transportation Planning Authority (NJTPA), CO impacts from the Amusement Park and Water Park Project can be predicted by more focused microscale analysis.

CO is a site-specific pollutant which accumulates at a local level and causes lower local air quality. To determine existing conditions and potential CO impacts, a screening analysis was conducted as part of the August 2004 EIS to determine the necessity of a more refined air quality modeling analysis. A microscale "hot-spot" analysis was performed in 2004 on mobile sources of carbon monoxide based on the results of the Traffic Impact Study (TRC 2004b).

The Clean Air Act Amendments (CAA) of 1990 expanded the scope and content of the CAA's conformity provisions by providing a more specific definition of conformity. As stipulated in CAAA Section 176(c), conformity is defined as conformity to the State Implementation Plan (SIP) for the purpose of eliminating or reducing the severity and number of violations of the National Ambient Air Quality Standards (NAAQS) and achieving expeditious attainment of such standards.

Transportation Conformity

The USEPA published its final rules on transportation conformity that apply to the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) approved or funded highway and transit projects in areas designated as non-attainment or maintenance for any of the criteria pollutants under the CAA (40 CFR Parts 51 and 93). These USEPA rules require MPOs and the U.S. Department of Transportation (USDOT) to make a conformity determination on Metropolitan Transportation Improvement Programs (TIPs) before they are adopted, approved, or accepted. In addition, highway or transit projects that are funded or

approved by the FHWA or FTA must be found to conform before they are approved or funded by USDOT or an MPO.

As discussed in the August 2004 EIS, although the off-site roadway improvements proposed as part of the redevelopment project at the Arena Site were privately funded and classified as a non-federally funded project of regional significance in the TIP, the improvements were included in NJTPA's transportation conformity evaluation for the region (NJSEA 2004). The redevelopment project's transportation improvements were included in the 2004 RTP (Regional Transportation Plan) and TIP (FY 2004-2006)).

General Conformity

The USEPA published its final rules on general conformity (that apply to federal actions in areas designated non-attainment or maintenance for any of the criteria pollutants under the CAA (40 CFR Parts 51 and 93)) in the November 30, 1993 *Federal Register*. The proposed rules provide specific *de minimis* emission levels by pollutant to determine the applicability of general conformity requirements for a proposed project. Generally, an analysis of project-related operational period emissions is conducted to see if the *de minimis* emission levels are exceeded. If levels are determined to be below *de minimis*, no further analyses are necessary and a Record of Non-Applicability (RONA) is prepared. If *de minimis* levels are exceeded, a more detailed general conformity analysis is required. A general conformity determination is also required if emissions from a project are determined to be regionally significant. Under the general conformity regulations, regionally significant emissions are defined as emissions that equal at least 10 percent of the total non-attainment area emissions.

The following *de minimis* criteria would apply for the non-attainment area where the project is located:

- 25 tons per year of VOCs or NO_x for a severe ozone non-attainment area;
- 100 tons per year of CO for a moderate CO non-attainment and maintenance area.

The federal action that triggers a general conformity determination is the permitting action of the USACE regarding the filling of wetlands and construction of associated wetland mitigation. Based on the general conformity rule, any direct and indirect emissions resulting from the proposed federal action and over which USACE has continuing program responsibility within non-attainment areas must be included in the general conformity applicability analysis. The emission sources include area, mobile, and stationary sources as well as construction activities.

Since the federal action in this case will be limited to the USACE permit approval for wetlands fill and mitigation activities, the calculation of emissions for the general conformity applicability

determination also is limited to wetlands fill and mitigation activities based on the regulations at *40 CFR Parts 6, 51, and 93: Determining Conformity of General Federal Actions to State or Federal Implementation Plans, Final Rule* (USEPA 1993). Only those emissions from the equipment and motor vehicles used in the filling operation, support equipment, and emissions from movement of the fill material itself need to be included in the analysis.

As presented in the August 2004 EIS, the conformity applicability for the Meadowlands Xanadu Redevelopment Project at the Arena Site was limited to those activities involving the filling of wetlands (totaling approximately 7.54 acres) which occurred during construction (NJSEA 2004). The projected emission levels for NOx, VOC, and CO were well below the *de minimus* levels for federal actions. For the redevelopment project at the Arena Site, NOx was projected to be approximately eight tons for the construction year while the *de minimus* level is 25 tons/year. For the redevelopment project at the Arena Site, VOC was projected to be approximately one ton for the construction year while the *de minimus* level is 25 tons/year. Finally, CO was approximately six tons for the first construction year, a level that is far below the *de minimus* level of 100 tons/year. Based on the projected emissions levels that are well below the *de minimus* levels, the federal action component of the Meadowlands Xanadu Redevelopment Project at the Arena Site was considered to conform for the pollutant under study.

4.15.2 Impacts

The 2011 Traffic Impact Assessment summarized in Section 4.14 and provided in Appendix F of the Draft Supplemental EIS examined the traffic volumes associated with the addition of the Amusement Park and Water Park Project to the redevelopment project at the Arena Site (TRC Engineers 2011). The Traffic Impact Assessment concluded that the Amusement Park and Water Park will only lead to a minimal increase in traffic volumes compared to the 2004 Traffic Impact Study. Therefore, the Amusement Park and Water Park, as part of the American Dream Meadowlands Project will not adversely impact air quality. There are no proposed major stationary sources that could emit significant quantities of pollutants. Only emissions of CO, NO_x, VOC, and Pb associated with automobiles traveling to and from the Amusement Park and Water Park Project are of concern. Emissions of NO_x and VOC are associated with regional mobile emission sources which are included in NJTPA's conformity analysis, whereas emissions of CO is a primary concern as a microscale mobile source.

Given the minimal increase in traffic, an air quality screening and microscale analysis was not performed for the Amusement Park and Water Park Project. The results of the screening and microscale analysis presented in the August 2004 EIS are still applicable to the redevelopment project at the Arena Site. The analysis presented in the August 2004 EIS concluded that the

redevelopment project at the Arena Site would not cause any exceedances of the 1-hour or 8-hour CO NAAQS (NJSEA 2004).

A minor increase in airborne emissions would result from the use of boilers for heating and hot water in the proposed buildings. Boilers to be used on the Amusement Park and Water Park Project site would be required to be constructed in compliance with applicable air permit regulations that would ensure that no significant adverse impacts occur. Additional stationary sources of air pollutant emissions include ventilation and air conditioning (HVAC) systems. Fuel combustion (HVAC) systems emit concentrations of SO_2, PM, NOx, CO, and HC. For the Project, the total emissions of such air pollutants would be small when compared to the average background concentrations of these pollutants. All on-site fuel combustion facilities will be designed with adequate collection devices for particulates. All of the aforementioned stationary sources, if any, would operate in compliance with applicable air permits which will serve to prevent the occurrence of any significant adverse air quality impacts during operation.

The emissions from construction equipment used to construct buildings and the perimeter access road on the Radio Tower Site would be temporary and minor, not creating significant air quality impacts. The generation of airborne dust potentially will be the most significant air pollutant during the construction phase. Dust generation will be associated with excavation, leveling, grading, loading, unloading, and similar activities associated with the disruption of the existing land surface. Both construction and employee vehicles traveling on unpaved access roads will also emit airborne dust.

Transportation Conformity

The off-site roadway improvements already constructed for the redevelopment project at the Arena Site were included in the 2005 TIP. The redevelopment project at the Arena Site was previously included as a regionally significant non-federally funded project in the northern New Jersey Air Quality Conformity Determination of the 2003 Amended Regional Transportation Plan and the FY 2004-2006 TIP (NJTPA 2003). The 2003 Air Quality Conformity Determination concluded that the TIP was conforming. Because the Amusement Park and Water Park Project does not require any additional roadway improvements and will only lead to minimal increases in vehicular traffic to the redevelopment project at the Arena Site, this component of the project is also conforming.

General Conformity

The Amusement Park and Water Park Project will require the filling of approximately 5.47 acres of wetlands. The conformity applicability for the Amusement Park and Water Park Project is

limited to those activities involving the filling of wetlands on the Radio Tower Site. Using the same projections developed for the redevelopment project at the Arena Site in 2004 which had a larger wetland fill requirement, the anticipated emission levels for NOx, VOC, and CO for the Amusement Park and Water Park Project are well below the *de minimus* levels for federal actions. Using the same calculations for the redevelopment project at the Arena Site from 2004, NOx was projected to be approximately eight tons for the construction year while the *de minimus* level is 25 tons/year; VOC was projected to be approximately one ton for the construction year while the *de minimus* level is 25 tons/year; and, CO was approximately six tons for the first construction year, a level that is far below the *de minimus* level of 100 tons/year. Based on the these projected emissions levels that are well below the *de minimus* levels, the federal action component of the Amusement Park and Water Park Project is considered to conform for the pollutant under study.

The results of the emission and impact analyses show that both mobile sources and stationary sources during Project operation, as well as the construction emissions relevant to federal activities, will all be in compliance with NAAQS or Federal Conformity Rules. Therefore, the Amusement Park and Water Park Project should be considered to be in conformance with the CAA requirements and TIP for this region.

4.15.3 Mitigation

Because the predicted future air quality associated with operation of the Amusement Park and Water Park Project will meet CO NAAQS standards, and the construction emissions related to the federal action would be below (within) the General Conformity emission thresholds, no mitigation is required.

During construction, all construction equipment utilizing combustible engines are proposed to be equipped with proper exhausts and screens limiting the amount of SO_2, PM, NOx, CO, and HC emissions into the atmosphere. For diesel equipment, a diesel particulate trap or filter will be required. This trap or filter typically reduces particulate emissions of up to 90 percent.

Fugitive dust from vehicles operating on unpaved areas during construction will be diminished or reduced to a great extent when on-site control measures including watering, storage piles covering, low on-site construction vehicle speeds, etc. are applied. The minimization of fugitive dust particles will be limited and controlled through implementation of soil erosion and control measures, which will be in accordance with county and state regulations. There will also be contractor specifications developed that will ensure that appropriate efforts are taken by the contractor during construction to exercise dust control.

4.16 Noise

4.16.1 Existing Conditions

The August 2004 EIS provides an extensive discussion on noise background, guidance and criteria (NJSEA 2004). As part of the preparation of the August 2004 EIS, an ambient noise monitoring program was conducted at selected traffic study related locations to the north and south of the Radio Tower Site (TRC 2004c). The noise environment was completely dominated by vehicular traffic noise from the extensive network of highways and roads, including the New Jersey Turnpike, N.J. Route 3, N.J. Route 120, and local roadways. Other ambient noise sources included aircraft (from Teterboro and Newark Liberty International Airports), a natural gas metering station, and some natural sounds (gulls). Measured hourly (L_{eq}) (equivalent sound level) noise levels were highest at the Sheraton Plaza Drive location to the southwest of the Radio Tower Site, ranging from 59 to 67 dBA (A-weighted decibel). Measured hourly (L_{eq}) noise levels at the Golf Range located to the north and on the east side of the Turnpike ranged from 50 to 61 dBA. Maximum ambient levels at all locations were in the range of 80 to 84 dBA due to aircraft and passing trucks.

Potential noise impacts from the Amusement Park and Water Park Project could be caused by increases in noise levels associated with vehicular traffic and, for the short-term, increases in noise during Amusement Park and Water Park Project construction. An updated noise assessment study was not undertaken to document existing noise levels at the Radio Tower Site because conditions at the Radio Tower site and surrounding area are anticipated to be similar to existing conditions as described in the August 2004 EIS.

4.16.2 Impacts

Operational Phase

The noise assessment results from the August 2004 EIS concluded that traffic noise increases would be less than 2dBA (NJSEA 2004; TRC 2004c). It was concluded that there would be no significant noise impacts from increased vehicular traffic. With the lack of any sensitive receptors in the area (i.e., residences, schools, hospitals), no noise impacts were expected.

The predominant noise source in the vicinity of the Radio Tower Site is the traffic on the Turnpike, as well as vehicles and trucks on Routes 3 and 120. In addition, planes taking off and landing at Teterboro Airport provide increased noise levels for short periods of time. The operation of the indoor Amusement Park and Water Park will not lead to an increase in noise compared to ambient levels. The 2011 Traffic Impact Assessment concluded that traffic

increases from the Amusement Park and Water Park will be minimal, so any noise increase from the increase in traffic levels will be nominal (Appendix F of DSEIS) (TRC Engineers 2011).

Other operation-related noise, including indoor activities and heating, ventilation and air conditioning (HVAC) systems may result from operation of the Amusement Park and Water Park Project. The noise from indoor activities will be contained within the individual buildings. Noise levels due to the HVAC systems are not expected to be a significant noise issue since there are no adjacent residential areas.

Construction Phase

The construction process for a project such as that proposed at the Radio Tower Site generally occurs in the following phases:

- Ground clearing
- Excavation
- Foundations and Pile Driving
- Building construction
- Exterior finishing and cleanup

Construction equipment utilized will differ during the construction phase period. In general, heavy equipment (e.g., bulldozers, dump trucks, concrete mixers) will be used during excavation and concrete placing activities. Noise is generated during construction primarily from diesel engines which power the equipment and from pile driving. Exhaust noise usually is the predominant source of diesel engine noise, which is the reason that maintaining functional mufflers on all equipment should be a mitigative recommendation for the Amusement Park and Water Park Project.

Noise levels of construction equipment typically utilized for this type of project are presented in Table 4-14 (BBN 1971; NYSDEC 1974; NYPA 1987). Site average sound levels for each phase of construction (BBN 1971) are presented in Table 4-15. The highest site average sound levels (88 dBA at 50 feet) are associated with excavation and finishing activities.

Table 4-14

Noise Levels of Major Construction Equipment

Equipment Type	Noise Level at 50 Feet (dBA)
Pile Drivers	105
Trucks	91
Front Loaders	79
Graders	85
Bulldozers	80
Pickup Trucks	60
Backhoes	85
Concrete Mixers	85
Source: BBN 1971,NYSDEC 1974 and NYPA 1986	

Table 4-15

Typical Site Average Noise Levels at 50 Feet by Construction Activity (dBA)

Construction Phase	Noise Level at 50 Feet (dBA)
Ground clearing	84
Excavation	89
Foundations	78
Building construction	85
Exterior finishing and cleanup	89
Source: BBN 1971	

Projected construction noise levels were calculated for the Meadowlands Xanadu Redevelopment Project and reported in the August 2004 EIS (NJSEA 2004 and TRC 2004c). The calculated construction noise levels ranged up to 60 dBA for the receptor locations (Sheraton Plaza Drive and Golf Range). Pile driving was the construction activity with the highest noise level at 67 to 76 dBA. Pile driving would be the loudest construction related activity, and could be higher than existing average ambient levels at the uninhabited monitoring locations, but would be below the maximum ambient levels measured (e.g., aircraft up to 80 dBA (L_{eq}).

The results of the August 2004 EIS construction noise assessment are applicable to the Amusement Park and Water Park Project since it is immediately adjacent to the Arena Site and lies between the receptor locations studied. Similar construction noise levels are anticipated for the construction phase of the Amusement Park and Water Park Project (i.e., 60 to 76 dBA). Considering the range of construction noise levels, the existing average and maximum ambient noise levels, and the lack of adjacent sensitive receptors, it is anticipated that no significant adverse long-term noise impacts would be anticipated during construction of the Amusement Park and Water Park Project. For pile driving, however, short-term impacts could occur.

4.16.3 Mitigation

Since no significant noise impacts are expected as a result of future traffic associated with the Amusement Park and Water Park Project, no mitigation measures are necessary. Also, no noticeable increase attributable to on-site noise (e.g., HVAC, indoor noise, etc.) will be experienced during operation of the Amusement Park and Water Park Project. Sensitive receptors including residences, hospitals and schools are not near the Radio Tower Site.

In addition, no noise impacts are expected as a result of construction noise associated with the Amusement Park and Water Park Project, except for pile driving. Pile driving is anticipated to occur over a period of about 4 to 5 months during the construction phase of the Amusement Park and Water Park Project. It is anticipated that pile driving will produce noise above average background ambient conditions, even at more distant residential locations in Secaucus and East Rutherford.

The construction noise levels, including pile driver noise, are those that would be experienced by people outdoors. A building (house) will provide significant attenuation for those who are indoors. Sound levels can be expected to be up to 27 dBA lower indoors with the windows closed. Even in homes with the windows open, indoor sound levels can be reduced by up to 17 dBA (USEPA 1978). In addition, as a general good construction practice to reduce construction noise, functional mufflers will be maintained on all construction equipment.

4.17 Socioeconomics

4.17.1 Existing Conditions

The economic and demographic characteristics of the HMD region and the area surrounding the proposed redevelopment of the Arena Site were presented in the August 2004 EIS (NJSEA 2004). The Amusement Park and Water Park Project is located in the HMD. The HMD comprises over 30 square miles encompassing parts of 14 municipalities within Bergen and Hudson Counties. These municipalities include Carlstadt, East Rutherford, Little Ferry, Lyndhurst, Moonachie, North Arlington, Ridgefield, Rutherford, South Hackensack, and Teterboro in Bergen County and Jersey City, Kearny, North Bergen, and Secaucus in Hudson County.

Since 2004, the economy has been though a recession leading to a substantial increase in the unemployment rate for the Bergen County area. The Bureau of Labor Statistics reported that in Bergen County the unemployment rate was estimates at 8.1% in 2010, up from a low of 3.5% in 2007 (BLS 2011). For the State of New Jersey and the United States, the unemployment rate for 2010 was an average of 9.5% and 9.6%, respectively. The jump in the unemployment rate in Bergen County, the State of New Jersey and United States mainly reflects the national recession brought on by the turmoil in the financial markets that surfaced in late 2008. The labor force count in Bergen County has remained steady in the 478,000 person range over the last several years, but up from a low of 463,000 in 2004.

4.17.2 Impacts

Potential socioeconomics impacts resulting from the construction and operation of the redevelopment project at the Arena Site were presented in the August 2004 EIS (NJSEA 2004). Those impact analyses were based on two studies that were conducted for the Meadowlands Xanadu Redevelopment Project. The first study analyzed the economic impacts that would be expected to result from the construction and operation of the redevelopment project at the Arena Site. The second study analyzed and evaluated the demographic, economic and real estate market indicators for mixed-use development at the Arena Site.

The Amusement Park and Water Park Project does not involve residential land uses and would; therefore, not result in direct impacts on the local residential populations or demographic conditions.

The construction phase of the Amusement Park and Water Park, like the redevelopment project at the Arena Site projected in the August 2004 EIS, will result in construction related

expenditures (i.e. buildings, tangible personal property, professional/legal fees all related to project development) and related positive economic impacts are expected to occur over a two year period.

The Amusement Park and Water Park will be operated concurrently with the ERC of the American Dream Meadowlands. The economic impact of the former Meadowlands Xanadu Redevelopment Project was projected in the August 2004 EIS. The Amusement Park and Water Park will provide additional entertainment to the overall ERC, providing a positive economic impact on the redevelopment project at the Arena Site including generation of jobs and State and local taxes.

Completing the former ERC and constructing the new Amusement Park and Water Park will have immediate benefits to the State. The Developer has projected that completion of the existing ERC building and construction of the new Amusement Park and Water Park facility will create up to 9,100 construction jobs onsite over a two-year period. Further, the expected $1.8 billion in American Dream Meadowlands Project costs will generate economic multiplier effects throughout the State economy, supporting an additional 10,600 jobs and $1.5 billion in indirect business and household spending until the American Dream Meadowlands opens. Once opened, the American Dream Meadowlands will employ nearly 11,500 people onsite and generate nearly $1 billion in annual spending. This annual spending, in turn, will generate significant multiplier effects statewide by supporting an additional 5,670 jobs and $0.85 billion in statewide economic activity.

The NJSEA will provide first responder services for fire and medical emergencies. The Amusement Park and Water Park Project will also be supported by the local communities through the Mutual Aid Agreement. The American Dream Meadowlands will incorporate a full-time 24/7 on-site security force that will coordinate with the NJSEA, State Police, and East Rutherford Police. The Developer will prepare, in consultation with the NJSEA and others, an Emergency Operations Plan to address the responsibilities of different parties during emergency situations. The Developer anticipates that the American Dream Meadowlands security staff will operate with a communications system that is linked to the NJSEA system.

Executive Order No. 96 regarding Environmental Justice, signed on February 18, 2004, directed state agencies to consider the health and environmental impacts of their decision-making on low income and minority communities. In the case of the Amusement Park and Water Park Project, there are no low income or minority populations located in close proximity to the Project Area. Therefore, there will be no impacts to such populations as a result of construction or operation of the Amusement Park and Water Park Project.

4.17.3 Mitigation

Given the unique nature of the Amusement Park and Water Park Project, it is not anticipated that existing entertainment areas within the region will be impacted as a result of the operation of the Project. The Amusement Park and Water Park Project will not result in any significant change to local population or county trends. Therefore, no mitigation is required. The Amusement Park and Water Park Project is not expected to generate any significant new demands on local schools or medical facilities that currently serve the HMD and surrounding area. Therefore, no mitigation is required. Since there will be no impact on low income or minority populations, no mitigation is required.

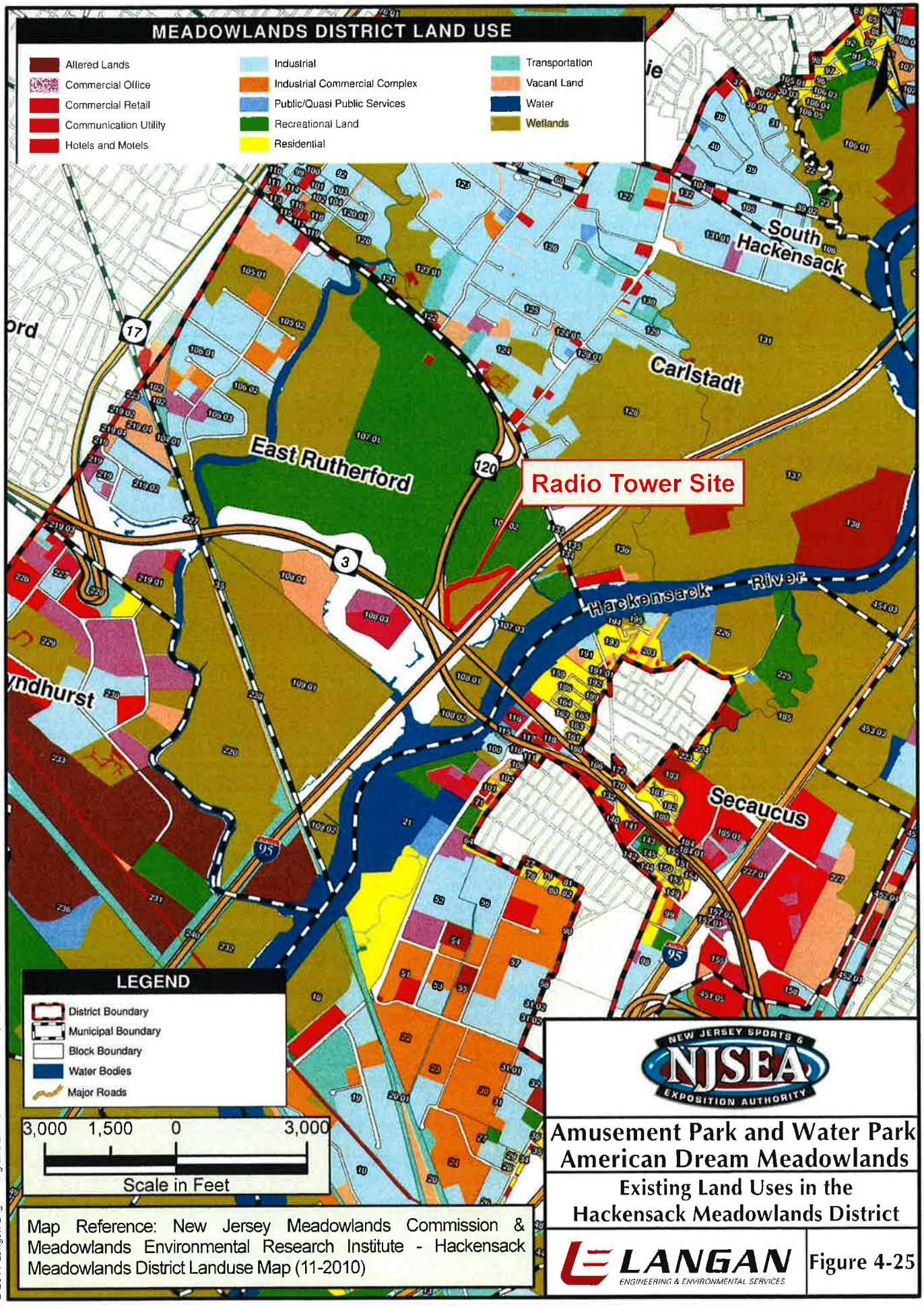
4.18 Land Use and Zoning

4.18.1 Existing Conditions

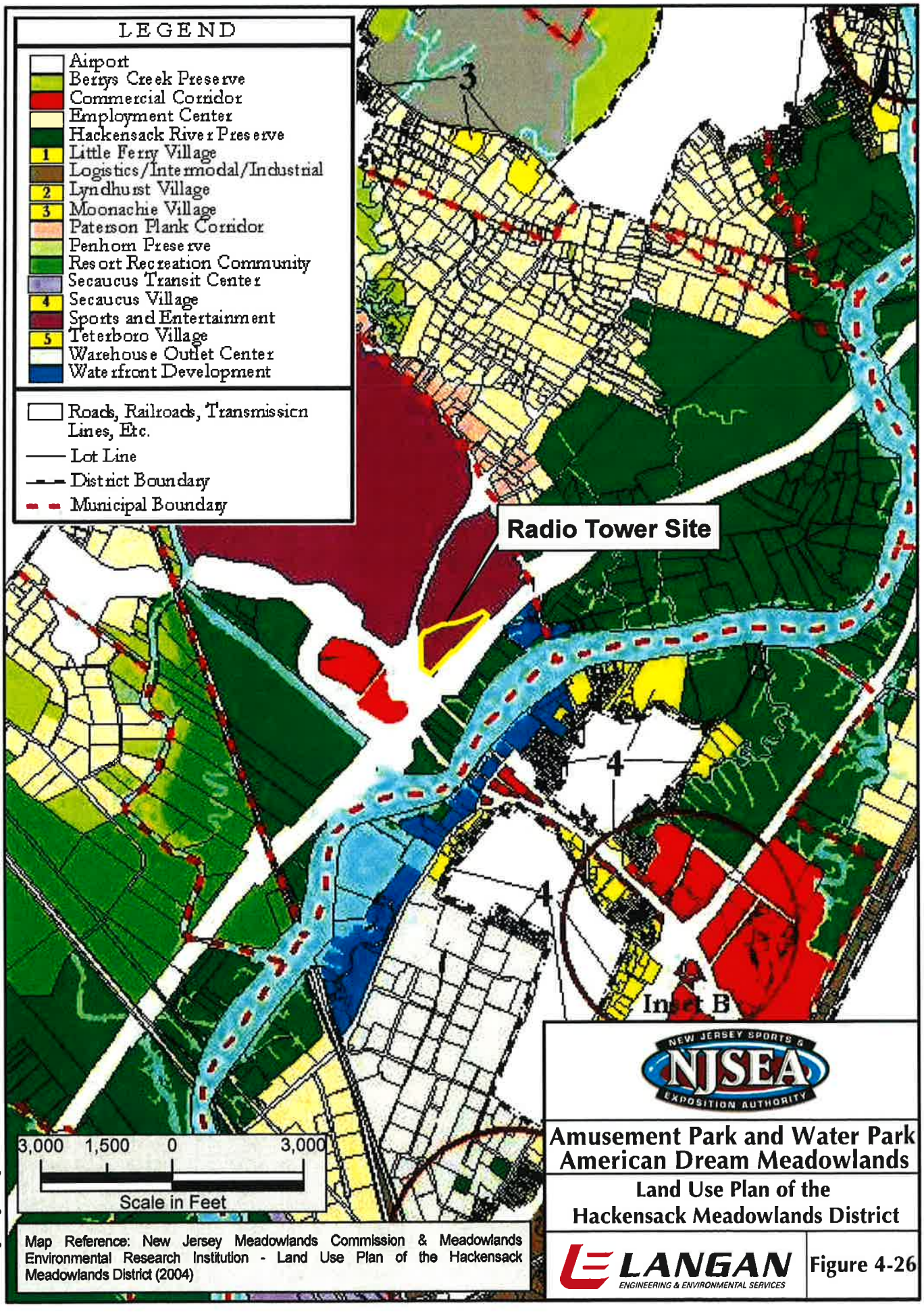
4.18.1.1 Land Use

The Radio Tower Site is located within the Hackensack Meadowlands District, where zoning and land use is overseen by the NJMC. The NJMC last updated the Hackensack Meadowlands District Master Plan in January 2004 (NJMC 2004a). The current NJMC Existing Land Use map indicates that the Radio Tower Site is "wetlands" (Figure 4-25). Existing land use of the Radio Tower Site should be considered "Communication Utility" based on the historic radio tower operations on the property. The land use map included as part of the August 2004 EIS mapped the Radio Tower Site correctly as "Communication & Utilities" (see Figure 4-44 in the August 2004 EIS). The current Land Use Plan of the Hackensack Meadowlands District maps the Radio Tower Site as "Sports and Entertainment" (Figure 4-26).

The existing land use patterns in the surrounding area have remained generally consistent with the land use patterns that existed at the time of the issuance of the August 2004 EIS. Three major development projects have been completed within the vicinity of the Radio Tower Site. The New Meadowlands Stadium Project was completed in 2010, replacing the former Giants Stadium, located to the northwest of the Radio Tower Site across Route 120, with a new stadium, now called MetLife Stadium (NJSEA 2007). The Arena Site was redeveloped with the ERC building and associated parking decks as part of Phase I and Phase II or the Meadowlands Xanadu Redevelopment Project. A Railroad Project was completed in 2010 within the parking lots of the New Meadowlands Stadium and provides rail access to the Meadowlands Sports Complex, providing a rail service connection from the Pascack Valley line to the Meadowlands Sports Complex (NJSEA 2005).



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Amusement Park and Water Park
American Dream Meadowlands

Land Use Plan of the
Hackensack Meadowlands District

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Figure 4-26

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4.18.1.2 Zoning

The NJMC issued updated Zoning Regulations in April 2011 (NJMC 2011). The current NJMC zoning map designates the Radio Tower Site as a "Sports and Expositions (SEA)" zone (Figure 4-27). The Radio Tower Site is also zoned as an SEA Zone in the earlier NJMC zoning map presented in the August 2004 EIS. The current NJMC regulations define the "Sports and Exposition" zone as follows:

> "This zone is designed to accommodate major spectator sport uses and exposition and related uses built under the jurisdiction of the New Jersey Sports and Exposition Authority and to provide for the designation of land not acquired for such uses" (N.J.A.C. 19:4-5.114).

Figure 4-27 depicts the Zoning Map designations used throughout the HMD, including on and around the Radio Tower Site, while Figure 4-26 depicts the Land Use Plan designations. The zoning designation of the Radio Tower Site continues to maintain compatibility between the existing land use and proposed land use. In the NJMC's Land Use Plan portion of the Hackensack Meadowlands District's Master Plan, the Sports Complex is classified as a "Sports and Entertainment" area corresponding with the zoning designation as "Sports and Exposition" (NJMC 2004a).

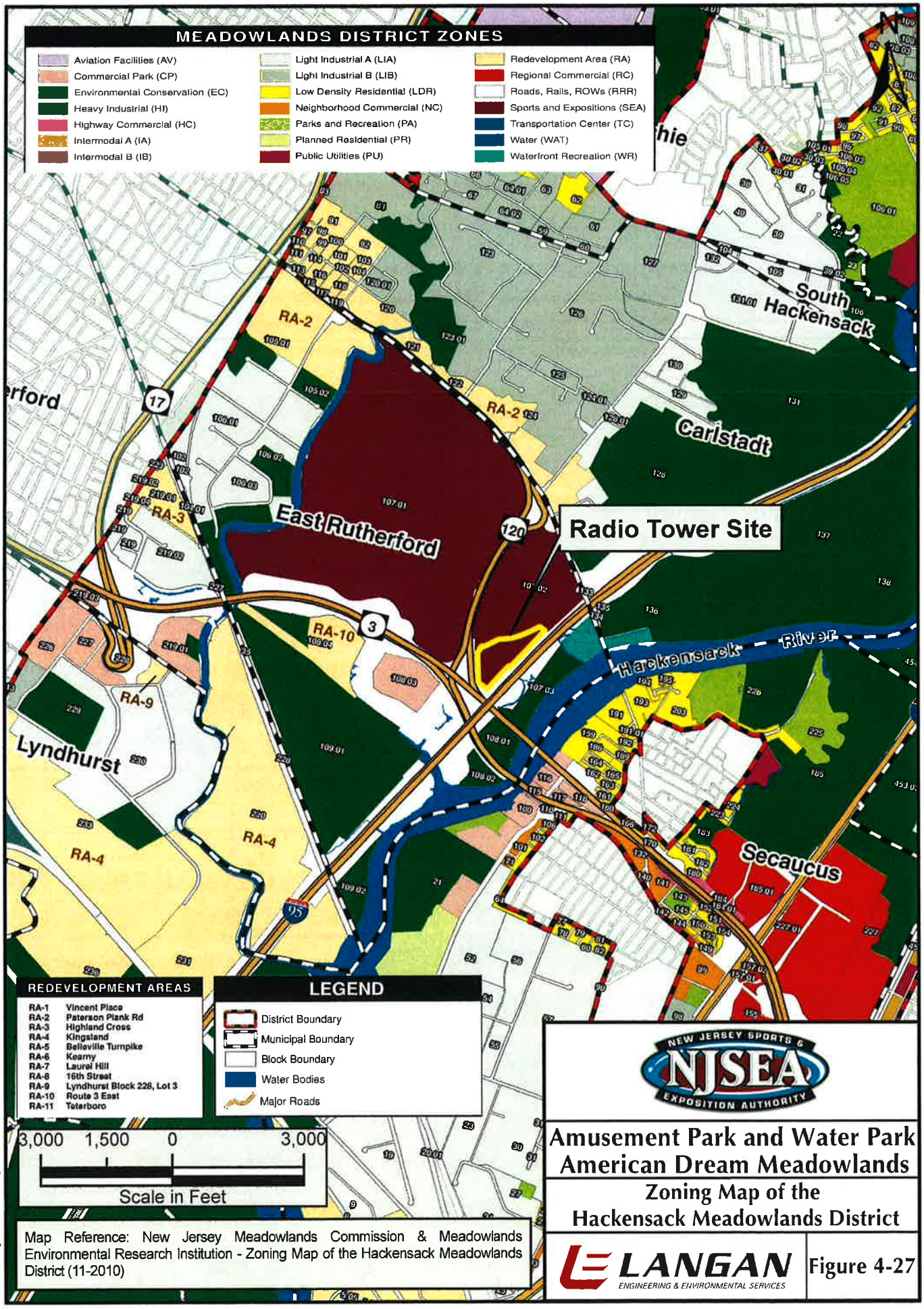
The NJMC Zoning Regulation defines the legislative exemption for lands owned by the NJSEA as follows:

> "Any land acquired by the NJSEA and subject to its jurisdiction under N.J.S.A. 5:10-1 to 5:10-26 shall be exempt from NJMC regulations." (N.J.A.C. 19:4-5.115)

Therefore, although the NJMC District Zone regulations provide a specific zoning designation for the Sports Complex, lands owned or acquired by the NJSEA are exempt from the NJMC site plan review process.

4.18.2 Impacts

The existing land use of the Radio Tower Site would be changed to an entertainment type land use with the construction and operation of the Amusement Park and Water Park. The radio towers that are currently located on the Radio Tower Site were taken out of operation in 2010. New radio towers were constructed on a site in North Bergen Township to replace these structures. The existing radio towers on the site will be razed as part of the Amusement Park and Water Park Project. The removal of the radio towers from the Radio Tower Site will resolve a land use conflict with the redevelopment of the Arena Site due to radio frequency radiation from operation of the towers.



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The Amusement Park and Water Park Project will provide complementary entertainment uses to the overall redevelopment of the Arena Site of the Meadowlands Sports Complex through the introduction of an additional entertainment feature: the Amusement Park and Water Park. This Amusement Park and Water Park Project will expand the land holdings of the NJSEA encompassing the Meadowlands Sports Complex, and allow for a greater utilization of a previously developed site towards the desired Sports and Entertainment land use associated with the Meadowlands Sports Complex.

Existing adjacent land uses around the Radio Tower Site include transportation, sports and entertainment (i.e., Arena Site) and open space. The Amusement Park and Water Park Project will have no significant impacts on these adjacent land uses since all of the proposed construction and operation activities are proposed within the boundaries of the Radio Tower Site. The addition of the Amusement Park and Water Park to the existing ERC will greatly enhance the redevelopment of the Arena Site.

The Amusement Park and Water Park Project will provide additional entertainment related activities at the Radio Tower Site as allowed for by the NJSEA and its implementing legislation. Therefore, the proposed Amusement Park and Water Park Project conforms to the designated "Sports and Expositions" zoning and "Sports and Entertainment" land use designations associated with the Meadowlands Sports Complex and is exempt from formal NJMC zoning review.

4.18.3 Mitigation

The Amusement Park and Water Park Project will expand the sports and entertainment land use of the Meadowlands Sports Complex. The land use is compatible with the NJMC Master Plan and zoning regulations for both the Meadowlands Sports Complex and Radio Tower Site. The Amusement Park and Water Park does not present any incompatible land uses with the adjoining areas or promote activities that are considered to be inconsistent with the intent of the "Sports and Expositions" zoning designation. Therefore, no mitigation is required.

4.19 Park Lands and Recreational Resources

4.19.1 Existing Conditions

The HMD offers a wide variety of recreational opportunities covering approximately 757 acres as shown on the HMD "Green Map" (Figure 4-28). Within the HMD, the Hackensack River functions as the focal point for education, leisure, and recreational activities. Existing waterways and wetlands add almost 7,700 acres to the recreational parklands and open space areas of the HMD. Although much of the open space in the Hackensack Meadowlands is privately owned and not publicly accessible, these open space areas do contribute to the various vistas and natural features within the HMD.

The Meadowlands Sports Complex itself is considered to be a complex of recreation facilities within the HMD and, in fact, is the largest such complex (approximately 684 acres) within the HMD. This complex includes MetLife Stadium, the Izod Center, the Meadowlands Racetrack, Meadowlands Rail Station, the Timex Performance Center, and the American Dream Meadowlands. The Sports Complex serves primarily the nearby New York/New Jersey metropolitan region, although these facilities draw many patrons from beyond the immediate metropolitan area.

No other park or recreational facility is situated in the immediate vicinity of the Radio Tower Site. The August 2004 EIS presents a discussion concerning park lands and recreational resources in general proximity to the Arena Site and Radio Tower Site (NJSEA 2004).

4.19.2 Impacts

Based on the site plan and proposed operations of the Amusement Park and Water Park Project, no direct or indirect impacts to any existing park or recreational facility will result from construction of the Project. The Amusement Park and Water Park will complement the existing recreational facilities within the HMD and to the Meadowlands Sports Complex by providing additional sports, entertainment and recreational facilities to the region.

4.19.3 Mitigation

Since the Amusement Park and Water Park Project will not result in any direct or indirect impacts to the existing or proposed parks and recreational areas within the HMD, and since the proposed entertainment parks are envisioned as supporting the recreational goals of the HMD and region as a whole, no mitigation is required.



Map Reference: New Jersey Meadowlands Commission & Meadowlands Environmental Research Institution - Open Space Map of the Hackensack Meadowlands District (11-2010)

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Amusement Park and Water Park American Dream Meadowlands

Parks and Recreational Facilities in the Hackensack Meadowlands District

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Figure 4-28

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4.20 Historic, Archaeological and Architectural Resources

4.20.1 Existing Conditions

4.20.1.1 Background

The August 2004 EIS provides a background of the cultural, historic, and archaeological resources of the Hackensack Meadowlands and the Arena Site on the Meadowlands Sports Complex (NJSEA 2004). This regional background information is not repeated in this Supplemental EIS. The reader is referenced to Section 4.20 of the August 2004 EIS for this information.

A Phase IA Cultural Resources Survey was completed for the Radio Tower Site (Appendix E of the DSEIS; Langan 2011g). The Phase IA Cultural Resources Survey was submitted to the New Jersey State Historic Preservation Office (SHPO) for their review on November 2, 2011. Provided below is a summary of the information and conclusions presented in the Phase1A Cultural Resources Survey.

4.20.1.2 Archaeological Resources

The Phase IA Cultural Resource Survey consisted of documentary background research and a pedestrian survey of the Area of Potential Effect, (APE), which is identified herein as the Radio Tower Site (Langan 2011g). The background research did not identify any known prehistoric or historic archaeological sites on the Radio Tower Site. Past cultural resources studies conducted within the vicinity of the APE (LBA 1995; Northern Ecological Associates 2001; Langan 2005; Schuldenrein 2009) characterized the vicinity of the APE as having little, if any, sensitivity for the possible presence of prehistoric archaeological resources. However, recent studies by Hunter Research (2009) identified the possible presence of a historic tide gate and drainage ditches associated with the drainage systems employed to drain the Hackensack Meadowlands on or adjacent to the APE. Based upon the available information the APE has been characterized as low to moderately sensitive for the possible presence of historic features associated with these above mentioned tide gate and drainage ditches.

A document search was performed to identify any registered archaeological sites as part of the survey. Examination of the New Jersey State Museum and SHPO site files, and other standard references indicate that there are no known prehistoric archaeological sites located within one mile of the archaeological APE (Skinner and Schrabisch 1913; Cross 1941). In addition, a pedestrian survey was performed of the Radio Tower Site.

The Meadowlands Sports Complex was examined during the early 1970s for the development of the Sports Complex and construction of Giants Stadium and Meadowlands Racetrack and, later in that decade, for the Continental Airlines Arena. In 1972, an EIS for Giants Stadium and the Sports Complex described the Meadowlands Sports Complex and adjacent lands (including the Radio Tower Site) as containing wetlands, streams, ditches, dikes, woodland, and trash landfills (Jack McCormick & Associates 1972) (Figure 4-29). The Radio Tower Site was identified as a "filled land" area for Route 20 (known as N.J. Route 120 today). No specific discussion is provided, however, concerning known archaeological resources or areas of archaeological sensitivity on the tract.

In 1995 Louis Berger & Associates, Inc. conducted a Stage IA Cultural Resource Investigation (BER F233) for the Route 120 Relocation (LBA 1995). Part of the study area is adjacent to the north of the Radio Tower Site. The report concluded that the only potential archaeological sites in the study area were around the Paterson Plank Road and the Half Way Hotel, which is well north of the Radio Tower Site. No historic or archaeological resources were thought to be in the area adjacent to the Radio Tower Site. In addition, the report stated that "there are no practical methods for testing for the presence of prehistoric sites that would be buried below deep landfill and meadow mat." Berger recommended no further cultural resource investigations.

In 2005 Langan Engineering and Environmental Services, Inc. submitted a letter report for the Meadowlands Xanadu Redevelopment Project on the Arena Site (BER C598) adjacent to the north of the Radio Tower Site (Langan 2005). Langan relied upon the past cultural resource investigations conducted for the Meadowlands Sports Complex (Jack McCormick & Associates 1972), the Meadowland Arena (Jack McCormick & Associates 1978), Route 120 Relocation (LBA 1995) and the Special Area Management Plan for the Hackensack Meadowlands District. The studies indicated that the area had been previously disturbed through construction and landscape modification. Langan recommended no further cultural resource investigations.

In 2009, Hunter Research developed a historic context for the drainage system and features associated with the draining and mosquito control of the Hackensack Meadowlands for the Army Corps of Engineers (Hunter Research 2009). The drainage features illustrate constant attempt to create usable land in close proximity to New York City. The mosquito control ditches were an important reaction to the knowledge that these insects carried some infectious diseases and that mosquitos infected with these diseases could infect human populations. The study was based upon the results of previous work conducted for nearby properties in 2006. The research presented in the study identified the potential presence of a historic tide gate adjacent to the APE (i.e., Radio Tower Site). The tide gate was identified as: No. 35, a pre-1941 gate (Figure 4-30). Hunter Research did not visit the location of resource No. 35. The location

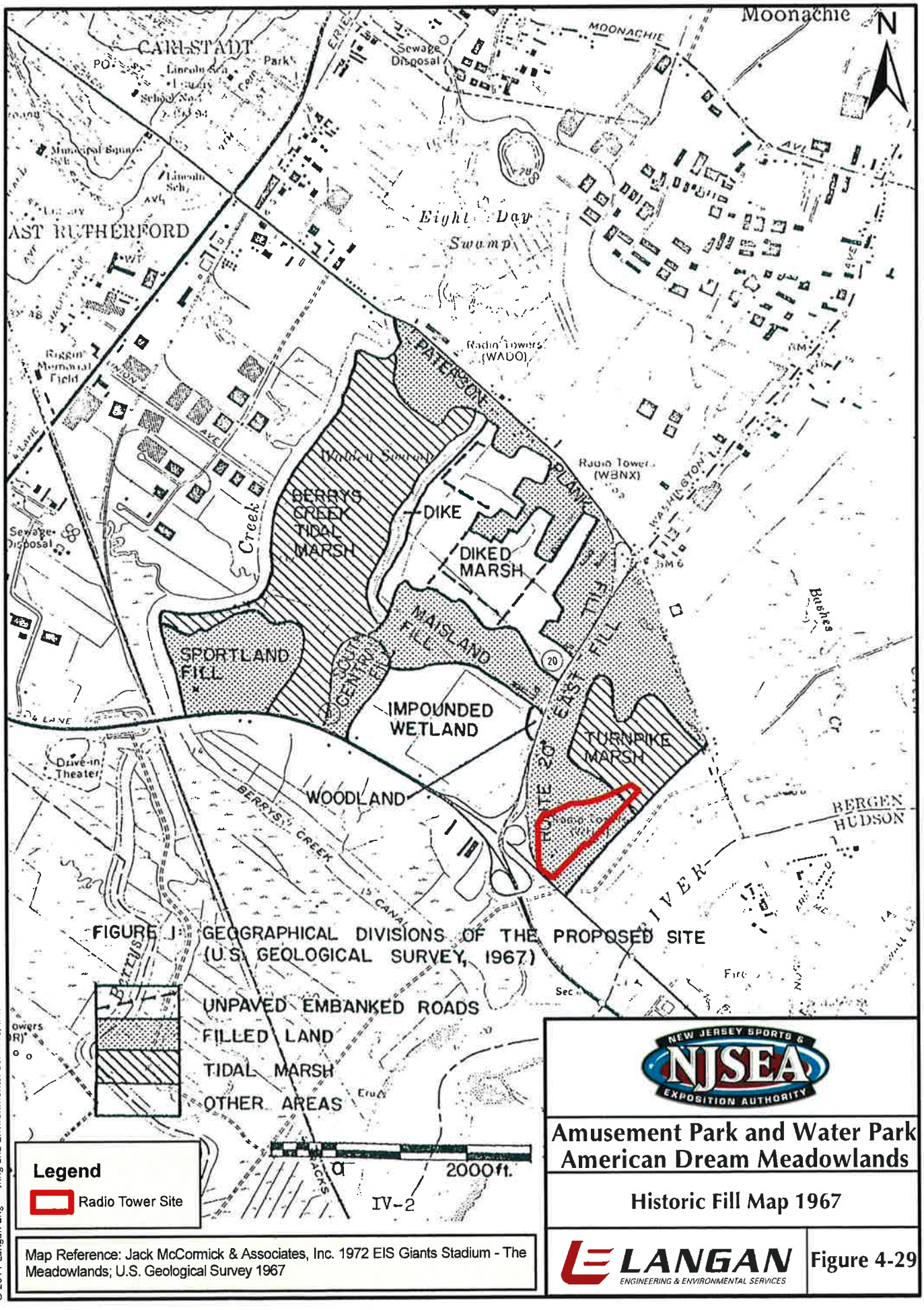


FIGURE 1: GEOGRAPHICAL DIVISIONS OF THE PROPOSED SITE (U.S. GEOLOGICAL SURVEY, 1967)

Map Reference: Jack McCormick & Associates, Inc. 1972 EIS Giants Stadium - The Meadowlands; U.S. Geological Survey 1967

NEW JERSEY SPORTS & EXPOSITION AUTHORITY

Amusement Park and Water Park
American Dream Meadowlands

Historic Fill Map 1967

LANGAN ENGINEERING & ENVIRONMENTAL SERVICES

Figure 4-29

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was identified from cartographic resources. Other features identified by research included historic ditches on the Radio Tower Site. As part of the historic context, Hunter Research also provided a framework for the assessment of various types of potential and adverse effects as well as guidance for cultural resource recommendations and for documenting identified resources.

As part of the Phase IA Cultural Resource Survey aerial imagery for the APE dating from between 1931 and 1995 was reviewed (Langan 2011g). The aerial imagery indicates that there were several phases of modification and realignment for Route 120. None of the imagery clearly indicates the original tide gate reported by Hunter Research. The pedestrian survey included the entire western and southern boundary of the APE and did not identify any features or remains of the tide gate. The pedestrian survey did find a new retention pond and drainage ditch in the vicinity of the tide gate. However, no traces of a tide gate were found during the pedestrian survey. It is most likely that the rerouting and expansion of Route 120 has destroyed any remains of this tide gate.

Historic background research indicates that a system of drainage ditches was present within the APE since at least the 1940s. Aerial images topographic maps from the 1940s, 1950s and 1960s indicate that these ditches were similar to those described as associated with the mosquito control measures employed in the Hackensack Meadowlands (Hunter Research 2009). The imagery revealed that the ditches were located in several places within the APE. Subsequent filling in of the APE has most likely filled in the majority, if not all, of the drainage ditches. It is possible that some of the ditches to the north or the east of the radio towers at the edge of the APE still exist. These ditches would have a more natural look versus the straight lines that were typically created for drainage and mosquito control after years of not being maintained. However, it is more likely that the filling events in the APE have destroyed all traces of the drainage ditches and what can be seen in the APE today is from natural factors.

The documentary research performed for the Phase IA Cultural Resources Survey found no listed or eligible cultural resources in the APE (Langan 2011g). The pedestrian survey of the APE did not encounter any evidence of either the former drainage ditches or Resource No. 35 – Tide Gate. Based on the documentary research and the pedestrian survey, it was concluded that no prehistoric or historic archaeological resources will be affected by the Amusement Park and Water Park Project. Therefore, no further archaeological survey was recommended.

4.20.1.3 Historic Architectural Resources

As part of the Phase IA Cultural Resources Survey, research was conducted at the SHPO to determine if any buildings or properties in or near the APE have been identified as historic resources (Langan 2011g). According to SHPO records there are no National Register listed or eligible historic properties within or adjacent to the APE. The existing radio towers and radio station transmission building were evaluated for their potential as historic architectural resources.

Historic background research indicates that the radio towers currently in the APE are not the original towers constructed in 1941. These towers were constructed as a result of the construction of the New Jersey Turnpike in the location of the original towers. The current towers were constructed sometime in the 1960s or early 1970s and appear on the 1972 Aerial Photograph making them most likely less than 50 years in age.

The radio station transmission building is a raised one story brick building on a concrete foundation built in 1941(Figure 4-31). The building has been renovated several times on the inside, even as late as 2003 when Disney took over the station transmission building. The radio station transmission building is over 50 years in age and may have been associated with significant persons or events associated with radio over its history. Nationally, some radio stations and towers have been determined eligible for the National Register of Historic Places. The Amusement Park and Water Park Project will include the demolition of the radio station transmission building. Therefore, it was recommended that a Reconnaissance Level Architectural Survey be completed on the radio station transmission building to determine if there is justification for further investigation of National Register eligibility (Langan 2011g).

An architectural survey of the radio tower transmission building was prepared and submitted to SHPO on December 14, 2011. This report concluded the building should not be considered "eligible" as a historic building.



Figure 4-31. View of the radio transmission building in the APE, facing southeast.

4.20.2 Impacts

Review of SHPO files and several project studies dating from the 1970s to the present demonstrates that the Amusement Park and Water Park Project area contains no archaeological or architectural resources that have been listed in or determined eligible for listing in the State or National Registers of Historic Places (Langan 2011g). The available information also suggests that there are no zones of sensitivity within the Project Area that are likely to contain unidentified resources. The potential eligibility of the radio station transmission building has been evaluated and it was concluded that this building should not be listed.

SHPO issued a finding on November 9, 2011 indicating their concurrence that there are no historic properties affected within the project's area of potential effect and that no further Section 106 consultation is required for the Project. See SHPO correspondence provided in Appendix A.

4.20.3 Mitigation

No mitigation is necessary.

4.21 Visual and Landscape Aesthetics

4.21.1 Existing Conditions

The Meadowlands Sports Complex and Radio Tower Site are situated along the west bank of the Hackensack River near the middle of the Hackensack Meadowlands District. Most of the HMD lies close to sea level and is adjoined by ridges on the west and east that rise to elevations of more than 200 feet above sea level. To the north, the HMD is bordered by ridges that reach more than 150 feet above sea level in the city of Hackensack. In addition to the Hackensack River, the HMD includes numerous smaller watercourses and approximately 8,400 acres of undeveloped wetlands and salt marshes which comprise the more dominate natural landscape features. The balance of the HMD is comprised of a mix of residential, commercial retail, transportation, and utility infrastructure and large-scale professional sports and gaming facilities. These developments comprise the dominant man-made component of the HMD's visual landscape.

The built environment of the HMD includes hotels, roadways, commercial/industrial facilities, and residential developments. Major roadways passing through the District include the New Jersey Turnpike and N.J. Route 3. Amtrak's Northeast Corridor rail line and NJ TRANSIT's Bergen County Line and Main Line/Passaic Valley Line cross the HMD. These transportation arteries are carried on large earth fills that stand 10 to 20 feet above the surrounding terrain. Along the Hackensack River, portions of the shoreline are developed with bulkheads, small piers, and boat slips. However, where there are no bulkheads, the shoreline is typically dominated by high marsh, shrubs, emergent forbs, and mudflats.

The Meadowlands Sports Complex consists of five major facilities: the IZOD Center, MetLife Stadium, Timex Performance Center (i.e., Giants Training Center), Meadowlands Racetrack and the ERC. The space between these five facilities is comprised of paved surface parking lots and access and service roads. Smaller support buildings adjoin the racetrack. Adjoining the Meadowlands Sports Complex are major arterial highways, commercial/light industrial areas, and wetlands. The commercial and light industrial areas are comprised of small and medium-size buildings one to three stories high. A pair of high-rise commercial buildings is located approximately 0.5 miles to the south between N.J. Route 3 and the Berry's Creek Canal. The nearest residential areas are located across the Hackensack River in Secaucus, approximately one to 1.5 miles to the east. The Radio Tower Site lies to the southeast of the Arena Site on the East Side of the Meadowlands Sports Complex.

Adjacent to the Meadowlands Sports Complex and Radio Tower Site is the New Jersey Turnpike's western spur. To a passing observer on the Turnpike, MetLife Stadium, the

Meadowlands Racetrack, ERC and the IZOD Center are highly visible from both the south- and northbound lanes. The three radio towers on the Radio Tower Site are also highly visible from these roadways, but lack the mass of the large buildings on the Sports Complex. These structures can also be seen from several other roadways that serve the area including N.J. Routes 3, 17, and 120, as well as Paterson Plank Road and Washington Avenue.

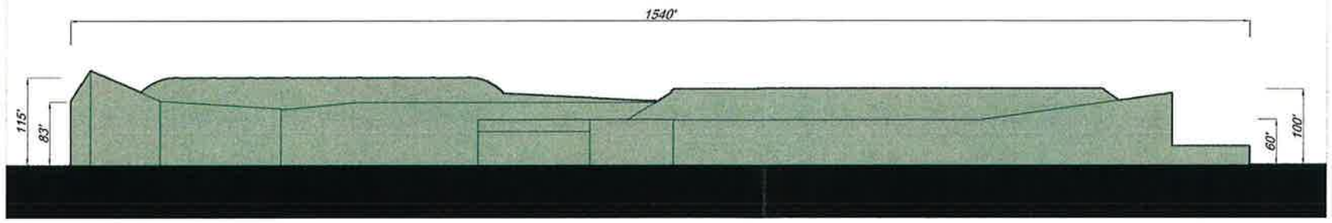
From the neighboring communities, there are only limited vantage points to see the various Sports Complex facilities. Within the HMD, views of the Sports Complex are partially buffered by shoreline features, wetland vegetation, and stretches of open water. However, the Sports Complex facilities are highly visible from various vantage points on the ridges to the west, east, and north from distances of two to four miles.

Distant views from the Project Area to the east are of the midtown Manhattan skyline, interrupted by natural gas storage tanks located on Transcontinental Gas Pipeline Co. property and the Palisades ridgeline on which the communities of North Bergen and West New York are located (USACE 2002). The commercial/industrial sections of Carlstadt limit the views to the north and west. Additional visual landmarks are the New Jersey Turnpike and the Hackensack River. Short-range or near views from the Radio Tower Site include the ERC building on the Arena Site, nearby roadways and hotels, bridges and wetlands.

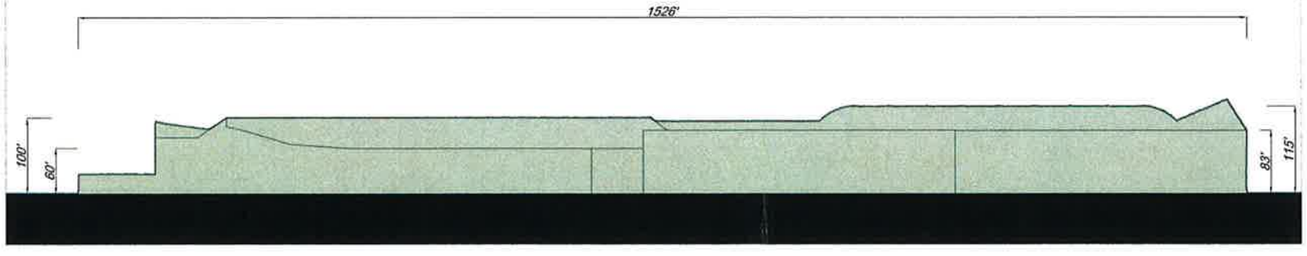
4.21.2 Impacts

The Amusement Park and Water Park will introduce an additional large structure that is a combination of a building space for the Amusement Park, a building space for the Water Park, and a building space for the adjoining common area located between the two buildings. In addition, the common area will be connected to the existing ERC by an elevated pedestrian bridge going over the East Peripheral Road. The Amusement Park and Water Park will limit views of the southern face of the ERC and view of the Turnpike.

The Amusement Park and Water Park will add to the variation of structures already constructed on the Arena Site with a new structure of varying heights and rooflines (Figure 4-32). Portions of the Amusement Park roofline will extend up to 100 feet, while the Water Park roofline will extend up to 115 feet. From N.J. Route 3, N.J. Route 120, and the New Jersey Turnpike, the Amusement Park and Water Park building will be immediate visible, with taller structures behind including the ERC and Observation Wheel. In addition, for certain rides with drop towers, a pop-up enclosure will extend vertically above the main roof of the building up to 150 feet. The Amusement Park and Water Park will add to the increasing height and diversity of the built environment at the Meadowlands Sports Complex.



South East Elevation – 1



North West Elevation – 2



Key Plan



NEW JERSEY SPORTS & EXPOSITION AUTHORITY

Amusement Park and Water Park
American Dream Meadowlands

Proposed Building Massing Elevation of the Amusement Park and Water Park

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Figure 4-32

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The design of the Amusement Park and Water Park Project will incorporate features that will promote visual compatibility with its surrounding, as it is expected to complement the size and massing of the ERC, Stadium and Racetrack. The exterior façade will be designed in concert with the redesign of the ERC exterior so the buildings become visually compatible.

The Amusement Park and Water Park Project will result in the redevelopment of the Radio Tower Site by introducing a large and vertical development. The Amusement Park and Water Park will result in the loss of some of the undeveloped emergent vegetation growth on the Radio Tower Site, leading to a loss of some natural landscaped areas. These areas will be changed by the introduction of a new structure and perimeter access road. The Amusement Park and Water Park will also result in a development footprint of 19 acres on the 21.75-acre Radio Tower Site. The Amusement Park and Water Park structure will form an extension of the current ERC structure, by extending the structure in a southerly direction. The height of the Amusement Park and Water Park will add additional variation to the buildings making up the ERC which range from 80 feet to over 200 feet as well as the Observation Wheel, which will extend up to 286 feet from grade.

Exterior facades of the buildings will be designed to provide a suitable appearance for a mixed-use development. The exterior of the buildings will consist of a variety of materials and finishes. The introduction of different patterns and materials will serve to give the structures scale and to articulate entrances and other major features. Building finishes may include materials such as Engineered Insulated Finished Surface (EIFS), Ethylene Tertrafluoroethylene (ETFE), metal panels, pre-cast concrete, and aluminum and glass curtain walls. Appropriate finishes, including modular masonry products, may be used to enhance select portions of the new structures. Articulated building elements may consist of painted steel frames, tensile fabric, metal mesh, and similar materials.

Various landscaping and planting schemes will be used to screen foundations, electrical and mechanical equipment, and loading docks as well as to provide an aesthetically pleasing environment. Plantings will also be introduced around the new structure, their foundations and at appropriate locations along the perimeter access road. Lighting will complement building designs and will be planned in accordance with applicable standards.

The vertical massing of the will make the Amusement Park and Water Park structure prominent from nearby roadways, especially the New Jersey Turnpike, N.J. Route 3, and N.J. Route 120. The Amusement Park and Water Park structure will result in an extension of the current ERC that will be easily seen in and around the Project Area. This additional structure will become part of the varied vertical landscape currently present in the region and will be similar in nature to other structures at the Meadowlands Sports Complex including MetLife Stadium, IZOD

Center, Timex Performance Center, the Meadowlands Racetrack, and the high-rise residences/hotels that are located along N.J. Route 3.

Through the introduction of a harmonious design of the Amusement Park and Water Park building with the ERC, it is expected that the Amusement Park and Water Park building will complement the existing elements of the Meadowlands Sports Complex and enhance the area's overall aesthetic and architectural qualities.

As discussed in Section 4.20, the cultural resources investigations conducted for the Amusement Park and Water Park did not identify any significant historic sites or structures on or within close proximity to the Arena Site. Therefore, the Amusement Park and Water Park Project will not result in any visual impacts to historic architectural features or sites.

4.21.3 Mitigation

It is anticipated that the Amusement Park and Water Park building will enhance the scenic resources of the Arena Site, Sports Complex, and adjacent areas. The disturbance and development of existing vegetated areas on the Radio Tower Site will be mitigated through the introduction of landscaped areas located in appropriate areas in the development. Landscaping of open space areas and roadway embankments will be performed. Landscaping will also be used to develop screening for electrical and mechanical equipment and loading and unloading areas. All exterior equipment at ground level, such as transformers, will be screened with compatible building façades and planting buffer areas. Loading and service areas will be screened. The Amusement Park and Water Park will be designed in such a manner as to provide compatibility with the surrounding natural setting and the nearby ERC and Meadowlands Sports Complex.

4.22 Avoidance of Adverse Environmental Impacts

The Amusement Park and Water Park Project will avoid many potential adverse environmental impacts due to the location of the Project on previously-developed land and the proposed use of existing infrastructure. In conformance with the State of New Jersey Smart Growth policies, the Amusement Park and Water Park minimizes adverse environmental impacts by using an already-developed site (i.e., Radio Tower Site) that offers redevelopment opportunities and limits the potential adverse environmental impacts compared to locating the Amusement Park and Water Park on an undeveloped site. If the Amusement Park and Water Park Project were to be constructed on an undeveloped site, adverse environmental impacts greater than those expected to occur at the Radio Tower Site, such as site clearing of forested areas, loss of wildlife habitat, loss of wetland, and changes in land use would likely occur at the undeveloped site.

In addition, the placement of the Amusement Park and Water Park Project on the Radio Tower Site allows for the use of the infrastructure improvements associated with the redevelopment of the Arena Site including roads, sewers, water mains, power lines and telephone lines such that adverse environmental impacts are avoided for connection to these services. Redevelopment of the Radio Tower Site allows the use of the existing infrastructure on the Arena Site such that offsite improvements for the Amusement Park and Water Park are only limited to drainage improvements within the Turnpike right-of-way. Potential environmental impacts from the expansion of infrastructure to service a new development on an undeveloped site are thereby avoided. Often, new development located on an undeveloped site requires extensive infrastructure improvements, such as new roadways and sewer mains, which lead to adverse environmental impacts both onsite and offsite for the construction of this new infrastructure. The placement of the Amusement Park and Water Park Project adjacent to the ERC also allows for the use of vehicular parking available for the ERC. Therefore, the Amusement Park and Water Park Project does not provide for any patron parking areas on the Radio Tower Site. This sharing of parking resources reduces the land mass required for the Amusement Park and Water Park Project compared to locating the parks on their own site. This reduced footprint avoids potential environmental impacts.

In order to provide for the necessary land area to accommodate the Amusement Park and Water Park Project immediately adjacent to the ERC, some environmental impacts on the Radio Tower Site are unavoidable. As discussed in Section 4.3.2.1, approximately 5.41 acres of wetlands will be permanently impacted from the construction of the Amusement Park and Water Park Project and associated drainage improvements in the Turnpike right-of-way. These impacts include approximately 5.26 acres of tidal and non-tidal emergent wetlands that will be filled on the Radio Tower Site for construction of the Amusement Park and Water Park

buildings and perimeter access road; and, an additional 0.15 acres of tidal emergent wetlands that will be filled to complete drainage improvements within the adjacent Turnpike right-of-way. Approximately 0.18 acres of wetlands and waters will be temporarily impacted from the construction of the drainage improvements and removal of a soil "hot spot" for the Project. Approximately 13 acres of lands on the Radio Tower Site currently within the 100-year tidal floodplain of the Hackensack River will be filled. These proposed adverse environmental impacts are necessary and unavoidable. Potential impacts to anadromous fish that may use the unnamed tributary during migration will be avoided, as no construction will occur within the channel from March 15 through June 30.

The design and operation of the Amusement Park and Water Park Project will be performed in a manner that avoids adverse environmental impacts through the use of proper utilities to manage and convey potable water to the buildings, and collect and direct wastewater produced within the buildings to the local public wastewater treatment plant conveyance system (see Section 4.13). A stormwater management system will be designed, permitted, constructed and maintained on the Radio Tower Site and Turnpike right-of-way to minimize any potential flooding and water quality degradation from the Amusement Park and Water Park Project. Drainage improvements within the drainage easement located on the Radio Tower Site and within the Turnpike right-of-way, associated with a 96-inch culvert which conveys runoff from the Radio Tower Site easterly towards the Hackensack River, will be performed as part of the Amusement Park and Water Park. Solid waste, including recyclables, will be collected and stored in suitable containers and disposed of in accordance with federal and state solid waste programs and regulations (see Section 4.13).

To limit potential adverse environmental impacts from the operation of the Amusement Park and Water Park to energy resources in the region, energy conservation steps will be taken during design and operation of the Project (see Section 1.5). Where feasible, low-emission equipment, energy-efficient fixtures, energy-efficient glazing, proper insulation to control heat and cooling losses, and state-of-the-art systems will be utilized.

4.23 Short-Term and Long-Term Impacts

Short-term impacts will occur during the construction phase of the Amusement Park and Water Park Project, while long-term impacts will occur from construction of the Project and during operation of the Project. This Section summarizes the potential short and long-term impacts from the Amusement Park and Water Park as identified and discussed throughout the preceding sections of this Supplemental EIS.

Short-term impacts during construction of the Amusement Park and Water Park may include the following:

- Erosion and sediment loadings in construction site runoff;
- Diminished water quality due to the dewatering of subsurface excavations;
- Increased air emissions from construction equipment, construction worker vehicles, and placement of asphalt;
- Noise and dust emissions from construction equipment and construction vehicle traffic;
- Increased traffic from construction equipment and construction worker vehicles;
- Increased solid waste and sewerage production from building and infrastructure construction, and construction workers;
- Increase in construction jobs; and,
- Increase in tax revenues.

The disturbance of the Radio Tower Site and drainage improvements within the Turnpike right-of-way during the construction phase of the Amusement Park and Water Park Project will lead to soil and sediment disturbances that may erode and allow sediments to be carried in stormwater runoff into adjacent drainage features, wetlands and tributaries. The water quality of existing drainage features, adjacent wetlands, and water bodies could also be affected by dewatering discharges from temporary utility trenches. Construction equipment, such as bulldozers and pile drivers, may produce excessive noise. Dust could be produced from exposed soils and grading activities during dry weather conditions. Traffic in the area will be increased by trips to and from the Radio Tower Site by construction workers and construction equipment, and for delivery of construction materials to the site. Construction of the buildings and infrastructure will produce solid waste that will need to be managed and be properly disposed of. Workers will require sanitary facilities, from which wastes will require proper disposal.

Long-term impacts from construction and operation of the Amusement Park and Water Park Project may include the following:

- Loss of approximately 5.41 acres of wetlands from proposed filling activities and drainage improvements;
- Increased utilization of energy (electricity, gas, oil, etc.) and potable water;
- Increase in sanitary and solid wastes;
- Increase in air emissions;
- Increase in vehicular traffic in the project area;
- Increase in jobs;
- Increase in tax revenues; and,
- Decreased exposure from existing environmental hazards due to capping of the site.

The Amusement Park and Water Park Project will require the filling of a total of 5.41 acres of tidal and non-tidal wetlands for the construction of the Project and drainage improvements (see Section 4.3.2.1). These adverse impacts will be compensated by wetlands mitigation (see Section 4.3.3). The wetlands mitigation plan for the Amusement Park and Water Park Project (i.e., the purchase of 5.41 credits from the Evergreen MRI3 Mitigation Bank) will provide a significant and positive impact on wetland resources in the region and contribute to the overall restoration of an important wetland complex along the Hackensack River.

Operation of the facilities associated with the Amusement Park and Water Park Project will require the utilization of various energy sources to heat, cool, cook, illuminate and operate the amusement park rides and water park features (see Section 4.13). Potable water will be required to service the buildings, provide make-up water for the Water Park, water the landscaping, and allow for cleaning of the facilities. The development will produce additional sanitary and solid wastes that will be disposed of offsite. All of these long-term operations of the Amusement Park and Water Park Project will increase the demand for these existing services (i.e., potable water supply, wastewater treatment, energy production, etc.) in the region.

As part of the overall redevelopment project for the Arena Site, the Amusement Park and Water Park Project will contribute to an increase in air emissions to the region (see Section 4.15). The use of energy sources to operate the Amusement Park and Water Park Project will lead to increases in stationary air emissions. The Amusement Park and Water Park Project will produce a minimal increase in traffic, which in turn will lead to a minimal increase in air quality impacts from mobile sources emissions.

Combined with the ERC building and part of the American Dream Meadowlands, the Amusement Park and Water Project will have many significant, beneficial socioeconomic impacts to the NJSEA, local region, and State. Tax revenues will provide beneficial impacts to the local region and State. Jobs to the region will be increased from the Amusement Park and Water Park Project. The Amusement Park and Water Park Project will also contribute to the continuing economic development of the Meadowlands region.

4.24 Indirect and Cumulative Impacts

The Amusement Park and Water Park Project has the potential, coupled with the redevelopment of the Arena Site, other development completed and ongoing at the Meadowlands Sports Complex, and other existing and proposed developments in the region, to have indirect and cumulative impacts on environmental resources. The impact evaluations and analyses of the redevelopment project on the Arena Site was presented in the August 2004 EIS, and considered indirect and cumulative impacts, both beneficial and adverse, for a variety of environmental and socioeconomic resources (NJSEA 2004).

For the purposes of this Supplemental EIS, this Section provides a summary of the potential indirect and cumulative impacts from the Amusement Park and Water Park Project on those environmental resources where impacts may meaningfully contribute to cumulative impacts to that resource on a regional scale.

For several environmental resources discussed below, the regional scale is the HMD where master planning and related impact analyses have been studied extensively (USEPA and USACE 1995; NJMC 2002; NJMC 2004a). For traffic and air quality, the larger region of northern New Jersey, as studied by transportation agencies, is the region considered for cumulative impacts (NJTPA 2003).

Land Use

The Amusement Park and Water Park Project provides a suitable and compatible land use as an additional component to the overall redevelopment project on the Arena Site at the Meadowlands Sports Complex (see Section 4.18). The "entertainment" proposed land use on the Radio Tower Site conforms to the NJMC Master Plan zoning designation of this property as "Sports and Exposition" (NJMC 2004a). Therefore, the Amusement Park and Water Park Project will not contribute to any potential adverse indirect impacts or cumulative impacts since it conforms to the overall land use designation as set forth by the NJMC for the HMD.

It is anticipated that the redevelopment of the Radio Tower Site will have beneficial indirect impacts on nearby lands, including the redevelopment project at the Arena Site. The NJMC-designated Paterson Plank Road Redevelopment Area will most likely be stimulated in growth as businesses develop to support the construction and operation of the Amusement Park and Water Park Project. Existing commercial businesses in the area such as warehouses are also likely to provide support services to the Amusement Park and Water Park Project.

Wetlands and Wildlife Habitat

The HMD contains approximately 8,400 acres of wetland and open water areas (USEPA and USACE 1995). Approximately 62 percent of the wetland and aquatic habitats in the HMD are dominated by common reed vegetation. The type of wetlands found on the Radio Tower Site, common reed tidal and non-tidal emergent wetlands, is the most common type of wetlands found within the HMD. Common reed wetlands are generally less valuable due to their diminished capacity to provide habitat other than along the edges, and their inherent higher elevations that decrease their interaction with the tidal waters.

The Amusement Park and Water Park Project will require the filling of approximately 5.41 acres of tidal and non-tidal emergent wetlands, which is less than one tenth of a percent of the total wetlands in the HMD. Since the type of wetlands to be lost, common reed wetlands, is regionally common and of less value than tidal wetlands dominated by native vegetation, the Amusement Park and Water Park Project would not lead to the loss of any special habitat type in the HMD that could contribute to certain cumulative impacts for sensitive wildlife species. The Meadowlands Xanadu Redevelopment Project required the filling of 7.54 acres (NJSEA 2004). Combined with the Amusement Park and Water Park Project, the overall redevelopment project at the Arena Site including the Amusement Park and Water Park has a cumulative impact of approximately 12.95 acres of wetlands/waters.

The NJMC has projected in its revised Master Plan that certain development will affect wetland resources within the HMD (NJMC 2004a). Coupled with other development and transportation improvements anticipated to occur within the HMD, the Master Plan assumes that approximately 71 acres of wetland fill will occur in the future within the HMD. At the same time, the Master Plan projects preservation of the balance of the approximately 8,400 acres of wetlands and open water in the HMD. Therefore, on a cumulative basis, the Amusement Park and Water Park Project coupled with other anticipated projects in the HMD contribute to a loss of approximately one percent of the existing wetland and open water resources in the HMD.

The loss of any wildlife habitat has the potential to fragment or reduce the value of adjacent remaining habitat. The wetlands to be impacted by the Amusement Park and Water Park Project have already been fragmented from past development activities including the original construction of the Sports Complex and roadways (i.e., New Jersey Turnpike, Paterson Plank Road, and NJ Routes 120 and 3). The wetlands remaining on the Radio Tower Site are remnants of the historical tidal wetland system that has been reduced and reconfigured from previous human activities, as well as isolated wetland pockets that formed on previously filled areas. The filling of additional wetlands for the development of the Amusement Park and Water Park Project will eliminate wetland areas already isolated and fragmented from the major wetland complexes along the Hackensack River. Therefore, the loss of these wetlands will not contribute to any additional fragmentation of existing wetland resources in the region.

The proposed wetland mitigation plan for the Amusement Park and Water Park Project will contribute to the overall restoration of a major wetland complex associated with the Hackensack River.

Flooding

The Amusement Park and Water Park Project will result in the filling of approximately 13 acres of tidally influenced floodplain associated with the unnamed tributary to the Hackensack River. This reduction in floodplain area has the potential to impact adjacent areas that may use this area to store floodwaters. However, since the floodplain is a tidal flooding area, the loss of this flood storage area is minor compared to the large storage volume offered by the adjacent Hackensack River system and thus results in a relatively minor loss of floodplain.

Traffic

A Traffic Impact Assessment was prepared in 2011 to examine the potential for additional traffic that might result with the addition of the Amusement Park and Water Park Project to the overall redevelopment project at the Arena Site (TRC Engineers 2011) (see Section 4.14). The study concluded that the Amusement Park and Water Park Project would not result in a significant increase in traffic and would not have any adverse impacts on the roadways near the project area. This study was submitted to NJDOT in support of a Highway Access Permit Application and reviewed by the NJDOT. The NJDOT issued a Major Access Permit on March 2014 for the Project, confirming that the traffic from the Amusement Park and Water Park will not generate a significant increase in traffic. As a result of the anticipated increase in mass transit and other factors, vehicular traffic should be further reduced below those projected in the TIA.

Air Quality

On a regional scale, the HMD is part of the Northern New Jersey planning region that is overseen by the NJTPA (see Section 4.15). The Amusement Park and Water Park Project will contribute to air emissions in the region from both stationary and mobile sources. The NJTPA is the MPO responsible for determining air quality conformity throughout the region. As discussed in the August 2004 EIS, the original redevelopment project at the Arena Site was included in a conforming TIP as a regionally significant non-federally funded project in 2004. The addition of the Amusement Park and Water Park Project will not require any addition roadway improvements. The 2011 Traffic Impact Assessment concluded that traffic increases from the Amusement Park and Water Park would be minimal. Therefore, the Amusement Park and Water Park should also be conforming and should not contribute to any significant cumulative air quality impacts to the region.


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5.0 PERMITS AND APPROVALS REQUIRED

5.1 Overview

The Meadowlands Sports Complex is located within the boundaries of the Hackensack Meadowlands District, a land area encompassing portions of 14 different municipalities that is subject to specific state legislation that governs its development through the New Jersey Meadowlands Commission (NJMC), formerly known as the Hackensack Meadowlands Development Commission (HMDC). The Meadowlands Sports Complex, however, is exempted from the Hackensack Meadowlands District legislation by the statute governing the creation and operation of the NJSEA (*N.J.S.A. 5:10-1 et seq.*). Under Section 5(x) of this statute, the NJSEA may determine the location, type and character of a project or any part thereof and all other matters in connection with all or any part of the project, notwithstanding any land use plan, zoning regulation, building code or similar regulation adopted by the State, any municipality, county, public body politic and corporate, including but not limited to the Meadowlands Commission, or any other political subdivision of the State. This exemption applies to the redevelopment of the Radio Tower Site because the NJSEA will take ownership to the land and make the property part of the Meadowlands Sports Complex.

The NJSEA's enabling legislation, however, does require it to consult with the NJMC and the New Jersey Department of Environmental Protection (NJDEP) "with respect to the ecological factors constituting the environment of the Hackensack meadowlands to the end that the delicate environmental balance of the Hackensack meadowlands may be maintained and preserved" (*N.J.S.A. 5:10-23).* A Final Environmental Impact Statement (EIS) was prepared in August 2004 for the proposed redevelopment of the Arena Site with the Meadowlands Xanadu Redevelopment Project to facilitate the goal of NJSEA's consultation process with the NJMC and NJDEP, and meet the scope and intent of the New Jersey Executive Order No. 215 EIS process. This Supplemental EIS was prepared to address the addition of the Amusement Park and Water Park to the redevelopment project at the Arena Site and inclusion of the Radio Tower Site to the Meadowlands Sports Complex.

As part of the Consultation Process, a Public Hearing was conducted on November 15 and 16, 2011 by the NJMC and the NJDEP, where the Amusement Park and Water Park Project October 2011 Draft Supplemental EIS was presented for public comment and review by both agencies, as provided for by the applicable statutory requirements. Topics presented in the Draft Supplemental EIS in support of the consultation process were the same topics presented in the August 2004 EIS, and included purpose and need, alternatives and a wide array of environmental, socioeconomic and cultural conditions and impacts, as well as proposed mitigation measures. This Final Supplemental EIS was prepared by Triple Five for the NJSEA to address comments received on the Draft Supplemental EIS. This Final Supplemental EIS is

being submitted to the NJMC and NJDEP hearing officers who will prepare a report with recommendations for the Amusement Park and Water Park Project. More detail about NJSEA's consultation process is provided in Section 6.0.

The Amusement Park and Water Park Project also requires a number of Federal, State and regional permits, approvals and certifications. Section 5.2 provides a brief history of previous approvals obtained for projects on the Meadowlands Sports Complex and the construction of the Meadowlands Xanadu Redevelopment Project. Section 5.3 discusses the material permits and approvals for the Amusement Park and Water Park Project.

5.2 Previous Approvals

The planning and construction of the Meadowlands Sports Complex was performed primarily in the 1970s (Jack McCormick and Associates 1978). Giants Stadium and Meadowlands Racetrack were completed in 1976 and the Arena was completed in 1981. In the past several years a new stadium (now called MetLife Stadium) was built and the old Giants Stadium demolished. The New York Football Giants constructed a new training facility (now called Timex Performance Center) in the western portion of the Meadowlands Sports Complex. A new rail station and rail line has been constructed on the West Side of the Meadowlands Sports Complex. The ERC building and associated parking decks associated with Phase I and Phase II of the Meadowlands Xanadu Redevelopment Project have been substantially constructed on the Arena Site (i.e., East Side of Meadowlands Sports Complex).

The development of the Meadowlands Sports Complex in the 1970s required a number of regulatory reviews, permits, and approvals. Consultations were undertaken by the NJSEA with the NJMC and NJDEP in accordance with the NJSEA enabling legislation. The first consultation process occurred in 1972 for the selection of the overall Sports Complex site in the Hackensack Meadowlands and for the first phase of construction of the Sports Complex (HMDC and NJDEP 1972). That first phase included Giants Stadium and Meadowlands Racetrack, as well as parking for 20,000 cars and 400 buses. The second consultation process occurred in 1978, after the NJSEA announced its intention to build an indoor multi-purpose arena (HMDC and NJDEP 1978). At the conclusion of each of these two consultation processes, a Hearing Officers' Report that provided recommendations concerning the proposed Meadowlands Sports Complex facilities was issued and approved by the NJMC and the NJDEP (HMDC and NJDEP 1972; HMDC and NJDEP 1978). Subsequently, additional consultations have occurred for the Meadowlands Xanadu Redevelopment Project, Meadowlands Railroad and Roadway Improvement Project, the New Meadowlands Stadium Project, and the Meadowlands Racetrack Clubhouse.

The Meadowlands Xanadu Redevelopment Project required a number of federal, state and regional permits and approvals. Some of the permits and approvals obtained for the construction of the Meadowlands Xanadu Redevelopment Project include:

- U.S. Army Corps of Engineers Department of the Army Permit
- FAA Hazard To Air Navigation Approvals
- NJDEP Land Use Regulation Permits
- NJDEP Treatment Works Approval
- NJDEP Water Main Extension Certification
- NJDEP Approval of Remedial Action Workplan
- NJDOT Major Access Permit

5.3 Required Regulatory Approvals

The requirement for NJSEA to consult with the NJMC and NJDEP concerning potential impacts to the ecological balance of the Hackensack Meadowlands, as well as the preparation of this Supplemental EIS to facilitate this consultation process for the review of the Amusement Park and Water Park Project, was discussed previously in Section 5.1. Separate and apart from the NJSEA's consultation process, the proposed Amusement Park and Water Park Project will be required to be reviewed under separate permit and approval processes. This section discusses each of the required regulatory approvals for the Amusement Park and Water Park Project.

Additional permits to those listed and discussed below may also be required for construction and operation of the Amusement Park and Water Park Project. For instance, air permits may be required from the NJDEP for the operation of any significant stationary sources associated with the project such as emergency generators. These permits, as necessary, will be applied for in the future.

5.3.1 Department of the Army Permit

Under Section 10 of the Rivers and Harbors Act and Section 404(b)(1) of the Clean Water Act, the proposed filling of wetlands for construction of the Amusement Park and Water Park Project will require a Department of the Army permit from the USACE. Due to the estimated 5.41 acres of wetlands fill impacts associated with the Amusement Park and Water Park Project, an individual wetlands permit will be required. As part of the USACE review process, several other Federal regulatory agencies, including the USEPA, U.S. Fish and Wildlife Service (USFWS), and National Marine Fisheries Service (NMFS) are expected to provide comments to the USACE on the permit application. A permit application was submitted to the USACE on October 11, 2011 (Langan 2011b). A public notice for the Project was issued on October 14, 2011. Public hearings for the USACE permit process were held on November 15 and 16, 2011.

As part of its review of the permit application, the USACE is expected to prepare an Environmental Assessment (EA) in accordance with the Council on Environmental Quality's (CEQ) regulations implementing NEPA (40 CFR Part 1500-1508) and USACE's regulations for NEPA implementation (see 33 CFR Parts 230 through 325). In addition, the USACE will perform an evaluation of the Amusement Park and Water Park Project under the Section 404(b)(1) Guidelines as part of its permit application review process.

5.3.2 Jurisdictional Determination

As a prelude to the Department of the Army permit, a request for a USACE Jurisdictional Determination (JD) to confirm the extent of waters of the United States (i.e., wetlands and waters) within the Radio Tower Site was submitted to the USACE by the Developer on August 1, 2011 (Langan 2011a). A field visit by the USACE was performed on August 12, 2011. The USACE issued a JD letter dated September 30, 2011 confirming the extent of regulated waters of the United States within the Radio Tower Site (see correspondence in Appendix A).

A request to revise the Jurisdictional Determination was submitted to the USACE for their review and approval on December 8, 2011 to include a section of the Turnpike right-of-way where drainage improvements are proposed as part of the Amusement Park and Water Park Project.

5.3.3 Water Quality Certification

Under Section 401 of the Federal Clean Water Act and in accordance with the State Water Pollution Control Act, a Water Quality Certificate (WQC) is required from the State of New Jersey for the proposed discharge of fill to waters of the State (i.e., filling of wetlands). This approval is required as part of and prior to the USACE issuance of a Department of the Army permit. A multi-permit application, including a WQC request, was submitted to the NJDEP Division of Land Use Regulation on December 29, 2011.

5.3.4 Waterfront Development Permit

Under the Waterfront Development regulations (N.J.A.C. 7:7-1.1 et seq.), a Waterfront Development Permit is required for development activities at and below the mean high water line. Since a portion of the drainage area improvements proposed as part of the Amusement Park and Water Park Project will be performed in areas at and below the mean high water line, compliance with these regulations is required. A multi-permit application, including a Waterfront Development permit, was submitted to the NJDEP Division of Regulation on December 29, 2011.

5.3.5 Tidelands Conveyance

A tidelands, or riparian, conveyance instrument will not be required for the Amusement Park and Water Park Project since a series of tidelands grant have been issued by the State of New Jersey for the Radio Tower Site and Turnpike right-of-way where Amusement Park and Water Park Project activities are proposed (see Section 4.6 for further discussion).

5.3.6 Flood Hazard Area Permit

Under the Flood Hazard Area Control Act regulations (N.J.A.C. 7:7-1.1 et seq.), a Flood Hazard Area permit is required for development activities in floodplains, floodways and associated riparian zones. Portions of the Amusement Park and Water Park Project will be performed within areas designated as tidally influenced floodplains, tidal floodways and riparian zones (see Section 4.5.2). A multi-permit application, including a Flood Hazard Area permit, was submitted to the NJDEP Division of Land Use Regulation on December 29, 2011. The application also included a request for a Flood Hazard Area Verification.

5.3.7 Coastal Zone Management Consistency Determination

Under the Federal Coastal Zone Management Act, a Coastal Zone Management Consistency Determination (CZMCD) is required from the State for any development activities in the Coastal Zone requiring a Federal permit. Given the need to obtain a Department of the Army permit from the USACE for the Amusement Park and Water Park Project, CZMCD approval is also required as part of, and prior to, the USACE issuance of a permit. A multi-permit application, including a request for CZMCD, was submitted to the NJDEP Division of Land Use Regulation on December 29, 2011.

5.3.8 Treatment Works Approval

Under Section 402 of the Federal Clean Water Act, a permit is required for discharges to surface waters of the State. Presently, wastewaters from the Arena and ERC building utilize existing approved infrastructure components, such as sewer lines and a pumping station, which discharge to the East Rutherford pump station, located northwest of the Meadowlands Racetrack. The East Rutherford pump station conveys sewerage to the Bergen County Utilities Authority (BCUA) wastewater plant in Little Ferry, New Jersey. Additional wastewater conveyance systems will be required for the Amusement Park and Water Park Project.

The NJDEP Treatment Works Approval (TWA) regulations specifically address sanitary sewer systems and their associated discharges. Sewerage infrastructure improvements will be required on the Radio Tower Site and Arena Site to accommodate the flows from the

Amusement Park and Water Park Project. A TWA permit will be required from the NJDEP for improvements, modifications and/or additions to the existing sewer infrastructure on the Arena Site and additional flows from the Amusement Park and Water Park Project. The TWA application was submitted to the NJDEP on February 28, 2012. Endorsements from East Rutherford and BCUA will be required as part of completing the TWA application. The Amusement Park and Water Park Project is situated within a designated service area for the BCUA Little Ferry facility (see Section 4.13.1.2). Therefore, the Amusement Park and Water Park Project is within the acceptable service area, and no amendment will be required to the existing Area-wide Water Quality Management Plan.

5.3.9 Water Main Extension Certification

Under the State's water supply laws, certification of plans for the construction of new water main extensions is required. A Water Main Extension Certification application will not be required for improvements, modifications and/or additions to the existing potable water infrastructure for the Amusement Park and Water Park Project, as the additional flows required for the Project are covered under the 2012 United Water Master Permit.

5.3.10 National Pollutant Discharge Elimination System Permit

Under the New Jersey Water Pollution Control Act, a New Jersey Pollutant Discharge Elimination System Permit (NJPDES) is required for discharges into surface waters of the State. The Amusement Park and Water Park will require a NJPDES Construction Stormwater General Permit for the construction phase of the Amusement Park and Water Park Project. A Stormwater Pollution Prevention Plan (SPPP) will be prepared as part of this Construction Stormwater General Permit. A separate NJPDES permit may be required for construction dewatering discharges to surface water depending on the method of dewatering selected by the contractor.

5.3.11 Remedial Action Workplan

Based on the results of recent investigations including the Preliminary Assessment Report (Appendix B of the DSEIS) and the Site Investigation Report (Appendix C of the DSIES) for the Amusement Park and Water Park Project, soil, groundwater, and sediments within the Radio Tower Site have been determined to have contaminant concentrations above certain defined regulatory levels (Langan 2011c and Langan 2011d). Since the construction of the Amusement Park and Water Park Project will include the disturbance of contaminated media, a Licensed Site Remediation Professional (LSRP) will be overseeing the investigation and remedial actions necessary in accordance with the New Jersey Site Remediation Reform Act, N.J.S.A. 58:10C-1 et seq. (SRRA) and other applicable law. A Remedial Action Workplan (RAW), including a Soil

Reuse Plan (SRP), and Health and Safety Plan was prepared by the LSRP (Appendix E)(Langan 2011h). The remedial investigation documents prepared by the LSRP will be submitted to the NJDEP Site Remediation Program.

5.3.12 Soil Erosion and Sediment Control Plan Certification

In conformance with the Soil Erosion and Control Act of 1975, an application for Soil Erosion and Sediment Control Plan Certification will be submitted to the Bergen County Soil Conservation District prior to the start of construction.

5.3.13 New Jersey Uniform Construction Code Plan Approval

The design of the Amusement Park and Water Park structures will have to conform to the New Jersey Uniform Construction Code, including the barrier free sub-code, and receive approval from the Department of Community Affairs (DCA). The Developer will submit the necessary plans and specifications to the DCA as required for a plan review under the New Jersey Uniform Construction Code.

5.3.14 NJDOT Major Access Permit

In accordance with the New Jersey Highway Management Access Code 16:47, a Major Access Permit Application was submitted to the NJDOT on October 31, 2011 to have the NJDOT review the October 2011 Traffic Impact Assessment and the potential traffic increases associated with the Amusement Park and Water Park Project. The NJDOT completed its review of the Application and issued a Major Access Permit for the Project (see the March 14, 2012 NJDOT letter and permit in Appendix A), confirming that the traffic from the Amusement Park and Water Park will not generate a significant increase in traffic.


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6.0 PUBLIC PARTICIPATION & STATUTORY CONSULTATION

6.1 Statutory Consultation Requirement / Executive Order No. 215

Section 5:10-23 of the New Jersey Statutes Annotated requires the NJSEA, when undertaking projects, to consult with the New Jersey Meadowlands Commission (NJMC) and the New Jersey Department of Environmental Protection (NJDEP) with respect to ecological factors constituting the environment of the Hackensack Meadowlands, to the end that the delicate environmental balance of the Hackensack Meadowlands may be maintained and preserved. In addition, Section 5:10-5(x) requires the NJSEA to consult with the NJMC with respect to the project location, type and use.

The procedures for consulting with the NJMC and NJDEP pursuant to N.J.S.A. 5:10-5(x) and 23 were established by the New Jersey Supreme Court decision in New Jersey Sports and Exposition Authority v. McCrane, et al., 61 N.J. 1 (1972) made during the NJSEA's original site selection for the Sports Complex in the Meadowlands. The Court held that private consultation between the NJSEA, the NJDEP and the NJMC (formerly known as the Hackensack Meadowlands Development Commission, or the HMDC) on the Sports Complex project was not alone sufficient to fulfill the statutory consultation requirement and should be supplemented to include a public hearing at which all interested parties should be entitled to present their views. The Court also held that the hearing would be legislative in nature; the presentation could be made to both agencies at the same time; and a full record of the hearing should be made on which any further review would be based. New Jersey Sports and Exposition Authority v. McCrane, 61 N.J. 1 (1972).

A public hearing was held in 1972 at which an environmental impact statement was presented by the NJSEA to hearing officers appointed by the NJMC and the NJDEP, and public comments were received and considered by the hearing officers. The hearing officers then prepared their report and recommendations which were approved by the NJMC and the NJDEP. This consultation process was upheld by the New Jersey Supreme Court. Matter of Sports Complex in the Hackensack Meadowland, 62 N.J. 248 (1973).

In 1978, another public hearing was held as part of the consultation process for the development of the Arena Site before hearing officers appointed by the NJMC and the NJDEP. The NJSEA presented an environmental impact statement to the hearing officers. Public comments were received and considered by the hearing officers. The hearing officers then prepared their report and recommendations which were approved by the NJMC and the NJDEP. Among their findings, the hearing officers concluded that the consultation process had

the effect of fulfilling the requirements of Executive Order No. 53, an environmental process related to State actions at that time.

Executive Order 215 ("EO 215"), which was signed by Governor Kean on September 11, 1989, rescinded and replaced Executive Order No. 53. EO 215 provides that all departments, agencies and authorities of the State shall prepare and submit to the NJDEP an environmental assessment (EA) or environmental impact statement (EIS) in support of major construction projects. The NJSEA's enabling legislation contains provisions which appear to exempt it from EO 215. Further, EO 215 does not require any public comment or hearing on the EIS, but rather, only requires review by the NJDEP.

The consultation process with the NJMC and the NJDEP required by N.J.S.A. 5:10-5(x) and 23 includes a public hearing. Thus, the NJSEA determined that for the Amusement Park and Water Park, which will become part of the overall redevelopment plan for the Arena Site, a Draft Supplemental EIS to the original August 2004 EIS would be prepared consistent with EO 215.

A Draft Supplemental EIS was prepared by Triple Five and the NJSEA in October 2011 and submitted to the NJDEP and NJMC on October 25, 2011. The Draft Supplemental EIS was the subject of a public comment period from October 25, 2011 through January 18, 2012. Public hearings were held on November 15 and 16, 2011. After the close of the public comment period for the Draft Supplemental EIS, the NJSEA and Triple Five completed this Final Supplemental EIS, which addresses the comments received during the comment period. The Final Supplemental EIS will be submitted to the NJDEP and NJMC hearing officers and made available to the public as described in Section 6.4. After receipt and review of the Final Supplemental EIS, the hearing officers will issue their report and recommendations. Upon completion of the consultation process, the NJSEA and Triple Five will request that the hearing officers find that the consultation process has the effect of fulfilling the requirements of N.J.S.A. 5:10-5(x) and 5:10-23 and EO 215.

6.2 Permits

The Developer has applied or will apply for permits required for the Amusement Park and Water Park Project from federal and state governmental agencies. Each permit application has its own separate procedures which may or may not include a public hearing separate and apart from the consultation process with the NJMC and the NJDEP. Further details about the permit requirements of these governmental agencies and the status of each permit application process as it relates to the Amusement Park and Water Park Project appears in Section 5.0.

6.3 Consultation Schedule for the Amusement Park and Water Park Project

The NJSEA and the Developer began the consultation process for the Amusement Park and Water Park Project by meeting with the NJMC and the NJDEP to discuss the procedures and schedule for public hearings and preparation of the Draft Supplemental EIS.

The NJSEA and Triple Five prepared a Draft Supplemental EIS for the Amusement Park and Water Park Project, which was submitted to the NJMC and the NJDEP and made available to the public in October 2011. An overview of the Amusement Park and Water Park Project and the Draft Supplemental EIS was presented to the Hearing Officers at public hearings held on November 15 and 16, 2011. Oral and written comments on the Draft Supplemental EIS were received by the Hearing Officers at the public hearings. In addition, written comments on the Draft Supplemental EIS were accepted through January 18, 2012. After the close of the public comment period for the Draft Supplemental EIS, the NJSEA and Triple Five completed the Final Supplemental EIS. Comments on the Draft Supplemental EIS received during the public comment period and responses to these comments are provided in Appendix F of this document.

This Final Supplemental EIS is being submitted to the NJMC and the NJDEP and will be available for public review at the locations listed in Section 6.4. Copies of the Final Supplemental EIS will be made available to the public in April 2012, and public comments can be provided to the Hearing Officers 30 days after publication of the Final Supplemental EIS.

After receipt and review of the Final Supplemental EIS, the hearing officers will prepare their report and recommendations which will be submitted to the NJMC and the NJDEP for approval. The Hearing Officers Report and Recommendations will be made available for public review at the locations listed above on or about May 14, 2012. If not completed by that date, they will be made available as soon as practicable thereafter. The NJSEA and Triple Five will consider the report and recommendations in the planning, construction and operation of the Amusement Park and Water Park Project.

6.4 Libraries Where This Final Supplemental EIS Is Available

In addition to copies available at the NJMC Library, the offices of the NJSEA, and the website, this Final Supplemental EIS is available for public review at the following municipal libraries serving the Hackensack Meadowlands District:

Wm. E. Dermody Public Library
420 Hackensack Street
Carlstadt, N.J. 07072

East Rutherford Memorial Library
143 Boiling Springs Avenue
East Rutherford, N.J. 07073

Jersey City Public Library
472 Jersey Avenue
Jersey City, N.J. 07302

Kearny Public Library
318 Kearny Avenue
Kearny, N.J. 07032

Little Ferry Public Library
239 Liberty Street
Little Ferry, N.J. 07643

Lyndhurst Library
355 Valley Brook Avenue
Lyndhurst, N.J. 07071

North Arlington Public Library
210 Ridge Road
North Arlington, N.J. 07032

North Bergen Free Public Library
8411 Bergenline Avenue
North Bergen, N.J. 07047

Ridgefield Free Public Library
725 Slocum Avenue
Ridgefield, N.J. 07657

Rutherford Public Library
150 Park Avenue
Rutherford, N.J. 07070

Secaucus Public Library
1379 Paterson Plank Road
Secaucus, N.J. 07094

For Moonachie, South Hackensack and Teterboro:

Johnson Public Library
274 Main Street
Hackensack, N.J. 07601

Wood-Ridge Memorial Library
231 Hackensack Street
Wood-Ridge, N.J. 07075

For further information on how and where to access copies of the complete Final Supplemental EIS document, please check the NJSEA's website at www.njsea.com.


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7.0 LIST OF ACRONYMS

ADM	American Dream Meadowlands
AOC	Area of Concern
APE	Area of Potential Effect
BCUA	Bergen County Utilities Authority
BMP	Best Management Practices
CAA	Clean Air Act
CEA	Classification Exception Area
cfs	cubic feet per second
CIWMB	California Integrated Waste Management Board
CO	Carbon Monoxide
CSO	Combined Sewer Overflow
dB	Decibel
dBA	A-Weighted Decibel
DCA	Department of Community Affairs
DDD	Dichlorodiphenyldichloroethane
DDE	Dichlorodiphenyldichloroethylene
DDT	Dichlorodiphenyltrichloroethane
DLUR	Division of Land Use Regulation
DSEIS	Draft Supplemental Environmental Impact Statement
E2EM	Estuarine Intertidal Emergent Marsh
DO	Dissolved Oxygen
EFH	Essential Fish Habitat
EIFS	Engineered Insulated Finish Surfaces
EIS	Environmental Impact Statement
EMS	Emergency Medical Services
EPH	Extractable petroleum hydrocarbons
EPTM	Event Parking and Transportation Management
ERC	Entertainment/Retail Component
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FSEIS	Final Supplemental Environmental Impact Statement
FTA	Federal Transit Administration
gpd	Gallons per Day
gpm	Gallons per Minute
GWQC	Ground Water Quality Criteria
HASP	Health and Safety Plan
HC	Hydrocarbons Compounds
HMD	Hackensack Meadowlands District
HMDC	Hackensack Meadowlands Development Commission
HVAC	Heating, Ventilation, and Air Conditioning Systems
Hz	Hertz
IGW	Impact to Groundwater
ITE	Institute of Transportation Engineers
JD	Jurisdictional Determination

L_{dn}	Day-Night Noise Level
L_{eq}	Equivalent Sound Level
LEED	Leadership in Energy and Environmental Design
LURP	Land Use Regulation Program
LSRP	Licensed Site Remediation Professional
L_x	Statistical Sound Level
mgd	Millions of Gallons per Day
mg/l	Milligrams per Liter
MOA	Memorandum of Agreement
MPO	Metropolitan Planning Organizations
MTA	Metropolitan Transportation Authority
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NFL	National Football League
NGVD	National Geodetic Vertical Datum
NHP	National Heritage Program
NJDEP	New Jersey Department of Environmental Protection
NJDOT	New Jersey Department of Transportation
NJMC	New Jersey Meadowlands Commission
NJPDES	New Jersey Pollutant Discharge Elimination System
NJSEA	New Jersey Sports and Exposition Authority
NJT	NJ Transit
NJTA	New Jersey Turnpike Authority
NJTPA	New Jersey Transportation Planning Authority
NMFS	National Marine Fisheries Service
NO	Nitric Oxide
NO_2	Nitrogen Dioxide
NO_X	Nitrogen Oxides
NOAA	National Oceanographic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NRDCSCC	Non-Residential Direct Contact Soil Clean-Up Criteria
NRHP	National Register of Historical Places
O_3	Ozone
OSHA	Occupational Safety and Health Administration
PABT	Port Authority Bus Terminal
PAR	Preliminary Assessment Report
PAH	Polynuclear Aromatic Hydrocarbons
PANYNJ	Port Authority of New York and New Jersey
PAMP	Perimeter Air Monitoring Plan
Pb	Lead
PCBs	Polychlorinated Biphenyl Compounds
PILOT	Payments in Lieu of Taxes
PM	Particulate Matter
PEM	Palustrine Emergent Marsh
POW	Palustrine Open Water
ppm	parts per million
ppt	parts per thousand

PSEG	Public Service Enterprise Group
PSE&G	Public Service Electric & Gas Company
psi	Per Square Inch
RAW	Remedial Action Workplan
RCP	Reinforced Concrete Pipe
RCRA	Resource Conservation and Recovery Act
RDSCC	Residential Direct Contact Soil Clean-Up Criteria
RIR	Remedial Investigation Report
RFP	Request for Proposal
RONA	Record of Non-Applicability
RTP	Regulatory Transportation Planning
SAMP	Special Area Management Plan
SCD	Soil Conservation District
SE-2	NJDEP classification "estuarine" waters
SEIS	Supplemental Environmental Impact Statement
SESC	Soil Erosion and Sediment Control
SF	Square Feet
SHPO	State Historic Preservation Office
SIR	Site Investigation Report
SIP	State Implementation Plan
SRP	Soil Reuse Plan
SRS	Site Remediation Standards
SO_2	Sulfur Dioxide
SU	Standard Units
SVOC	Semi-Volatile Organic Compound
SWPP	Stormwater Pollution Prevention Plan
TIA	Traffic Impact Assessment
TIP	Transportation Improvement Program
TIS	Traffic Impact Study
TPHC	Total Petroleum Hydrocarbons
TSP	Total Suspended Particulates
TTMP	Traffic and Transportation Management Program
TWA	Treatment Works Approval
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USDOI	United States Department of the Interior
USDOT	United States Department of Transportation
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UWNJ	United Water New Jersey
VOC	volatile organic compound
WMA	Watershed Management Area
WQC	Water Quality Certificate


ENTERTAINMENT / RETAIL
PARKING DECK "A"
PARKING DECK "BCD"
IZOD CENTER
ENTERTAINMENT / RETAIL
PARKING DECK "E"
ENTERTAINMENT RETAIL
AMUSEMENT PARK
WATER PARK

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ENTERTAINMENT / RETAIL
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AMUSEMENT PARK
WATER PARK

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APPENDIX A

AGENCY CORRESPONDENCE

Appendix A

AGENCY CORRESPONDENCE

AMUSEMENT PARK AND WATER PARK
AMERICAN DREAM MEADOWLANDS
FINAL SUPPLEMENTAL EIS

1. Letter from NJDEP Division of Parks and Forestry, Natural Heritage Program, dated August 29, 2011.

2. E-mail from Megan Brunatti, American Dream Permit Readiness Checklist – NJDEP Program Comments, dated July 25, 2011.

3. Letter from United States Department of Commerce (NOAA), National Marine Fisheries Service, dated September 18, 2011.

4. Jurisdictional Determination Letter from USACE New York District, dated September 30, 2011.

5. US Army Corps of Engineers New York District Public Notice, dated October 14, 2011.

6. Letter from New Jersey Turnpike Authority, dated November 07, 2011.

7. Determination from NJ State Historic Preservation Office, dated November 09, 2011.

8. Letter from U.S. Army Corps of Engineers, dated December 21, 2011.

9. Letter from New Jersey Department of Environmental Protection, dated January 24, 2012.

10. Letter from New Jersey Department of Transportation, dated March 14, 2012.

State of New Jersey

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

DEPARTMENT OF ENVIRONMENTAL PROTECTION
Division of Parks and Forestry
Mail Code 501-04
ONLM -Natural Heritage Program
P.O. Box 420
Trenton, NJ 08625-0420
Tel. #609-984-1339
Fax. #609-984-1427

BOB MARTIN
Commissioner

August 29, 2011

David Charette
Langan Engineering and Environmental Services, Inc.
River Drive Center 1
Elmwood Park, NJ 07407

Re: American Dream Meadowlands (Block 107.02, Lot 3)

Dear Mr. Charette:

Thank you for your data request regarding rare species information for the above referenced project site in East Rutherford Borough, Bergen County.

Searches of the Natural Heritage Database and the Landscape Project (Version 3 for the highlands region, Version 2.1 elsewhere) are based on a representation of the boundaries of your project site in our Geographic Information System (GIS). We make every effort to accurately transfer your project bounds from the topographic map(s) submitted with the Request for Data into our Geographic Information System. We do not typically verify that your project bounds are accurate, or check them against other sources.

We have checked the Natural Heritage Database and the Landscape Project habitat mapping for occurrences of any rare wildlife species or wildlife habitat on the referenced site. Please see Table 1 for species list and conservation status.

Table 1 (on referenced site).

Common Name	Scientific Name	Federal Status	State Status	Grank	Srank
glossy ibis	*Plegadis falcinellus*		SC/S	G5	S3B,S4N
northern harrier	*Circus cyaneus*		E/SC	G5	S1B,S3N
snowy egret	*Egretta thula*		SC/S	G5	S3B,S4N
yellow-crowned night-heron	*Nyctanassa violacea*		T/T	G5	S2B,S2N

Neither the Natural Heritage Database nor the Landscape Project has records for any additional rare wildlife species or wildlife habitat within 1/4 mile of the referenced site.

We have also checked the Natural Heritage Database for occurrences of rare plant species or ecological communities. The Natural Heritage Database does not have any records for rare plants or ecological communities on or within 1/4 mile of the site.

A list of rare plant species and ecological communities that have been documented from Bergen County can be downloaded from http://www.state.nj.us/dep/parksandforests/natural/heritage/countylist.html. If suitable habitat is present at the project site, the species in that list have potential to be present.

Status and rank codes used in the tables and lists are defined in EXPLANATION OF CODES USED IN NATURAL HERITAGE REPORTS, which can be downloaded from http://www.state.nj.us/dep/parksandforests/natural/heritage/nhpcodes_2008.pdf.

If you have questions concerning the wildlife records or wildlife species mentioned in this response, we recommend that you visit the interactive I-Map-NJ website at the following URL, http://www.state.nj.us/dep/gis/depsplash.htm or contact the Division of Fish and Wildlife, Endangered and Nongame Species Program at (609) 292 9400.

PLEASE SEE 'CAUTIONS AND RESTRICTIONS ON NHP DATA', which can be downloaded from http://www.state.nj.us/dep/parksandforests/natural/heritage/newcaution2008.pdf.

Thank you for consulting the Natural Heritage Program. The attached invoice details the payment due for processing this data request. Feel free to contact us again regarding any future data requests.

Sincerely,

Robert J. Cartica
Administrator

c: NHP File No. 11-4007471-7989

Kelly McCormick

Subject: American Dream Permit Readiness Checklist - Program Comments

From: Megan Brunatti [mailto:Megan.Brunatti@dep.state.nj.us]
Sent: Monday, July 25, 2011 3:20 PM
To: Dave Charette
Cc: Ruth Foster; Scott Brubaker
Subject: American Dream Permit Readiness Checklist - Program Comments

Dave,

The Office of Permit Coordination and Environmental Review received your Permit Readiness Checklist along with detailed narrative and maps. We forwarded your documentation to the appropriate DEP programs for review and comments. You will find a summary of comments provided by several DEP program representatives below. The DEP program name, contact person and contact information has been provided for your convenience.

Office of Land Use Planning- Meghan Gosselink (609)777-0586
As proposed, this project is Consistent with the current BCUA Wastewater Management Plan.

The Division of Fish & Wildlife (DFW)- Kelly Davis (908)236-2118
The following comments address the Amusement and Water Park aspects of this project. The DFW would not expect any further issues where construction has already occurred.

Fisheries Concerns:
All or parts of the water bodies contained within this project area are considered to be within an **anadromous species migration corridor**.
In order to protect the **anadromous species** spawning run in this area, a timing restriction from **March 15 through June 30** is needed on any activities which would generate sediment or sediment plumes in these water bodies.

Landscape Mapping:
Species Occurrence Area mapping indicates **threatened / endangered (T / E)** and *species of concern* in the area.

Yellow-crown Night-heron
Great Blue Heron
Glossy Ibis
Snowy Egret

Landscape Mapping includes habitat patches of emergent wetland valued for Yellow-crown Night-heron and forested wetland patches. Loss of these habitats may require mitigation.

Safe Drinking Water Permitting- Steven Pudney (609) 984-6831
In reviewing the information associated with the Xanadu development. A water main extension permit WCP040002 was issued June 25th 2004 for this development in particular for "300 L.F. of 12 & 16-inch

CLDIP off-site water main extension and 9,670 L.F. of 12 & 16-inch on-site distribution mains to serve Meadowlands Xanadu".

Due to the two Permit Extension Acts this permit does not expire until 6/26/2013 and a Construction Completion Certificate that would record the construction of and placing into service of the water mains has not yet been received. Therefore any installation of the water mains permitted under WCP040002 that have not yet been constructed can still be installed up to the 2013 expiry date.

The water demand associated with the permit WCP040002 1.954MGD has been carried forward as a previously allocated demand when evaluating subsequent permits and whether United Water has the capacity to supply.

An "additional water main permit" would be required if the additional water main construction, service connections or demands exceeds:

- A minimum of more than 30 Realty Improvements or;
- Generates a new non residential average demand of more than 12,000 gpd or;
- 3,000 ft of water main construction or;
- Includes an interconnection with another public community water system.

United Water has a Master Permit therefore any additional "water main extension permit" that would be needed would need to be included as demands in the Master Permit application that United Water needs to submit before the permit expires on **August 1st, 2011.** Separate water main extension permits are not issued to systems that have Master Permits.

According to the Deficit / Surplus table data United Water has 38.632MGD spare firm capacity, 395 MGM and 1592MGY spare allocation.

Site Remediation Program - Chris Kanakis (609) 633-1460

Regarding the ERC parcel, the RAWP was approved by NJDEP on October 22, 2004. The soil portion of the remedy essentially deals with historic fill with the exception of some confirmed non-historic fill AOCs. These areas were discovered during construction related activities and consisted of PCB impacted areas, TPH and free product, underground storage tanks, drum remnants, and groundwater contamination. All of the non-historic fill AOCs located within the unsaturated zone have been remediated. The remaining non-historic fill AOCs located within the saturated zone will be addressed via a groundwater remedy. The 25 acre MAC Cali portion of the Xanadu site also exhibits historic fill contamination and PCB contaminated soils. The PCB impacted areas within the MAC Cali portion have also been remediated.

If new non-historic fill AOCs are identified during the renewed redevelopment activities, the approved RAWP would be utilized to address these previously unidentified areas. Of course, this would not apply to areas proximate to the original Xanadu Project site but not within the project limits. **Areas outside of the original Xanadu Project site would require the appropriate initial investigation, including a PA/SI and the development of an RAWP.**

I hope you find these comments helpful. Additional program representatives will attend the pre-application meeting tomorrow to discuss their comments and provide recommendations which are applicable to their programs. I look forward to seeing you and the team tomorrow.

Megan L. Brunatti
New Jersey Department of Environmental Protection

Office of Permit Coordination & Environmental Review
401 East State Street, 7th Fl
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Mail Code: 401-07J
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Phone: (609) 292-3600
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UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Habitat Conservation Division
James J. Howard Marine
Sciences Laboratory
74 Magruder Road
Highlands, New Jersey 07732

September 18, 2011

TO: David Charette
Langan Engineering & Environmental Services
River Drive Center 1
Elmwood Park, NJ 07407

Karen Greene
(Reviewing Biologist)

SUBJECT: Species Request
American Dream Meadowlands
East Rutherford, Bergen County, NJ
Langan Project No. 100234201

We have reviewed the information provided to us regarding the above subject project. We offer the following preliminary comments pursuant to the Endangered Species Act, the Fish and Wildlife Coordination Act and the Magnuson-Stevens Fishery Conservation and Management Act:

Endangered Species Act

No threatened or endangered species under the jurisdiction of the NMFS are known to occur in the project area. As a result, further consultation by the federal action agency is not required. However should project plans change that would alter the basis for determination, or if new species or critical habitat is designated, consultation should be reinitiated.

Fish and Wildlife Coordination Act

The Hackensack River and its tributaries are migratory pathways and nursery and forage areas for anadromous fish including alewife, blueback herring, white perch, striped bass and American shad. Because landing statistics and the number of fish observed on annual spawning runs indicate a drastic decline in alewife and blueback herring populations throughout much of their range since the mid-1960's, they have been designated as species of concern by NMFS in a Federal Register Notice dated October 17, 2006 (71 FRN 61022). A wide variety of other NOAA trust resources including windowpane, winter flounder, summer flounder, bluefish, weakfish, Atlantic tomcod, mummichog, menhaden, silversides, American eel, blue crab and many others may found within these waterways.

Magnuson-Stevens Fishery Conservation and Management Act (MSA)
Essential Fish Habitat

Essential Fish Habitat (EFH) has been designated in within the mixing zone of the Hackensack River and its tributaries. If work is proposed in these areas, consultation by the lead federal action agency may be required. For a listing of EFH and further information, please go to our website at: http://www.nero.noaa.gov/hcd. The species for which EFH has been designated can be found under the Hudson-Raritan Estuary list. If you wish to discuss this further, please call 732-872-3023.

DEPARTMENT OF THE ARMY
NEW YORK DISTRICT, CORPS OF ENGINEERS
JACOB K. JAVITS FEDERAL BUILDING
NEW YORK, N.Y. 10278-0090

REPLY TO
ATTENTION OF:

Regulatory Branch September 30, 2011

SUBJECT: Permit Application File Number NAN-2011-00858-WCA by Metro Central, LLC C/o Triple Five Development, Block 172.02, Lot 3, East Rutherford, Bergen County, New Jersey

Langan Engineering and Environmental Services
C/o Mr. Michael Nevins, P.W.S.
River Drive Center 1
Elmwood Park, New Jersey 07407

Dear Mr. Nevins:

On August 1, 2011, the New York District of the U.S. Army Corps of Engineers received a request for a Department of the Army jurisdictional determination for the above referenced site. This request was made by Langan Engineering and Environmental Services, on behalf of Metro Central, LLC C/o Triple Five Development. The site, designated as Block 107.02, Lot 3, occupies approximately 21.75 acres within the Hackensack River watershed, in the Borough of East Rutherford, Bergen County, New Jersey.

In the letter received on August 1, 2011, and as part of the permit application, your office submitted a proposed delineation of the extent of waters of the United States within the project boundary. A site inspection was conducted by representatives of this office on August 12, 2011, in which it was agreed that changes would be made to the delineation and that the modified delineation would be submitted to this office. On September 2, 2011, this office received the modified delineation.

Based on the material submitted and the observations of the representatives of this office during the site visit, this site has been determined to contain jurisdictional waters of the United States based on: the presence of wetlands determined by the occurrence of hydrophytic vegetation, hydric soils and wetland hydrology according to criteria established in the 1987 "Corps of Engineers Wetlands Delineation Manual," Technical Report Y-87-1 that are either adjacent to or part of a tributary system; the presence of a defined water body (e.g. stream

channel, lake, pond, river, etc.) which is part of a tributary system; and the fact that the location includes property below the ordinary high water mark, high tide line or mean high water mark of a water body as determined by known gage data or by the presence of physical markings including, but not limited to, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter or debris or other characteristics of the surrounding area.

Based on the above, it has been determined that the drawing entitled "Wetland Delineation Plan", Drawing No. 61.01, prepared by Langan Engineering and Environmental Services, dated July 26, 2011 and last revised August 25, 2011, appears to accurately depict the extent of all waters of the United States on the subject site. This drawing indicates that there are approximately 7.36 acres of jurisdictional waters of the United States located on the subject site. These jurisdictional areas include areas A, B, D, E, X, Y, Ditch 1 and Ditch 2. Wetland A, D, E and Ditch 1 occupy approximately 3.41 acres in the southeast portion of the site. Wetland B occupies approximately 0.97 acres in the northern portion of the site. Wetland areas X and Y occupy approximately 2.8 acres within the south central portion of the site, and Ditch 2 occupies approximately 0.18 acres along the sites western boundary. An unnamed tidal tributary is situated within Wetland A and extends offsite, beneath the New Jersey Turnpike via a 96-inch diameter corrugated culvert, and discharges to the Hackensack River. The Hackensack River is a navigable waterway. These jurisdictional areas are considered to be waters of the United States and are part of a tributary system under the jurisdiction of the Corps of Engineers.

As all eight delineated areas depicted on the above referenced drawing have been determined to be waters of the United States and under the jurisdiction of the U.S. Army Corps of Engineers, the "isolated" notations on the drawing for Wetland areas X, Y, and Ditch 2 should be disregarded.

This determination regarding the delineation shall be considered valid for a period of five years from the date of this letter unless new information warrants revision of the determination before the expiration date.

SUBJECT: Permit Application File Number NAN-2011-00858-WCA by Metro Central, LLC C/o Triple Five Development, Block 172.02, Lot 3, East Rutherford, Bergen County, New Jersey

This determination was documented using the Approved Jurisdictional Determination Form, promulgated by the Corps of Engineers in June 2007. A copy of that document is enclosed with this letter, and will be posted on the New York District website at:

http://www.nan.usace.army.mil/business/buslinks/regulat/index.php?jurisdet.

This delineation/determination has been conducted to identify the limits of the Corps Clean Water Act jurisdiction for the particular site identified in this request. If you object to this determination, you may request an administrative appeal under Corps regulations at 33 CFR Part 331. Enclosed is a combined Notification of Appeal Process (NAP) and Request For Appeal (RFA) form. If you request to appeal this determination you must submit a completed RFA form to the North Atlantic Division Office at the following address:

Michael G. Vissichelli, Administrative Appeals Review Officer
North Atlantic Division, U.S. Army Engineer Division
Fort Hamilton Military Community
General Lee Avenue, Building 301
Brooklyn, New York 11252-6700

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR Park 331.5, and that it has been received by the Division Office within 60 days of the date of the NAP. Should you decide to submit an RFA form, it must be received at the above address by November 30, 2011. It is not necessary to submit an RFA form to the Division Office if you do not object to the determination in this letter.

This delineation/determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985, as amended. If you or your tenant are USDA program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service prior to starting work.

SUBJECT: Permit Application File Number NAN-2011-00858-WCA by Metro Central, LLC C/o Triple Five Development, Block 172.02, Lot 3, East Rutherford, Bergen County, New Jersey

It is strongly recommended that the development of the site be carried out in such a manner as to avoid as much as possible the discharge of dredged or fill material into the delineated waters of the United States. If the activities proposed for the site involve such discharges, authorization from this office may be necessary prior to the initiation of the proposed work. The extent of such discharge of fill will determine the level of authorization that would be required.

In order for us to better serve you, please complete our Customer Service Survey located at http://www.nan.usace.army.mil/business/buslinks/regulat/index.php?survey

If any questions should arise concerning this matter, please contact James Cannon, of my staff, at (917) 790-8412.

Sincerely,

Richard L. Tomer

Richard L. Tomer
Chief, Regulatory Branch

Enclosures

Cf: NJDEP
NJMC

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: Metro Central, LLC C/o Triple Five Development	File Number: NAN-2011-00858	Date: SEP 30 2011

Attached is:		See Section Below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of Permission)	A
	PROFFERED PERMIT (Standard Permit or Letter of Permission)	B
	PERMIT DENIAL	C
X	APPROVED JURISDICTIONAL DETERMINATION	D
	PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at http://www.usace.army.mil/CECW/Pages/reg_permit.aspx or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

•ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the New York District Engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations (JD) associated with the permit.

•OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the New York District Engineer. Your objections must be received by the New York District Engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the New York District Engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the New York District Engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit.

•ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the New York District Engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.

•APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the North Atlantic Division Engineer, ATTN: CENAD-PD-PSD-O, Fort Hamilton Military Community, Building 301, General Lee Avenue, Brooklyn, NY 11252-6700. This form must be received by the Division Engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the North Atlantic Division Engineer, ATTN: CENAD-PD-PSD-O, Fort Hamilton Military Community, Building 301, General Lee Avenue, Brooklyn, NY 11252-6700. This form must be received by the Division Engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

•ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.

•APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the North Atlantic Division Engineer within 60 days of the date of this notice with a copy furnished to the New York District Engineer.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps

district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact: Richard L. Tomer U.S. Army Corps of Engineers, New York District Jacob K. Javits Federal Building New York, NY 10278-0090 (917) 790-8510	If you only have questions regarding the appeal process you may also contact: Michael G. Vissichelli, Administrative Appeals Review Officer North Atlantic Division, U.S. Army Engineer Division Fort Hamilton Military Community General Lee Avenue, Building 301 Brooklyn, NY 11252-6700 (718) 765-7163 E-mail: Michael.G.Vissichelli@usace.army.mil

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

Signature of appellant or agent.	Date:	Telephone number:

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): 27-Sep-2011

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: New York District, NAN-2011-00856-JD1

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State :	NJ - New Jersey
County/parish/borough:	Bergen
City:	East Rutherford
Lat:	40.8
Long:	-74.07
Universal Transverse Mercator	Folder UTM List *UTM list determined by folder location* • NAD83 / UTM zone 18N Waters UTM List *UTM list determined by waters location* • NAD83 / UTM zone 18N
Name of nearest waterbody:	Unnamded tributary of the Hackensack River
Name of nearest Traditional Navigable Water (TNW):	Unnamed tributary of the Hackensack River
Name of watershed or Hydrologic Unit Code (HUC):	02030103180

Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

Check if other sites (e.g., offsite mitigation sites, disposal sites, etc¿) are associated with the action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION:

Office Determination Date:

Field Determination Date(s): 12-Aug-2011

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION

There are"navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area.

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

Explain: An unnamed tidal tributary to the Hackensack River extends from Wetland A. An unnamed tidal tributary of Cedar Creek extends from Wetland B. Cedar Creek is a tidal tributary of the Hackensack River. The Hackensack River is a navigable waterway. These unnamed tributaries which Wetland A and Wetland B abut and which allow tidal waters to flow into and from the site are Traditional Navigable Waterways pursuant to Appendix D, Legal Definition of Traditional Navigable Waters of the U.S. Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook, dated May 2007, and Title 33 Code of Federal Regulations, Part 328.3(a)(1).

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area.

1. Waters of the U.S.

a. Indicate presence of waters of U.S. in review area:[1]

Water Name	Water Type(s) Present
Wetland A, D, E and Ditch 1	Wetlands adjacent to TNWs
Wetland B	Wetlands adjacent to TNWs
Wetland X	Wetlands adjacent to TNWs
Wetland Y	Wetlands adjacent to TNWs

Unnamed tributary to the Hackensack River	TNWs, including territorial seas
Ditch 2	Wetlands adjacent to TNWs

b. Identify (estimate) size of waters of the U.S. in the review area:

Area: (m²)
Linear: (m)

c. Limits (boundaries) of jurisdiction:

based on:
OHWM Elevation: (if known)

2. Non-regulated waters/wetlands:[3]

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain:

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

1.TNW

TNW Name	Summarize rationale supporting determination:
Unnamed tributary to the Hackensack River	This unnamed tidal tributary to the Hackensack River conveys tidal waters into Wetland A to the Spring High Water elevation of 3.89 ft. NGVD29. The Hackensack River a a navigable waterway. This tributary is a Traditional Navigable Water of the U.S. pursuant to Appendix D, Legal Definition of Traditional Navigable Waters of the U.S. Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook, dated May 2007, and Title 33 Code of Federal Regulations, Part 328.3(a)(1).

2. Wetland Adjacent to TNW

Wetland Name	Summarize rationale supporting conclusion that wetland is "adjacent":
Wetland A, D, E and Ditch 1	Wetland A, D, E and Ditch 1 are all one wetland area . This wetland abuts an unnamed tidal tributary of the Hackensack River. The Hackensack River is a navigable waterway. This unnamed tributary conveys tidal waters into Wetland A to the Spring High Water elevation (3.89 ft. NGVD29).
Wetland B	Wetland B abuts an unnamed tidal tributary of Cedar Creek. Cedar Creek is a tidal tributary to the Hackensack River, a navigable waterway. This unnamed tributary conveys tidal waters into Wetland B to the Spring High Water elevation (3.89 ft. NGVD29).
Wetland X	The unnamed tidal tributary that Wetland A abuts is a traditional navigable water (TNW). Wetland X is separated from the TNW by a upland access road. Wetland X is jurisdictional under Section 404 of the Clean Water Act as it is adjacent to the unnamed tidal tributary of the Hackensack River, a TNW in accordance with Title 33 Code of Federal Regulations Part 328.3(c).
Wetland Y	The unnamed tidal tributary that Wetland A abuts is a traditional navigable water (TNW). Wetland Y is separated from the TNW by a upland access road. Wetland Y is jurisdictional under Section 404 of the Clean Water Act as it is adjacent to the unnamed tidal tributary of the Hackensack River, a TNW in accordance with Title 33 Code of Federal Regulations Part 328.3(c).
Ditch 2	The unnamed tidal tributary that Wetland A abuts is a traditional navigable water (TNW). Ditch 2 is separated from the TNW by a upland access road. Ditch 2 is jurisdictional under Section 404 of the Clean Water Act as it is adjacent to the unnamed tidal tributary of the Hackensack River, a TNW in accordance with Title 33 Code of Federal Regulations Part 328.3(c).

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:
Watershed size:
Drainage area:
Average annual rainfall: inches
Average annual snowfall: inches

(ii) Physical Characteristics
(a) Relationship with TNW:

Tributary flows directly into TNW.

Tributary flows through [ ] tributaries before entering TNW.

:Number of tributaries

Project waters are river miles from TNW.
Project waters are river miles from RPW.
Project Waters are aerial (straight) miles from TNW.
Project waters are aerial(straight) miles from RPW.

Project waters cross or serve as state boundaries.

Explain:

Identify flow route to TNW:[6]

Tributary Stream Order, if known:
Not Applicable.

(b) General Tributary Characteristics:

Tributary is:
Not Applicable.

Tributary properties with respect to top of bank (estimate):
Not Applicable.

Primary tributary substrate composition:
Not Applicable.

Tributary (conditions, stability, presence, geometry, gradient):
Not Applicable.

(c) Flow:
Not Applicable.

Surface Flow is:
Not Applicable.

Subsurface Flow:
Not Applicable.

Tributary has:
Not Applicable.

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction:

High Tide Line indicated by:
Not Applicable.

Mean High Water Mark indicated by:
Not Applicable.

(iii) Chemical Characteristics:
Characterize tributary (e.g., water color is clear, discolored, oily film; water quality;general watershed characteristics, etc.).
Not Applicable.

(iv) Biological Characteristics. Channel supports:
Not Applicable.

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:
(a) General Wetland Characteristics:

Properties:
Not Applicable.

(b) General Flow Relationship with Non-TNW:

Flow is:
Not Applicable.

Surface flow is:
Not Applicable.

Subsurface flow:
Not Applicable.

(c) Wetland Adjacency Determination with Non-TNW:
Not Applicable.

(d) Proximity (Relationship) to TNW:
Not Applicable.

(ii) Chemical Characteristics:
Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
Not Applicable.

(iii) Biological Characteristics. Wetland supports:
Not Applicable.

3. Characteristics of all wetlands adjacent to the tributary (if any):

All wetlands being considered in the cumulative analysis:
Not Applicable.

Summarize overall biological, chemical and physical functions being performed:
Not Applicable.

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Significant Nexus: Not Applicable

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE:

1. TNWs and Adjacent Wetlands:

Wetland Name	Type	Size (Linear) (m)	Size (Area) (m²)
Wetland A, D, E and Ditch 1	Wetlands adjacent to TNWs	-	13799.77896
Wetland B	Wetlands adjacent to TNWs	-	3925.45032
Wetland X	Wetlands adjacent to TNWs	-	3277.95336
Wetland Y	Wetlands adjacent to TNWs	-	8053.24344
Unnamed tributary to the Hackensack River	TNWs, including territorial seas	51.5112	-
Ditch 2	Wetlands adjacent to TNWs	-	728.43408
Total:		**51.5112**	**29784.86016**

2. RPWs that flow directly or indirectly into TNWs:

Not Applicable.

Provide estimates for jurisdictional waters in the review area:
Not Applicable.

3. Non-RPWs that flow directly or indirectly into TNWs:[8]
Not Applicable.

Provide estimates for jurisdictional waters in the review area:

Not Applicable.

4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.
Not Applicable.

Provide acreage estimates for jurisdictional wetlands in the review area:
Not Applicable.

5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs:
Not Applicable.

Provide acreage estimates for jurisdictional wetlands in the review area:
Not Applicable.

6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs:
Not Applicable.

Provide estimates for jurisdictional wetlands in the review area:
Not Applicable.

7. Impoundments of jurisdictional waters:[9]
Not Applicable.

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS:[10]
Not Applicable.

Identify water body and summarize rationale supporting determination:
Not Applicable.

Provide estimates for jurisdictional waters in the review area:
Not Applicable.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS

If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements:

Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce:

Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based soley on the "Migratory Bird Rule" (MBR):

Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (Explain):

Other (Explain):

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (ie., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment:
Not Applicable.

Provide acreage estimates for non-jurisdictional waters in the review area, that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction.
Not Applicable.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD
(listed items shall be included in case file and, where checked and requested, appropriately reference below):

Data Reviewed	Source Label	Source Description
--Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant	-	Wetland Delineation Plan, Drawing No. 61.01, prepared by Langan Engineering and Environmental Services, dated July 26, 2011 and last revised August 25, 2011
--Data sheets prepared/submitted by or on behalf of the applicant/consultant	-	Langan Engineering and Environmental Services
----Office does not concur with data sheets/delineation report	-	Based on the USACE's site investigation, those ares indicated as isolated by the applicant in their data sheets were determined to be waters of the United States under the jurisdiction of the U.S. Army Corps of Engineers.
----USGS 8 and 12 digit HUC maps	-	02030103180
--U.S. Geological Survey map (s).	-	Weehawken, NJ
--National wetlands inventory map(s).	-	Available
--State/Local wetland inventory map(s):	-	Available
--Photographs	-	Applicant's site photographs (Appendix B)
----Aerial	-	Aerial photographs, 1930, 1958, 1969, 1985, 1992, 1995-1997, and 2002
----Other	-	USACE photographs and aerial photographs, 1930, 1958, 1969, 1985, 1992, 1995-1997, and 2002
--Previous determination(s).	-	July 27, 2004
--Applicable/supporting scientific literature	-	Appendix D, Legal Definition of Traditional Navigable Waters of the U.S. Army Corps of Engineers Jurisdictional Determnation Form Instructional Guidebook, dated May 2007; Clean Water Act Jurisdictional Following the U.S. Surpreme Courts Decision in Rapanos v. United States and Carabell v. United States, dated December 2, 2008; Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403) and Section 404 of the Celan Water Act (33 U.S.C. 1344).
--Other information	-	USACE site investigation report dated August 12, 2011.

B. ADDITIONAL COMMENTS TO SUPPORT JD:
Not Applicable.

[1]-Boxes checked below shall be supported by completing the appropriate sections in Section III below.

[2]-For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

[3]-Supporting documentation is presented in Section III.F.

[4]-Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

[5]-Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

[6]-A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

[7]-Ibid.

[8]-See Footnote #3.

[9]-To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

[10]-Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

PUBLIC NOTICE

US Army Corps
of Engineers
New York District
Jacob K. Javits Federal Building
New York, N.Y. 10278-0090
ATTN: Regulatory Branch

In replying refer to:
Public Notice Number: NAN-2011-01158-WCA
Issue Date: October 14, 2011
Expiration Date: November 28, 2011

To Whom It May Concern:

The New York District, Corps of Engineers has received an application for a Department of the Army permit pursuant to Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403), and Section 404 of the Clean Water Act (33 U.S.C. 1344).

APPLICANT: Metro Central, LLC C/o Triple Five Development
60 East Broadway
Bloomington, Minnesota 55425

ACTIVITY: Discharge fill material into 5.47 acres of tidal and non-tidal waters of the United States to facilitate the construction of a commercial amusement park and water park.

WATERWAY: Unnamed Tidal Tributaries to the Hackensack River, and Cedar Creek and Associated Wetlands.

LOCATION: Borough of East Rutherford, Bergen County, New Jersey

A detailed description and plans of the applicant's activity are enclosed to assist in your review.

As part of a public hearing being held by the New Jersey Meadowlands Commission and New Jersey Department of Environmental Protection, the New York District Corps of Engineers will conduct a **PUBLIC HEARING** to gather information on this proposal to assist in the review of the permit application. The details of the hearing are as follows:

DATE: Tuesday, November 15, 2011
Wednesday, November 16, 2011

TIME: Morning Session – 10:00 am to 12:00 pm*
Evening Session – 6:00 pm to 8:00 pm *

*The public hearing sessions may end before the closing times noted above if all parties wishing to speak have done so prior to the closing times.

LOCATION: Pegasus – Meadowlands Racetrack
Meadowlands Sports Complex
East Rutherford, New Jersey

DIRECTIONS: See attached map and written directions

The United States Corps of Engineers neither favors nor opposes the proposed construction work. The purpose of this public notice and the public hearing is to afford the Corps of Engineers the opportunity to efficiently hear from the general public on the application which is before this agency, in order to acquire information which will be considered in evaluating whether to issue or deny the requested permit. The Corps of Engineers is soliciting comments from the public; federal, state and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this determination, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed below. Comments are used in the preparation of an environmental assessment pursuant to the National Environmental Policy Act (42 U.S.C 4321 et seq.). The Corps of Engineers will also consider information in the Draft Supplemental Environmental Impact Statement being prepared on behalf of the New Jersey Sports and Exposition Authority.

The decision whether to issue a permit will be based on an evaluation of the probable impact, including cumulative impacts of the proposed activity, on the public interest. That decision will reflect the national concern for both protection and utilization of important public resources. The benefit which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership and, in general, the needs and welfare of the people.

The public hearing is open to everyone. All interested individuals, groups, and agencies are invited to be present or be represented at the hearing. Everyone will be given an opportunity to express his or her views and to furnish specific data on aspects of the proposed activity. At the public hearing, any person may appear on his or her behalf, or may be represented by counsel, or by other representatives.

Should commenters choose to write, all comment letters received in regard to this public notice shall be made part of the permit application record, and will also be considered in the permit decision–making process. INFORMATION SUBMITTED BY MAIL IS CONSIDERED JUST AS CAREFULLY IN THE PERMIT DECISION-MAKING PROCESS AND BEARS THE SAME WEIGHT AS THAT FURNISHED AT THE PUBLIC HEARING. ALL WRITTEN COMMENTS REGARDING THIS PUBLIC NOTICE MUST BE MAILED TO REACH THE CORPS OF ENGINEERS NEW YORK CITY OFFICE BEFORE THE EXPIRATION DATE OF THIS COMMENT PERIOD OF 5 PM MONDAY 28 NOVEMBER 2011, otherwise, it will be presumed that there are no objections to the activity.

The public hearing will be conducted in accordance with the procedures set forth at Title 33 of the Code of Federal Regulations, Part 327. Any person shall be permitted to submit oral or written statements concerning the subject matter of the hearing, to call witnesses who may present oral statements; or to present recommendations as to an appropriate decision. Any person may present written statements or other additional information, and may present proposed findings and recommendations prior to the time the total comment period closes (5:00 PM EST on Monday, 28 November 2011).

All speakers will be requested to limit oral presentations. Lengthier written presentations may be submitted, but the speaker will be requested to summarize the presentation. Cross-examination of speakers will not be permitted; however, subject to time constraints, the presiding hearing officer shall afford participants a reasonable opportunity for rebuttal after all others have had an opportunity to speak.

The public hearing will be reported verbatim. Copies of the hearing transcript will be available for public inspection at the Corps of Engineers New York District office after the close of the comment period, and will be posted on the Corps of Engineers website at http://www.nan.usace.army.mil.

All written statements, charts, tabulations, and similar data offered in evidence at the hearing shall, subject to exclusion for reasons of redundancy, be received in evidence and will constitute a part of the hearing file which will become part of the administrative record for this permit action. For filing purposes it is requested that the material not exceed 8 1/2" x 14", if possible.

The hearing record and comment period will remain open until 5:00 p.m. on Monday 28 November 2011, for the receipt of written comments. All comments should be sent to the following address so as to be received prior to the close of the hearing record and comment period:

New York District Corps of Engineers
Regulatory Branch
26 Federal Plaza, Room 1937
New York, New York 10278-0090

Our preliminary determination is that the activity for which authorization is sought herein is not likely to affect any Federally endangered or threatened species or their critical habitat. However, pursuant to Section 7 of the Endangered Species Act (16 U.S.C. 1531), the District Engineer is consulting with the appropriate Federal agency to determine the presence of and potential impacts to listed species in the project area or their critical habitat.

The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act (Public Law 104-267), requires all Federal agencies to consult with the National Oceanic and Atmospheric Administration Fisheries Service (NOAA/FS) on all actions, or proposed actions, permitted, funded, or undertaken by the agency, that may adversely affect Essential Fish Habitat (EFH). The proposed work, fully described in the attached work description, could cause the disruption of habitat for various lifestages of some EFH-designated species as a result of a temporary increase in turbidity during construction. However, the New York District has made the preliminary determination that the site-specific adverse effects are not likely to be substantial because it is expected that fish populations would avoid the small area of disturbance. Further consultation with NOAA/FS regarding EFH impacts and conservation recommendations being conducted and will be concluded prior to the final decision.

Based upon a review of the latest published version of the National Register of Historic Places, there are no known sites eligible for, or included in, the Register within the permit area. Presently unknown archeological, scientific, prehistorical, or historical data may be lost by work accomplished under the required permit.

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Pursuant to Section 307 (c) of the Coastal Zone Management Act of 1972 as amended [16 U.S.C. 1456 (c)], for activities under consideration that are located within the coastal zone of a state which has a federally approved coastal zone management program, the applicant has certified in the permit application that the

activity complies with, and will be conducted in a manner that is consistent with, the approved state coastal zone management program. By this public notice, we are requesting the state's concurrence with, objection to, or waiver of the applicant's certification. No permit decision will be made until one of these actions occurs. For activities within the coastal zone of New Jersey State, the applicant's certification and accompanying information is available from the New Jersey Department of Environmental Protection, Coastal Management Program, P.O. Box 418, 401 E. State Street, Trenton, NJ, 08625, Telephone (609) 633-2201. Comments regarding the applicant's certification, and copies of any letters to this office commenting upon this proposal, should be so addressed.

In addition to any required water quality certificate and coastal zone management program concurrence, the applicant has obtained or requested the following governmental authorization for the activity under consideration:

- New Jersey Department of Environmental Protection Waterfront Development Permit
- New Jersey Department of Environmental Protection Flood Hazard Area Permit
- Bergen County Soil Conservation District Soil Erosion and Sediment Plan Certification

It is requested that you communicate the foregoing information concerning the activity to any persons known by you to be interested and who did not receive a copy of this notice. If you have any questions concerning this application, you may contact this office at (917) 790-8412 and ask for James Cannon.

In order for us to better serve you, please complete our Customer Service Survey located at http://www.nan.usace.army.mil/business/buslinks/regulat/index.php?survey

For more information on New York District Corps of Engineers programs, visit our website at http://www.nan.usace.army.mil

Richard L. Tomer
Chief, Regulatory Branch

Enclosures

Directions to the Pegasus-Meadowlands Racetrack:

The address is: Meadowlands Racetrack, 50 State Route 120, East Rutherford, NJ 07073

FROM THE GEORGE WASHINGTON BRIDGE:
Follow Interstate 95 South signs to the New Jersey Turnpike south western spur (Sports Complex to exit 16W), which provides direct access to the Sports Complex parking areas.

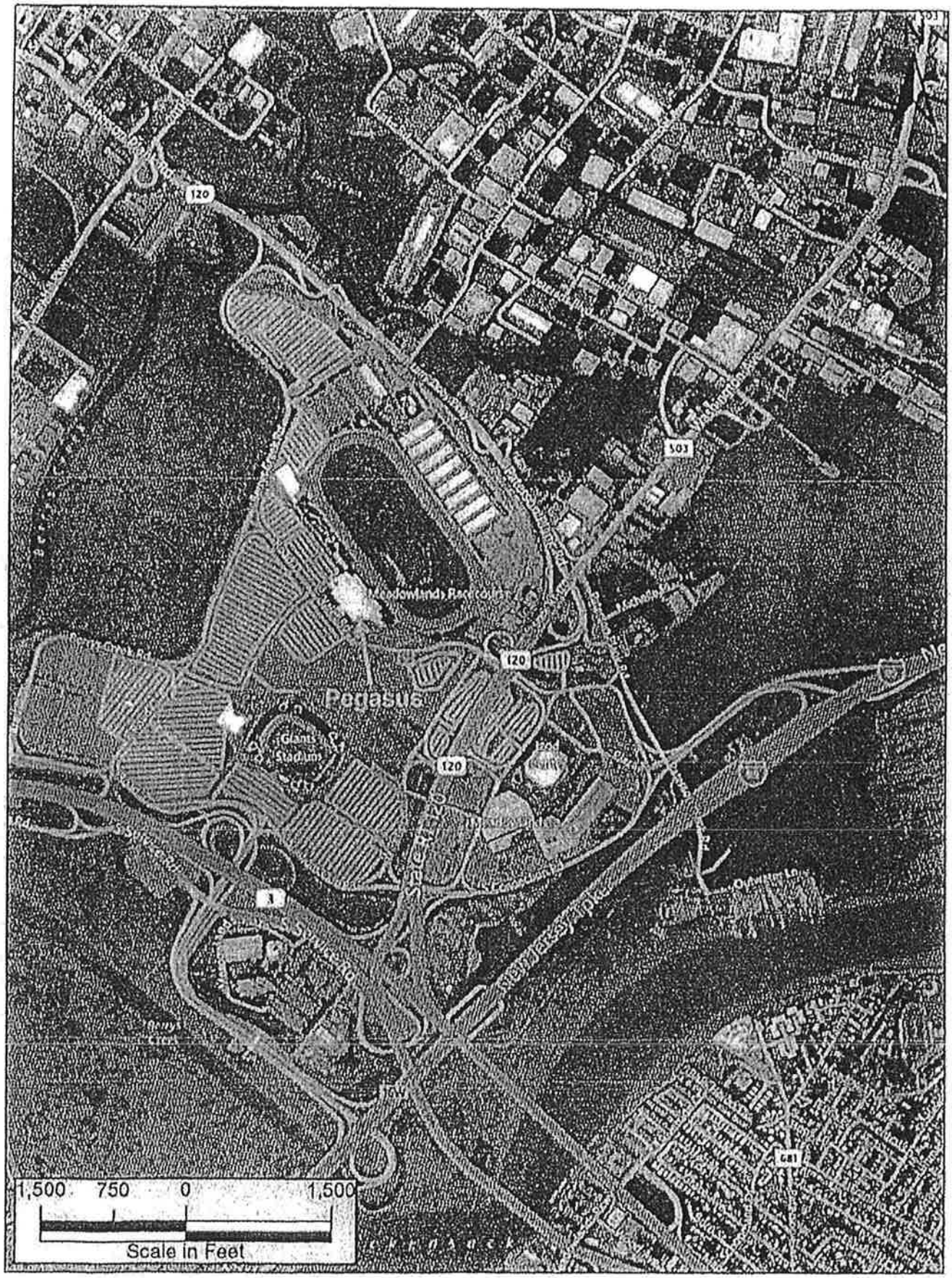
FROM THE LINCOLN TUNNEL:
Take Route 3 West and follow the signs to the Sports Complex and Racetrack.

TRAVELING NORTH ON THE NEW JERSEY TURNPIKE:
Follow the Western Spur (Sports Complex to Exit 16W), which provides direct access to Sports Complex parking areas. If congested, use eastern spur (Lincoln Tunnel) to exit 16E to Route 3 West, follow directions above.

TRAVELING SOUTH ON THE GARDEN STATE PARKWAY:
Garden State Parkway South to exit 163 (Route 17). Follow Route 17 to Paterson Plank Road. Take Paterson Plank Road east to the Sports Complex.

TRAVELING NORTH ON THE GARDEN STATE PARKWAY:
Garden State Parkway North to exit 153A (Route 3). Follow Route 3 East to the Sports Complex.

FROM HOLLAND TUNNEL OR BROOKLYN-STATEN ISLAND BRIDGE CROSSINGS:
Take New Jersey Turnpike extension to the Turnpike North. Follow directions above.


120
503
Meadowlands Parkway
120
Pegasus
Giants Stadium
120
1
681
1,500 750 0 1,500
Scale in Feet

WORK DESCRIPTION

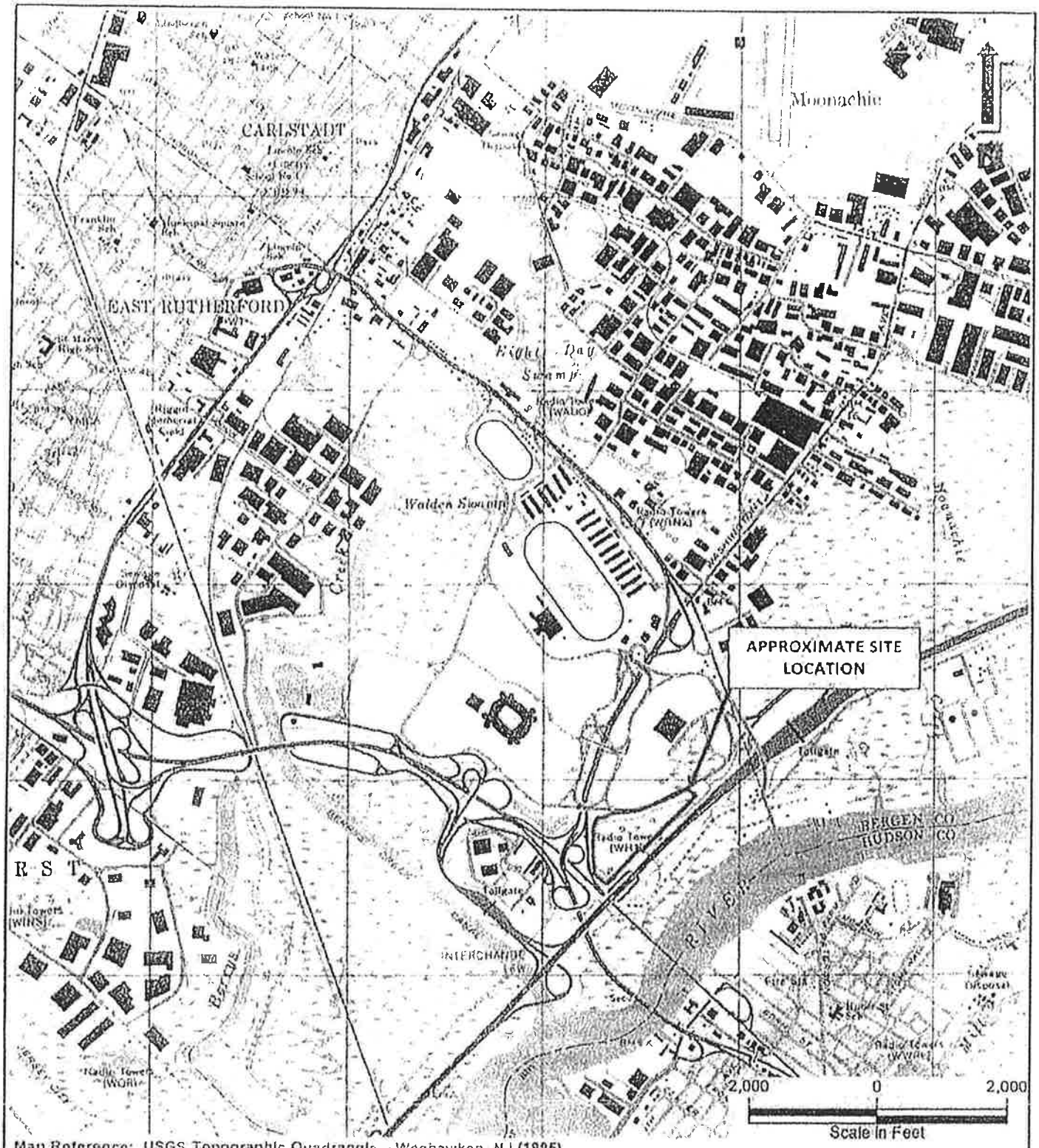
The applicant, Metro Central, LLC C/o Triple Five Development, has requested Department of the Army authorization to discharge fill material into approximately 5.47 acres of waters of the United States, including wetlands, to facilitate the construction of a commercial amusement park and water park, adjacent to the entertainment and retail complex that was authorized under Department of the Army Permit 2003-00549, and is now known as "American Dream Meadowlands". The 21.75 acre site for the proposed work is located in the Borough of East Rutherford, Bergen County, New Jersey, includes approximately 7.36 acres of jurisdictional tidal and non-tidal Waters of the United States. These Waters of the United States consist of an unnamed tributary to the Hackensack River and associated wetlands, and an unnamed tributary to Cedar Creek (tributary to the Hackensack River) and associated wetlands. In addition, work is proposed on an adjacent site for drainage improvements involving an existing 96-inch culvert that extends beneath the New Jersey Turnpike.

The proposed regulated activities would include discharging approximately 50,000 cubic yards of fill into 2.44 acres of tidal wetlands and 2.8 acres of non-tidal wetlands to facilitate the construction of a 639,000 square foot building complex that would consist of a 318,000 square foot Amusement Park, and a 236,000 square foot Water Park. Both the indoor Amusement Park and the indoor Water Park would share a two-level common area that would contain various patron facilities on the lower level and a food court on the upper level. A perimeter road would be constructed around the building to allow maintenance and emergency vehicles access to the site. This perimeter road would connect to the East Peripheral Road. A proposed pedestrian bridge would cross the East Peripheral Road, connecting the common area to the adjacent entertainment and retail complex.

Approximately 0.23 acres of tidal emergent wetlands would be impacted to facilitate drainage improvements to the 96-inch culvert currently situated offsite and beneath the New Jersey Turnpike. These drainage improvements would include dredging approximately 3,500 cubic yards of accumulated sediments from a 300 linear foot long portion of the unnamed tributary (0.66 acres), and constructing a new headwall with associated rock riprap scour protection on both the east and west side of the New Jersey Turnpike culvert. A total of approximately 1,325 cubic yards of rock riprap would be placed within the unnamed tributary to facilitate the placement of scour protection for both headwalls. Temporary construction mats will be used to allow construction vehicles access to the culvert area. All dredged sediments will be disposed of at a suitable upland disposal site.

The applicant completed an alternatives analysis, including the no build alternative, which evaluated construction alternatives and their associated impacts to the aquatic environment. As a result, the applicant concluded that the preferred project, as designed, is the least damaging practicable alternative available to them. The applicant has avoided and minimized impacts to waters of the United States, including wetlands to the extent feasible through the following measures: stacking of common areas and integrating two buildings into one, alleviate vehicular parking at the project site by utilizing existing parking at the existing and adjacent entertainment and retail complex. The applicant proposes to compensate for the 5.47 acres of permanent impacts to tidal and non-tidal wetlands associated with the proposed project at offsite locations within the same watershed and may include: the purchase of available credits from any federally approved wetland mitigation bank; the preservation of wetlands and or compensation through in-lieu fee payment. The final compensatory mitigation program for the project will be consistent with the Final Rule for Compensatory Mitigation for Losses of Aquatic Resources (40 CFR Part 230), dated April 10, 2008.

The stated purpose of the proposed work is to construct a commercial amusement park and water park as a component of the American Dream Meadowlands Project.



Map Reference: USGS Topographic Quadrangle – Weehawken, NJ (1995)

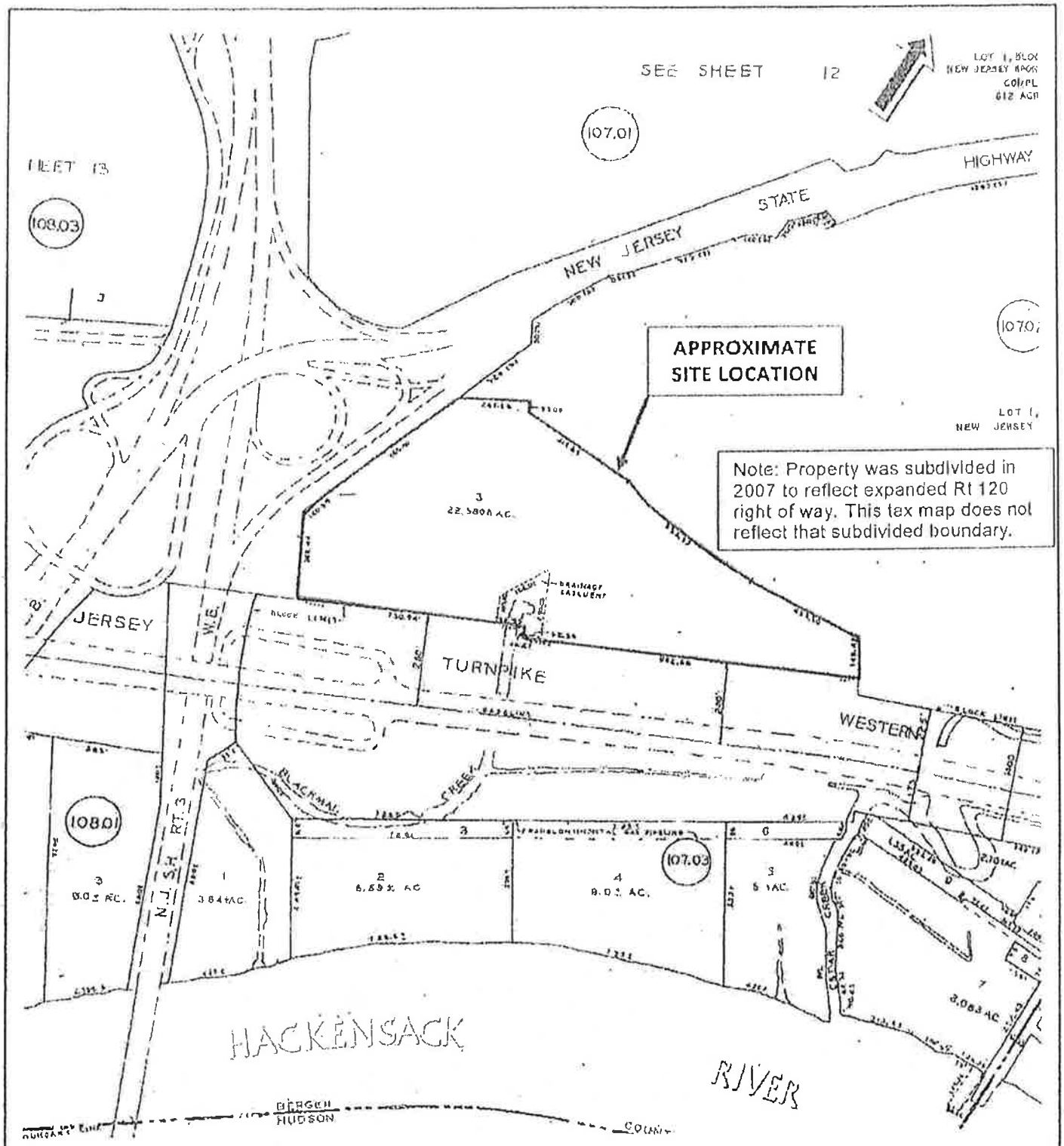
LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

CLIFTON, NJ • NEW YORK, NY • PHILADELPHIA, PA • DOWNINGTOWN, PA
NEW HAVEN, CT • MIAMI, FL • TRENTON, NJ

USGS SITE LOCATION MAP
AMUSEMENT PARK AND WATER PARK
AMERICAN DREAM MEADOWLANDS
BLOCK 107.02, LOT 3

EAST RUTHERFORD — NEW JERSEY

JOB NO.	DATE	SCALE	FIGURE NO.
100234201	10/11/2011	1"=2,000'	1



Map Reference: Borough of East Rutherford Tax Map, Sheet No. 10

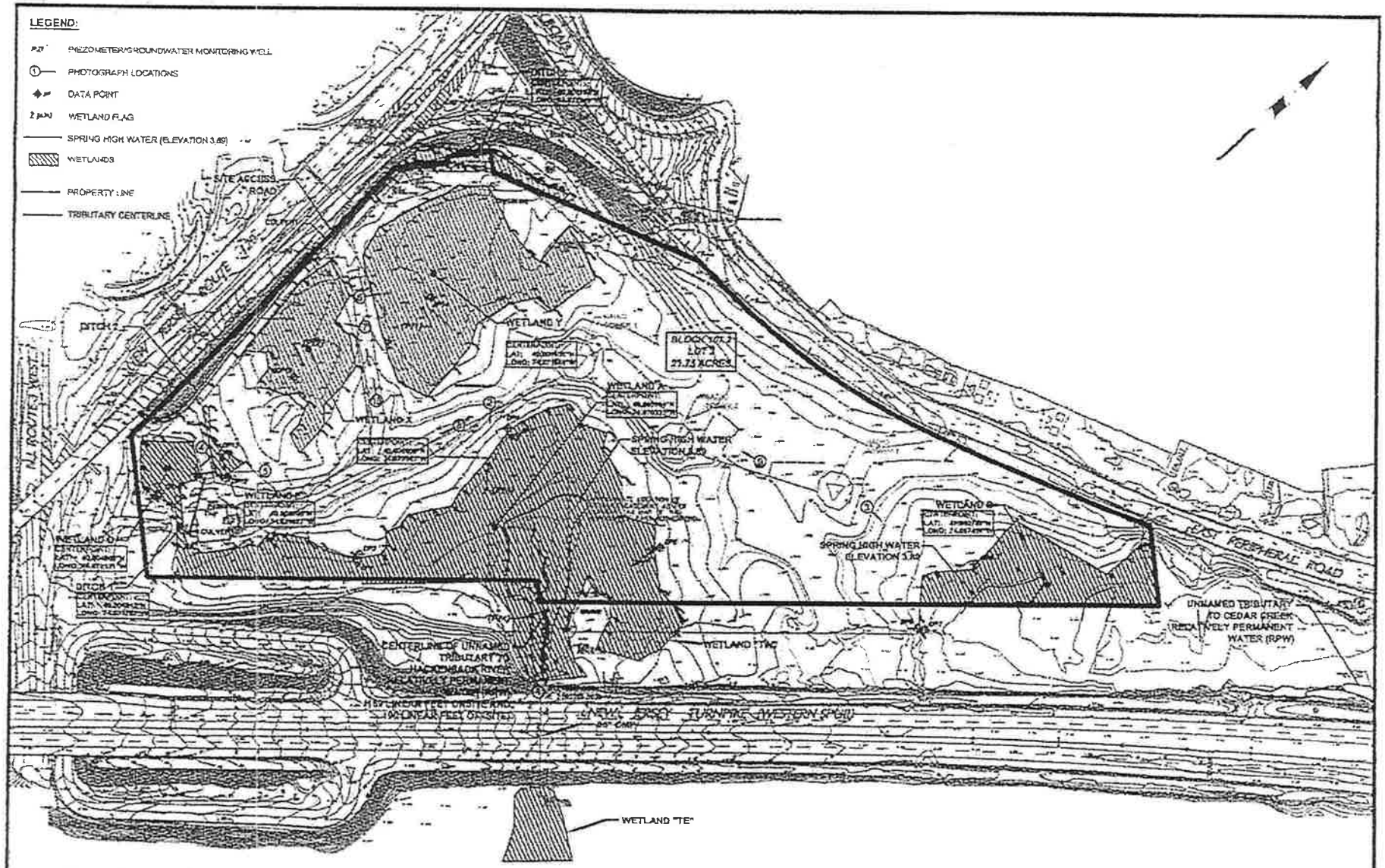
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ENGINEERING & ENVIRONMENTAL SERVICES

ELMWOOD PK, NJ • NEW YORK, NY • PHILADELPHIA, PA • DOYLESTOWN, PA
NEW HAVEN, CT • MIAMI FL • TRENTON NJ

TAX MAP
AMUSEMENT PARK AND WATER PARK
AMERICAN DREAM MEADOWLANDS
BLOCK 107.02, LOT 3

EAST RUTHERFORD NEW JERSEY

JOB NO	DATE	SCALE	FIGURE NO.
100234201	10/11/2011	NTS	2



LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES
River Drive Center 1 Elmwood Park, NJ 07407
P: 201.794.6900 F: 201.794.0366
www.langan.com
NEW JERSEY PENNSYLVANIA NEW YORK CONNECTICUT FLORIDA NEVADA VIRGINIA CALIFORNIA
NJ Certificate of Authorization No: 24GA27996400

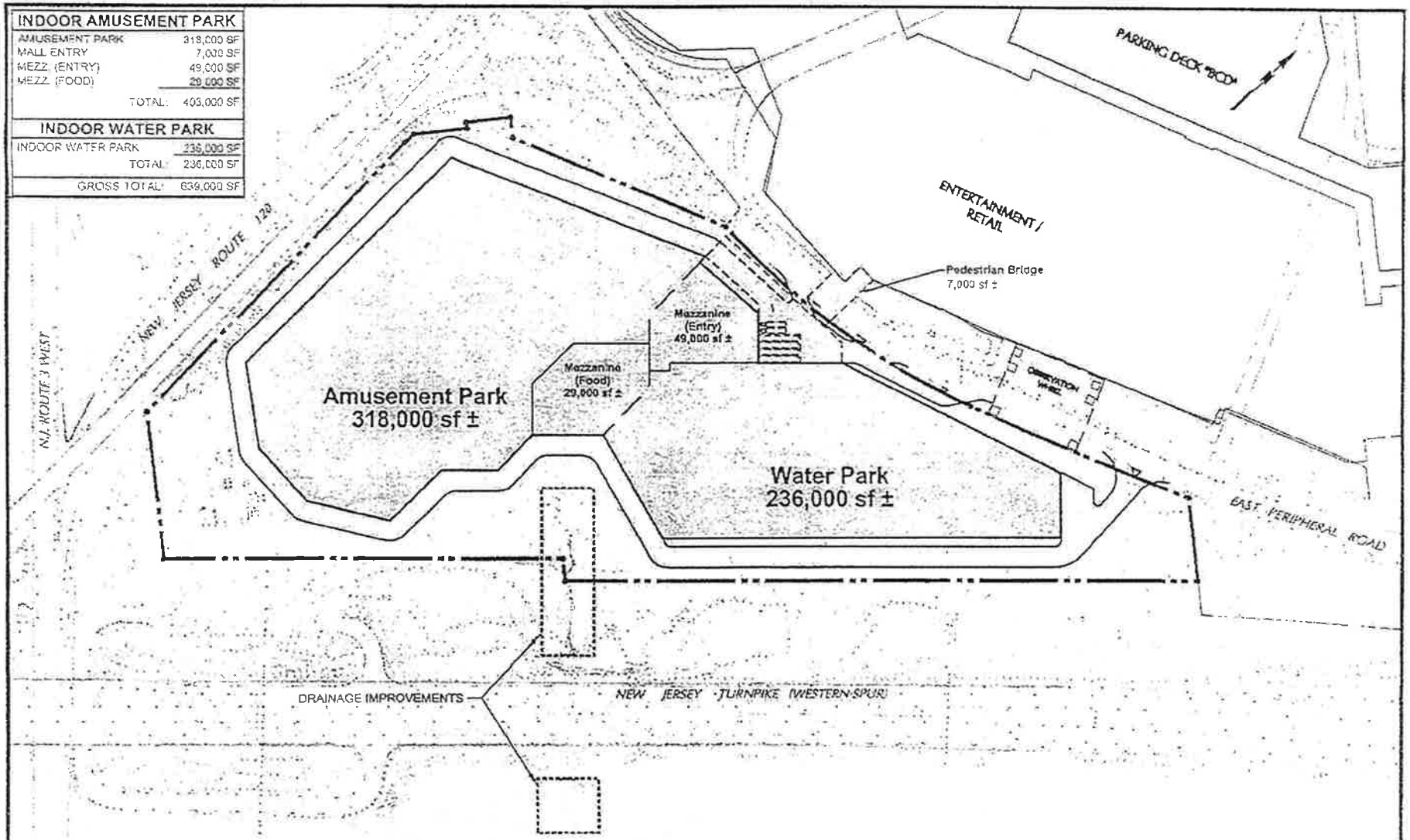
WETLAND DELINEATION MAP

AMUSEMENT PARK AND WATER PARK
AMERICAN DREAM MEADOWLANDS
BLOCK 107.02, LOT 3

EAST RUTHERFORD NEW JERSEY

Project No.	Date	Scale	Fig. No.
100234201	10/13/11	1"=250'	3

Filename: \\langan.com\data\EP\postgl\100234201\Geo Data - 100234201\Wetland Plans\For ES Only\USACE & Application Wetland Delineation Plan.dwg Date: 10/13/2011 Time: 15:20 User: samundsen Style Table: Langan.stb Layout: Core Template



0 125 250
SCALE IN FEET

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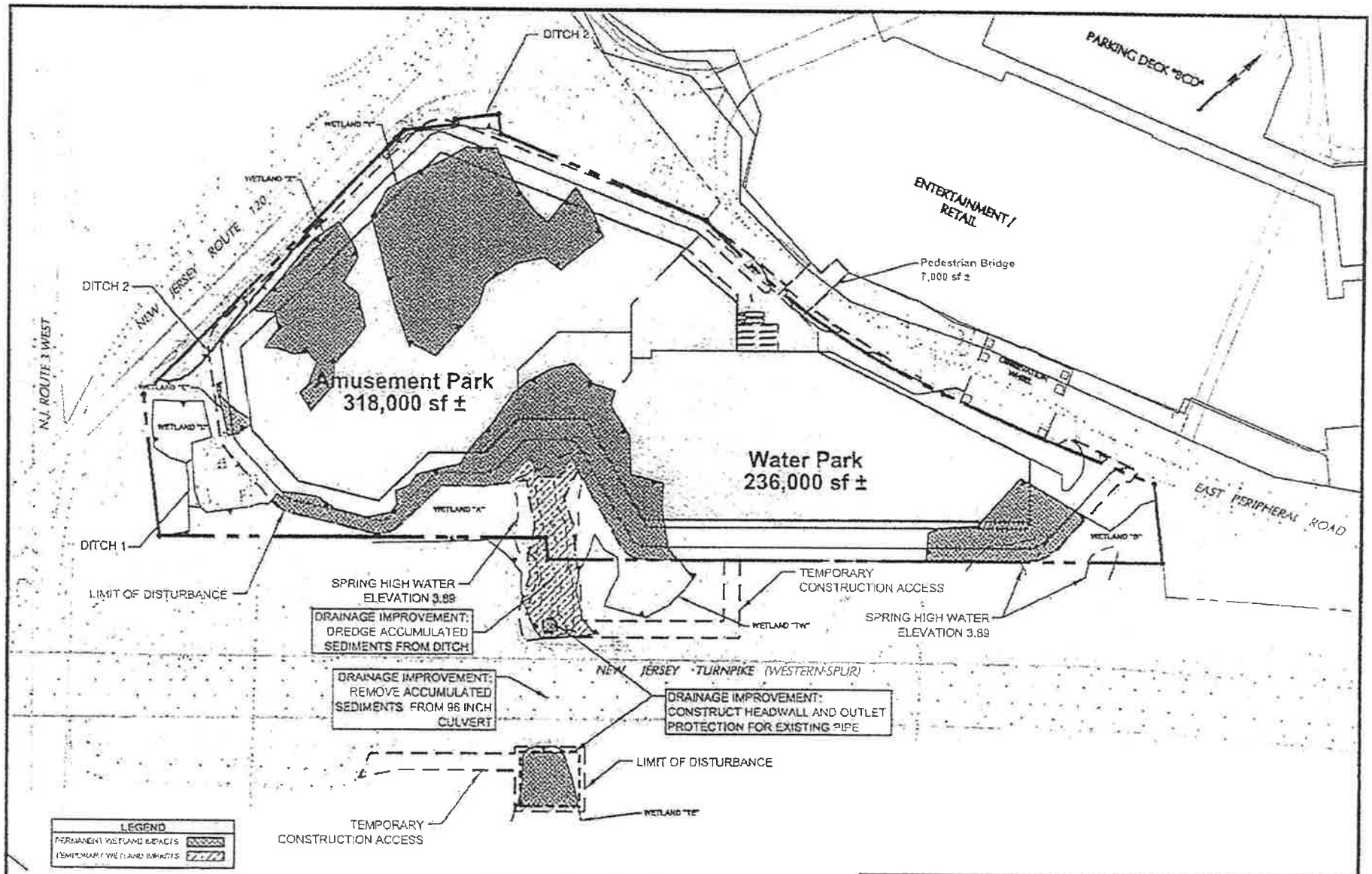
CONCEPT PLAN

AMUSEMENT PARK AND WATER PARK
AMERICAN DREAM MEADOWLANDS
BLOCK 107.02, LOT 3

EAST RUTHERFORD NEW JERSEY

Project No.	Date	Scale	Fig. No
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Filename: \\langan.com\data\EP\parsa2\100234201\Cad\Site - 100234201\Wetland Plans\ACOE Concept Plan.dwg Date: 10/10/2011 Time: 14:59 User: jdarmburger Style Table: Langan.ctb Layout: A Site Sheet (Sht)



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WETLAND IMPACT PLAN

AMUSEMENT PARK AND WATER PARK
AMERICAN DREAM MEADOWLANDS
BLOCK 107.02, LOT 3

EAST RUTHERFORD NEW JERSEY

Project No.	Date	Scale	Fig. No.
100234201	10/13/11	1"=250'	5

Filename: \\langan.com\data\FP\data2\100234201\Cadd Data - 100234201\Wetland Plans\ACOE Wetland Impact Plan.dwg Date: 10/13/2011 Time: 15:27 User: jaldenburger Style Table: Langan.stb Layout: A Size Sheet (Side)

Wetland Impact Summary Table

Identified Feature	Wetland Type (Cowardin Classification)	Area (Acres)	Amusement Park/Water Park Permanent Wetland Impacts (Acres)	Drainage Improvements Permanent Wetland Impacts (Acres)	Temporary Wetland Impacts from Dredging Activities (Acres)
Wetland A	E2EM5P6d	3.1	1.78	0	0.28
Wetland B	E2EM5P6d	0.97	0.61	0	0
Wetland D	PEM5A0d	0.22	0	0	0
Wetland E	PEM5A0d	0.06	0.05	0	0
Ditch 1	PEM5J0d	0.03	0	0	0
Wetland X	PEM5A0d	0.81	0.81	0	0
Wetland Y	PEM5C0d	1.99	1.99	0	0
Ditch 2	POW	0.18	0	0	0
Wetland TE	E1UBLx	0.3	0	0.21	0.03
Wetland TW	E1UBLx	0.76	0	0.02	0.35
TOTAL		8.42	5.24	0.23	0.66

0 125 250

SCALE IN FEET

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WETLAND IMPACT SUMMARY TABLE
AMUSEMENT PARK AND WATER PARK
AMERICAN DREAM MEADOWLANDS
BLOCK 107.02, LOT 3
EAST RUTHERFORD NEW JERSEY

Project No.	Date	Scale	Fig. No.
100234201	10/13/11	1"=250'	6

Filename: \\langan.com\data\EP\peta2\100234201\Cadd Data – 100234201\Wetland Plans\ACOE Wetland Impact Summary Table.dwg Date: 10/13/2011 Time: 15:25 User: jpidenburger Style Table: Langan.stb Layout: A Size Sheet (Side)

New Jersey Turnpike Authority

ADMINISTRATION BUILDING - 581 MAIN STREET
P.O. BOX 5042 - WOODBRIDGE, NEW JERSEY 07095
TELEPHONE (732) 750-5300

CHRIS CHRISTIE
GOVERNOR

KIM GUADAGNO
LIEUTENANT GOVERNOR

JAMES S. SIMPSON, *Chairman*
RONALD GRAVINO, *Vice Chairman*
MICHAEL R. DuPONT, *Treasurer*
HAROLD L. HODES, *Commissioner*
RAYMOND M. POCINO, *Commissioner*
TROY SINGLETON, *Commissioner*
ULISES E. DIAZ, *Commissioner*
DANIEL F. BECHT, *Commissioner*
VERONIQUE HAKIM, *Executive Director*

November 7, 2011

Mr. David Charette, P.W.S.
Senior Associate
Langan Engineering and Environmental Services
River Center Drive 1
Elmwood Park, NJ 07407

RE: American Dream Meadowlands Project
Conceptual Plan – Drainage Improvements Within Turnpike Right-of-Way

Dear Mr. Charette:

I am in receipt of your November 1, 2011 letter wherein conceptual improvements are described relative to a 96-inch culvert and associated drainage courses within the Turnpike Authority's right-of-way. Please be advised that the Authority has reviewed the information provided by Langan and based upon that review has no significant concerns associated with the work being proposed. As referenced in your letter, detailed information including construction plans, drainage calculations, regulatory approvals and other information deemed necessary by the Turnpike Authority must be provided before formal approval will be provided.

Please let me know if you should have any questions regarding the Turnpike Authority's requirements and/or expectations relative to this matter.

Very truly yours,

Stephen M. Buente, P.E.
Supervising Engineer, Planning/Environmental

SMB/cr

cc: R. Raczynski, NJTA
R. Fischer, NJTA
Kurt Hagen, Triple Five Development
Robert Ceberio, RCM Ceberio, LLC
File

PUBLIC NOTICE

RECEIVED

OCT 2 1 2011

HISTORIC PRESERVATION OFFICE

US Army Corps
of Engineers
New York District
Jacob K. Javits Federal Building
New York, N.Y. 10278-0090
ATTN: Regulatory Branch

In replying refer to:
Public Notice Number: NAN-2011-01158-WCA
Issue Date: October 14, 2011
Expiration Date: November 28, 2011

RECEIVED BY REGULATORY

NOV 18 2011

DIST. CORPS OF ENGINEERS

To Whom It May Concern:

The New York District, Corps of Engineers has received an application for a Department of the Army permit pursuant to Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403), and Section 404 of the Clean Water Act (33 U.S.C. 1344).

12-0098-1 VM.
HPO - K2011-077

APPLICANT: Metro Central, LLC C/o Triple Five Development
60 East Broadway
Bloomington, Minnesota 55425

ACTIVITY: Discharge fill material into 5.47 acres of tidal and non-tidal waters of the United States to facilitate the construction of a commercial amusement park and water park.

WATERWAY: Unnamed Tidal Tributaries to the Hackensack River, and Cedar Creek and Associated Wetlands.

LOCATION: Borough of East Rutherford, Bergen County, New Jersey

A detailed description and plans of the applicant's activity are enclosed to assist in your review.

As part of a public hearing being held by the New Jersey Meadowlands Commission and New Jersey Department of Environmental Protection, the New York District Corps of Engineers will conduct a **PUBLIC HEARING** to gather information on this proposal to assist in the review of the permit application. The details of the hearing are as follows:

DATE: Tuesday, November 15, 2011
Wednesday, November 16, 2011

TIME: Morning Session – 10:00 am to 12:00 pm*
Evening Session – 6:00 pm to 8:00 pm *

*The public hearing sessions may end before the closing times noted above if all parties wishing to speak have done so prior to the closing times.

LOCATION: Pegasus – Meadowlands Racetrack
Meadowlands Sports Complex
East Rutherford, New Jersey

DIRECTIONS: See attached map and written directions

The United States Corps of Engineers neither favors nor opposes the proposed construction work. The purpose of this public notice and the public hearing is to afford the Corps of Engineers the opportunity to efficiently hear from the general public on the application which is before this agency, in order to acquire information which will be considered in evaluating whether to issue or deny the requested permit. The Corps of Engineers is soliciting comments from the public; federal, state and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this determination, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed below. Comments are used in the preparation of an environmental assessment pursuant to the National Environmental Policy Act (42 U.S.C 4321 et seq.). The Corps of Engineers will also consider information in the Draft Supplemental Environmental Impact Statement being prepared on behalf of the New Jersey Sports and Exposition Authority.

The decision whether to issue a permit will be based on an evaluation of the probable impact, including cumulative impacts of the proposed activity, on the public interest. That decision will reflect the national concern for both protection and utilization of important public resources. The benefit which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership and, in general, the needs and welfare of the people.

The public hearing is open to everyone. All interested individuals, groups, and agencies are invited to be present or be represented at the hearing. Everyone will be given an opportunity to express his or her views and to furnish specific data on aspects of the proposed activity. At the public hearing, any person may appear on his or her behalf, or may be represented by counsel, or by other representatives.

Should commenters choose to write, all comment letters received in regard to this public notice shall be made part of the permit application record, and will also be considered in the permit decision–making process. INFORMATION SUBMITTED BY MAIL IS CONSIDERED JUST AS CAREFULLY IN THE PERMIT DECISION-MAKING PROCESS AND BEARS THE SAME WEIGHT AS THAT FURNISHED AT THE PUBLIC HEARING. ALL WRITTEN COMMENTS REGARDING THIS PUBLIC NOTICE MUST BE MAILED TO REACH THE CORPS OF ENGINEERS NEW YORK CITY OFFICE BEFORE THE EXPIRATION DATE OF THIS COMMENT PERIOD OF 5 PM MONDAY 28 NOVEMBER 2011, otherwise, it will be presumed that there are no objections to the activity.

The public hearing will be conducted in accordance with the procedures set forth at Title 33 of the Code of Federal Regulations, Part 327. Any person shall be permitted to submit oral or written statements concerning the subject matter of the hearing, to call witnesses who may present oral statements; or to present recommendations as to an appropriate decision. Any person may present written statements or other additional information, and may present proposed findings and recommendations prior to the time the total comment period closes (5:00 PM EST on Monday, 28 November 2011).

All speakers will be requested to limit oral presentations. Lengthier written presentations may be submitted, but the speaker will be requested to summarize the presentation. Cross-examination of speakers will not be permitted; however, subject to time constraints, the presiding hearing officer shall afford participants a reasonable opportunity for rebuttal after all others have had an opportunity to speak.

The public hearing will be reported verbatim. Copies of the hearing transcript will be available for public inspection at the Corps of Engineers New York District office after the close of the comment period, and will be posted on the Corps of Engineers website at http://www.nan.usace.army.mil.

All written statements, charts, tabulations, and similar data offered in evidence at the hearing shall, subject to exclusion for reasons of redundancy, be received in evidence and will constitute a part of the hearing file which will become part of the administrative record for this permit action. For filing purposes it is requested that the material not exceed 8 1/2" x 14", if possible.

The hearing record and comment period will remain open until 5:00 p.m. on Monday 28 November 2011, for the receipt of written comments. All comments should be sent to the following address so as to be received prior to the close of the hearing record and comment period:

New York District Corps of Engineers
Regulatory Branch
26 Federal Plaza, Room 1937
New York, New York 10278-0090

Our preliminary determination is that the activity for which authorization is sought herein is not likely to affect any Federally endangered or threatened species or their critical habitat. However, pursuant to Section 7 of the Endangered Species Act (16 U.S.C. 1531), the District Engineer is consulting with the appropriate Federal agency to determine the presence of and potential impacts to listed species in the project area or their critical habitat.

The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act (Public Law 104-267), requires all Federal agencies to consult with the National Oceanic and Atmospheric Administration Fisheries Service (NOAA/FS) on all actions, or proposed actions, permitted, funded, or undertaken by the agency, that may adversely affect Essential Fish Habitat (EFH). The proposed work, fully described in the attached work description, could cause the disruption of habitat for various lifestages of some EFH-designated species as a result of a temporary increase in turbidity during construction. However, the New York District has made the preliminary determination that the site-specific adverse effects are not likely to be substantial because it is expected that fish populations would avoid the small area of disturbance. Further consultation with NOAA/FS regarding EFH impacts and conservation recommendations being conducted and will be concluded prior to the final decision.

Based upon a review of the latest published version of the National Register of Historic Places, there are no known sites eligible for, or included in, the Register within the permit area. Presently unknown archeological, scientific, prehistorical, or historical data may be lost by work accomplished under the required permit.

Reviews of activities pursuant to Section 404 of the Clean Water Act will include application of the guidelines promulgated by the Administrator, U.S. Environmental Protection Agency, under authority of Section 404 (b) of the Clean Water Act and the applicant will obtain a water quality certificate or waiver from the appropriate state agency in accordance with Section 401 of the Clean Water Act prior to a permit decision.

Pursuant to Section 307 (c) of the Coastal Zone Management Act of 1972 as amended [16 U.S.C. 1456 (c)], for activities under consideration that are located within the coastal zone of a state which has a federally approved coastal zone management program, the applicant has certified in the permit application that the

activity complies with, and will be conducted in a manner that is consistent with, the approved state coastal zone management program. By this public notice, we are requesting the state's concurrence with, objection to, or waiver of the applicant's certification. No permit decision will be made until one of these actions occurs. For activities within the coastal zone of New Jersey State, the applicant's certification and accompanying information is available from the New Jersey Department of Environmental Protection, Coastal Management Program, P.O. Box 418, 401 E. State Street, Trenton, NJ, 08625, Telephone (609) 633-2201. Comments regarding the applicant's certification, and copies of any letters to this office commenting upon this proposal, should be so addressed.

In addition to any required water quality certificate and coastal zone management program concurrence, the applicant has obtained or requested the following governmental authorization for the activity under consideration:

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It is requested that you communicate the foregoing information concerning the activity to any persons known by you to be interested and who did not receive a copy of this notice. If you have any questions concerning this application, you may contact this office at (917) 790-8412 and ask for James Cannon.

In order for us to better serve you, please complete our Customer Service Survey located at http://www.nan.usace.army.mil/business/buslinks/regulat/index.php?survey

For more information on New York District Corps of Engineers programs, visit our website at http://www.nan.usace.army.mil

Richard L. Tomer
Chief, Regulatory Branch

Enclosures

I concur with your finding that there are no historic properties affected within the project's area of potential effects. Consequently, pursuant to 36 CFR 800.4(d)(1), no further Section 106 consultation is required unless additional resources are discovered during project implementation pursuant to 36 CFR 800.13.

11/9/11
Daniel D. Saunders Date
Deputy State Historic Preservation Officer
NP

DEPARTMENT OF THE ARMY
NEW YORK DISTRICT, CORPS OF ENGINEERS
JACOB K. JAVITS FEDERAL BUILDING
NEW YORK, N.Y. 10278-0090

RECEIVED
DEC 21 2011
DEPT. OF ENVIRONMENTAL PROT.

REPLY TO
ATTENTION OF:
Regulatory Branch

SUBJECT: Draft Supplemental Environmental Impact Statement; Amusement Park and Water Park, American Dream Meadowlands, Redevelopment Project at the Arena Site, East Rutherford, New Jersey, dated October 2011

RECEIVED
JAN 3
DEPT. OF ENVIRONMENTAL PROT.
COMMISSIONER'S OFFICE

New Jersey Department of Environmental Protection
C/o Mr. Scott Brubaker
Director, Office of Permit Coordination
and Environmental Review
401 East State Street
P.O. Box 402
Trenton, New Jersey 08625

Dear Mr. Brubaker:

The New York District of the U.S. Army Corps of Engineers is providing the following comments on the above referenced document:

Page 1-10, lines 13-14: It is unclear how the Gross Buildable Area (GBA) will increase five-fold, from 0.96 million to 5.6 million square feet.

Page 3-1, lines 17-18: The statement, "An alternative may be deemed impracticable if it is not available to the applicant", does not correctly state the regulation. Title 40 Code of Federal Regulations, Part 230.10 (a)(2) states:

"An alternative is practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes. If it is otherwise a practicable alternative, an area not presently owned by the applicant which could reasonably be obtained, utilized, expanded or managed in order to fulfill the basic purpose of the proposed activity may be considered."

Page 4-60, lines 6-7: As stated in the Corps public notice dated October 14, 2011, the New York District has made the preliminary determination that the site-specific adverse effects are not likely to be substantial because it is expected that fish populations would avoid the small area of disturbance. Further consultation with NOAA/FS regarding EFH impacts and conservation recommendations are being conducted and will be concluded prior to the final Department of the Army permit decision.

SUBJECT: Draft Supplemental Environmental Impact Statement, Amusement Park and Water Park, American Dream Meadowlands, Redevelopment Project at the Arena Site, East Rutherford, New Jersey, dated October 2011

Page 4-106, line 15: "APE" has not been defined, nor does it appear in the page 7-1 List of Acronyms.

Page 4-112, lines 7-8: Has the New Jersey State Historic Preservation Office made a determination on the subject project site.

Page 5-5, line 23: Discharges to surface waters are addressed in Section 402 of the Clean Water Act (Title 33 of the United States Code, Section 1342), and not Section 404 (Title 33 of the United States Code, Section 1344).

If you have any questions, please contact the undersigned at (917)790-8412.

Sincerely,

Christopher S. Mallery, Ph.D.
Chief, Western Permits Section

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF PERMIT COORDINATION
AND ENVIRONMENTAL REVIEW
P.O. Box 420 Mail Code 401-07J Trenton, New Jersey 08625-0420
PHONE (609)292-3600
FAX (609) 292-1921

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

BOB MARTIN
Commissioner

Marcia Karrow, Executive Director
New Jersey Meadowlands Commission
One DeKorte Plaza
Lyndhurst, New Jersey 07071

January 24, 2012

Dear Ms. Karrow,

The Office of Permit Coordination and Environmental Review of the New Jersey Department of Environmental Protection (DEP or Department) has provided the Draft Supplemental Environmental Impact Statement for the Amusement and Water Park Redevelopment Project at the Arena Site (American Dream) to the affected DEP programs for review.

The following comments have been compiled:

Alternatives Analysis

Section 3.0 should be expanded to discuss the need to address existing contamination at the site and the remedial strategy. Specifically, the need for remediation of the contamination in the wetlands of the site and the presumptive remedy should be addressed.

Division of Land Use Regulation

The following permits/approvals are required for this project from the Division of Land Use Regulation: Waterfront Development Individual Permit, Flood Hazard Area Verification and Individual Permit, Water Quality Certification and a Coastal Zone Consistency Determination. These permit/approval applications were received by the Department on January 3, 2012 and are currently under review with the applicable regulations governing Flood Hazard Area, Freshwater Wetlands and compliance with New Jersey's Coastal Zone Management program. Specifically, the Department will be evaluating the project for compliance with applicable regulations governing, but not limited to: stormwater management; dredging; traffic; secondary impacts; freshwater wetlands impacts and appropriate mitigation.

Any material that is dredged should be beneficially reused in a manner that is protective of human health and the environment.

A mitigation plan is required. The Department strongly recommends that the applicant request the Department's conceptual review of any land being considered as a potential mitigation area prior to submittal of a mitigation plan involving restoration, creation, enhancement, uplands preservation, or land donation.

The Department reserves the right to request additional information from the applicant to demonstrate compliance with the applicable regulations prior to the pending applications being deemed complete for review.

Site Remediation Program

Based upon the project location and proximity to other confirmed historic fill (contaminated) properties, a Licensed Site Remediation Professional should conduct a Preliminary Assessment/Site Investigation to determine if the project site is contaminated. (It is assumed that there is historic fill present, at a minimum). Based upon the findings, a Remedial Investigation and Remedial Action should be developed that incorporate the proposed redevelopment uses. The presence of regional groundwater contamination should also be considered due to the potential need to dewater during construction activities.

Bureau of Surface Water Permitting

If dewatering is required for construction activities there are several alternatives based upon whether or not the groundwater is contaminated. If uncontaminated construction dewatering water is proposed to be discharged to surface water, the applicant will need a Construction Dewatering general permit. Information regarding this permit can be found at http://www.nj.gov/dep/dwq/gp_dewater.htm. This Construction Dewatering general permit is designed for short term discharges only and authorizes the discharge of groundwater that contains negligible levels of pollutants to the surface waters of the State of New Jersey during construction dewatering. This general permit does not cover discharges from sites known or suspected to contain contaminated groundwater, such as remediation or petroleum product clean-up sites, stormwater discharges, and discharges associated with sediment laden waters. The Certification Form and accompanying sample analysis data must be submitted at least 14 working days prior to the proposed discharge for review.

If the construction dewatering water is **contaminated**, it must be **treated** and could then potentially be discharged to surface water through the Groundwater Remediation Cleanup (BGR) general permit. Information regarding this general permit can be viewed at http://www.nj.gov/dep/dwq/gp_BGR.htm.

Bureau of Nonpoint Pollution Control

A general permit for Construction Activities, (5G3) is required from the Department. This general permit authorizes point source discharges from certain construction activities. Regulated entities are required to develop a soil erosion and sediment control plan aimed at eliminating the flow of contaminated rainwater into streams and rivers. The soil erosion and sediment control

plan must be certified by the Bergen Soil Conservation District in order for the general permit to be issued.

Division of Fish & Wildlife

All or parts of the water bodies contained within this project area are considered to be within an anadromous species migration corridor. In order to protect the anadromous species spawning run in this area, a timing restriction from March 15 through June 30 is needed on any activities which would generate sediment or sediment plumes in these water bodies.

In addition, Species Occurrence Area mapping indicates threatened / endangered (T / E) and species of concern in the area, including: Yellow-crown Night-heron, Great Blue Heron, Glossy Ibis, and Snowy Egret. Landscape Mapping includes habitat patches of emergent wetland valued for Yellow-crown Night-heron and forested wetland patches. The loss of these habitats may require mitigation.

Bureau of Nonpoint Pollution Control

A general permit for Construction Activities, (5G3) is required from the Department. This general permit authorizes point source discharges from certain construction activities. Regulated entities are required to develop a soil erosion and sediment control plan aimed at eliminating the flow of contaminated rainwater into streams and rivers. The soil erosion and sediment control plan must be certified by the Bergen Soil Conservation District in order for the general permit to be issued.

As discussed at previous meetings with the Department, additional stormwater requirements will be addressed through the Flood Hazard Area permitting process.

Division of Land Use Management

As proposed, this project is consistent with the current Bergen County Utilities Authority Wastewater Management Plan.

Division of Water Supply and Geoscience

The American Dream Meadowlands project is included in the 2012 United Water Master Permit.

Treatment Works Approval

As discussed in Section 4.4, a Treatment Works Approval (TWA) is required for this project.

Air Quality Permitting Program

An air operating permit is required for any boilers and/or heaters and emergency generators over 1 MMBtu as well as non emergency generators over 37 Kw.

The Department reserves the right to request additional information from the applicant to demonstrate compliance with the applicable regulations prior to the pending application being deemed complete for review.

Please be advised that the noted permit requirements are based upon the Department's preliminary review of the Draft Supplemental Environmental Impact Statement are not necessarily a comprehensive list of all permits that will be required by the Department. Further, the Department and the applicant will have the opportunity to address any additional project related issues during the individual permit review processes as appropriate.

Thank you for the opportunity to provide the Department's comments on the Draft Supplemental Environmental Impact Statement.

Sincerely,

Scott Brubaker

Scott Brubaker, Director
Office of Permit Coordination & Environmental Review

Cc:

David Charette, Langan Engineering
Suzanne Dietrick, NJDEP ODST
Kelly Davis, DF&W
Nick Horiates, TWA
Michele Christopher, BSWP
Robert Kettig, AQPP

State of New Jersey

DEPARTMENT OF TRANSPORTATION
P.O. Box 600
Trenton, New Jersey 08625-0600

CHRIS CHRISTIE
Governor
KIM GUADAGNO
Lt. Governor

JAMES S. SIMPSON
Acting Commissioner

March 14, 2012

Mr. Kenneth Mackiewicz, P.E.
C/o TRC Engineering, Inc
7 Skyline Drive
Hawthorne, NY 10532

Re: A-120-N-N036-2011
4,760,000 SF Xanadu and 15 Acres Amusement Park
Route 120 MP 0.45 NB Block 107.02; Lot 1
East Rutherford Township; Bergen County

Dear Mr. Mackiewicz:

The Department has reviewed the above referenced Access application and intends to approve the application. Enclosed are two original counterparts of the prepared permit, which the Department will issue. We will execute the access permit once we receive permits signed and seal by the lot owner with Permit fee.

Access Comment:

- Please submit 3-copy of site plans that shows the existing 4,760,000 SF Xanadu and proposed 15 Acres of Amusement Park. Please address and revise the plans accordingly.

Please note that you have 90 calendar days from the date of this correspondence to respond to the above items in their entirety. A partial response, which does not directly address the comments, will not be accepted. If the response is not received by the office of Major Access Permits within that time, the application will be considered withdrawn without notification, pursuant to N.J.A.C.16: 47-4.5 (c).

Fees:

1. If you are in agreement with the permit to be issued, please sign and date both copy where indicated. Please have a notary or an attorney complete the upper portion of the attached certification form.

2. Enclose the Access Permit fee of $1,250.00 either by Money Order or Check, payable to the New Jersey Department of Transportation.

Within 180 days, please return the signed permits, Guarantees and required documents, to this office.

New Jersey Department of Transportation
Office of Major Access Permits
1035 Park Avenue
P. O. Box 600
Trenton, NJ 08625-0600

If you have any questions, please contact me at (609) 530-2512.

Sincerely,

Anil Desai
Project Engineer
Office of Major Access Permits

FORM MT-32A ACCESS CONFORMING LOT PERMIT NUMBER A-120-N-N036-2011

The rights accorded and obligations imposed by this permit are binding upon all successors in interest in the lot referenced below.

PERMITTOR: NEW JERSEY DEPARTMENT OF TRANSPORTATION
1035 Parkway Avenue
Trenton, NJ 08625

PERMITTEE: NJ Sports & Exposition Authority
Meadowlands Sports Complex
50 State Route 120
E Rutherford, NJ 07073

PERMIT TYPE: Commercial Use

ACCESS TYPE: Major/PLN

LOCATION: MUNICIPALITY: East Rutherford
ROUTE: 120
BLOCK: 107.02 LOT: 1
COUNTY: Bergen
DIRECTION: NB MILEPOST: .45
CONTROL SECTION: 0219

The Permittee is hereby granted the right to construct, maintain, and use access connecting to a State highway under the terms and conditions of this permit and attached plan, which is made a part hereof entitled:

This permit is for the following Multiple Land Use Only:
1. 15 acres Amusement Park.2. 4,760,000 Sq. Feet of Meadowland Xanadu

This is for 3 driveway(s) which provides access to this site:
Description: Multiple Use - Size: N/A

TRAFFIC VOLUMES: This permit is valid for two-way traffic volumes which follow. These traffic volumes are based upon the ITE (5th Edition) average trip generation or Land Use Code 999 or superseding rates adopted or approved by the Department. The actual traffic volumes generated by this lot for this use may differ from those listed. This permit addresses traffic which directly access the State highway.

PEAK HOUR VOLUME:	7404	AM	8706	PM	11993	WEEKEND
DAILY TRAFFIC VOLUME:	94724		WEEKDAY	150366		WEEKEND

A violation of this permit will occur if there is an expansion or change this use which will result in the traffic volumes exceeding one of the peak hour and one of the daily volumes listed below:

PEAK HOUR VOLUME:	7504	AM	8806	PM	12093	WEEKEND
DAILY TRAFFIC VOLUME:	104196		WEEKDAY	165402		WEEKEND

CONDITIONS: Additional conditions are attached hereto and incorporated herein.

_____ _____ _____

** NJ Sports & Exposition Auth Date Title

[ ] Power of Attorney (check here) Include copy of Department POWER OF ATTORNEY DECLARATION (Form MT-156)

(Do Not Write Below) DEPARTMENT USE ONLY

PREPARED AND APPROVED BY: _____ Date: _____

** Anil Desai **
** Project Engineer **

Permit Expiration

This Permit shall expire if;

1. the Permittee violates any permit condition;

2. the Permittee:

   A. changes the number of driveways,
   B. changes the width of any driveway by more than 5 feet,
   C. changes the location of any driveway by more than 10 feet,
   D. locates any driveway within 12 feet of the extended property line,
   E. locates any driveway within 24 feet of another driveway,
   F. changes the materials which comprise the driveway;

3. the use of the lot served by the permit is expanded or changed resulting in a significant increase in traffic;

4. the lot covered by the permit is subdivided or consolidated with another lot;

5. work is not started within two years of the date this permit was issued unless stated otherwise in this permit.

When the construction work under this permit is started within two years of the date of permit issuance but cannot be completed in the indicated time, the permit shall expire or the Permittee shall request an extension of time in writing from the appropriate Regional Maintenance Office and submit the required renewal fee in the form of a check or money order. The Department may approve one one-year extension.

This permit is issued in accordance with the State Highway Access Code, and is based upon the information submitted by Permittee. Any changes in traffic volumes, drainage, type of traffic or other operational aspects may cause this permit to expire, requiring a new permit to be issued based upon existing conditions. This permit is only for the use and purpose stated in the application and permit.

Access Construction

All work shall be done to the satisfaction of the Department.

No work in connection with this permit shall be started until the permit is effective.

The Permittee shall notify the Department's Regional Permits Office at least 2 weeks prior to beginning any work authorized by this permit.

The Permittee shall complete the access in an expeditious and safe manner and according to the terms and conditions of this permit.

After the Permittee constructs the access and meets all conditions of the permit, the Permittee shall notify the Regional Maintenance Office, in writing. Within 30 calendar days of its receipt of the notice, the Regional Maintenance Office will notify the Permittee if any corrective action is required by the Permittee.

Permit Scope

This permit is for only the lot noted above. The Permittee is responsible for all traffic crossing the frontage of the lot regardless of the origin or

destination of the traffic. This includes all traffic crossing the lot frontage over an easement.

The Permittee agrees to comply with the rules and regulations of the New Jersey Department of Transportation as set forth in the State Highway Access Code, N.J.A.C. 16:47, and the conditions included on this permit. This permit is only for the use and purpose stated in the application and permit. In addition, the Permittee understands N.J.S.A. 27:7-44.1 makes any violation of the provisions of this permit subject to a fine (not exceeding $100 per day) and civil action for the costs of prosecution as well as civil action for trespass to remove any access which does not meet these requirements.

This permit is granted subject to the covenants, premises, terms and conditions set forth herein and made a part of this revocable permission or privilege.

This permit cancels and supersedes any and all permits that may have been previously issued for this lot.

This permit does not relieve the Permittee from obtaining necessary permits from other agencies or governments.

All conditions of this permit are subject to modification by the Department to suit any unforeseen traffic and/or field conditions.

When work authorized herein is not performed in conformance with the required conditions of this permit, the Department may order the Permittee and his contractor to cease work and remove his equipment from Department right of way.

Access Maintenance

The Permittee may perform maintenance and in-kind replacement of the driveways.

Maintenance work may be done anytime within daylight hours as long as no interference to traffic is caused.

No changes or alterations to driveways may be made at any time without permission from the Department.

The Permittee shall be responsible for perpetual maintenance of curb and sidewalk and for landscape maintenance including irrigation, litter removal, weed control and mowing from edge of pavement to the right-of-way line.

Traffic Protection

Adequate advance warning for motorists approaching the construction site is required at all times during access construction, in conformance with the "NJDOT Standard Roadway Construction/Traffic Control/Bridge Construction Details" and the "Manual on Uniform Traffic Control Devices for Streets and Highways". This may include the use of signs, flashers, barricades, drums, and flaggers.

Permit Display

The Permittee shall make a copy of this permit available for review at the construction site.

Department Authority

The Department may revoke this permit; reconstruct, remove, or replace the access;

and then issue a new permit, all without cost to the lot owner.

Costs

The cost of construction work and material shall be entirely at the Permittee's expense. The Department will not share in any expense whatsoever or do any construction work pertaining to access driveways.

Protection From Suits

The Permittee shall defend, indemnify, protect and save harmless the State and its agents, servants, and employees from and against any and all suits, claims, losses, demands, or damages of whatever kind or nature arising out of or claimed to arise out of, any negligent act, error, or omission of the Permittee, its agents, servants, and employees in the performance of the work covered by this permit.

Protection of the General Public

The Permittee shall properly safeguard all work performed under this permit and when necessary, maintain sufficient warning lights, and Department approved signs and safety devices for the protection of the general public until all work has been completed.

Protection of Structures and Drainage

There shall be no interference with structures on, over, or under the highway. Interference with drainage installations shall be avoided. The existing cross section and drainage of the highway shall not be disturbed. The longitudinal flow of water along the gutter line shall not be interrupted. The Permittee is responsible to make adequate provision for all transverse, lateral, and longitudinal drainage affected by construction.

Curb Depressions

Where it is necessary to depress existing curbs for the purpose of constructing access, the full section of curb shall be entirely removed and a depressed curb constructed in accordance with Department and standards. The top of the depressed section shall be 1-1/2 inches higher than, and parallel to, the established gutter grade. The dimensions shall be 4" x 9" x 16" and the concrete proportions shall consist of one part Portland cement, one and three-fourths parts sand, and three and one-half parts crushed stone or washed gravel. Curved sections of existing curbs shall not be broken or depressed except under very exceptional conditions.

Depressed curb shall be constructed as a continuation of the concrete vertical curb. Driveway curb returns (radii) shall be separated from the highway curb by means of a piece of 1/2" thick preformed expansion joint filler butting to the back of the longitudinal curb.

All existing curb depressions other than those covered by this permit shall be closed by the construction of standard (9" x 16") white concrete vertical curb, in accordance with the Department's specifications and attached details.

Driveways

Driveways shall be constructed in accordance with locations, dimensions, and materials shown on the attached plans.

Parking

There shall be no parking on any unpaved portions of Department right of way.

Materials and Workmanship

Materials and workmanship used in construction within Department right of way shall be in accordance with the Department's Standard Specifications and are subject to inspection and approval of the Department. Where conditions warrant, the Department may assign an inspector to the project at the expense of the Permittee. The Department shall reserve the right to demand from the Permittee as a condition of this permit, a bond or certified check in an amount sufficient to guarantee or insure the proper maintenance or restoration of the area disturbed.

Traffic Signals

All equipment shall be installed in accordance with the Department Standards and Specifications under Department supervision. At the request of the Permittee, the Department may perform the signal modification. The cost of the signal modification work and all electrical equipment will be entirely at the Permittee's expense.

Any damages to Department traffic signal detection equipment or other electrical facilities will be repaired by the Department and the Permittee shall pay for the costs of the repairs.

Advertising Structures

Advertising signs shall not be erected on or overhang any portion of the Department right of way. Small signs with the message "Enter", "In", "Exit", "Out", designating access are permitted if shown on the attached plans. Signs shall be in accordance with all Department regulations including those for size, shape, color, and height.

Right of Entry

The Permittee authorizes Department representatives to enter upon the lot for the purpose of performing a site investigation. Furthermore, there are no objections in parking of a Department vehicle on the lot if necessary while taking field measurements and other data.

Landscape

Ground cover within Department right of way shall consist of topsoil, fertilizer, and seeding or topsoil and sodding. No shrubs, gravel, or railroad ties are permitted.

Curb

The Permittee shall remove all existing curb to the nearest expansion joint and replace it with new standard and depressed curb conforming to the approved plan. Curb, apron, gutter or sidewalk shall not be poured monolithically. Depressed curbing shall not be constructed as an integral part of concrete ramps.

When transition from 8" to 6" curb face is required, this will be accomplished within not less than 10', but not more than 20', as field conditions permit, or as directed by the permit inspector.

Curb, sidewalk, and other concrete facilities shall not be constructed within the Department right of way between November 1st and March 15th.

Sidewalk

When proposed sidewalk is to be placed adjacent to areas that have 8" curb face, the transition of the sidewalk will be at the same rate as the transition from the 8" to 6" curb face, or as directed by the permit inspector.

Sidewalk shall be Class B air entrained concrete, four inches thick, except at the driveway apron. This concrete shall be six inches thick on a properly prepared subbase and in accordance with Department specifications and the attached detail.

Sidewalk disturbed by work related to this permit shall be replaced to match the adjacent existing sidewalk in width and color, and shall be Class B concrete at a minimum of four inches thick.

Drainage

No additional surface water will be accepted on the Department right of way. Surface water shall continue to follow its existing flow pattern.

Pavement Excavations

Excavations within the existing roadway or shoulder shall be sawcut on a line parallel to the curb prior to final restoration.

Pavement Grades

Existing cross slopes and gutter grades shall be maintained except where specifically approved to be changed.

Pavement Surface

All bituminous surfaces disturbed during the construction of curb shall be restored to original conditions or better.

Snow

In the event of a snow alert, the Permittee shall be required to take whatever steps are necessary to secure the traveled way for snow removal operations.

Work hours

The Department may restrict the hours of work on or immediately adjacent to a State highway due to peak-hour traffic demands or other pertinent roadway operations.

The Permittee shall not interfere with the normal flow of traffic, reduce the number of traffic lanes, or change any traffic pattern prior to 9:00 AM or beyond 3:30 PM on weekdays and all day on weekends and holidays. If work is performed during other than the normal weekday working day (8 am to 4:30 pm), the Permittee shall deposit sufficient funds with the Department to pay all costs for the time that is required to be spent on the job by the Department's Permit Inspector.

Traffic Directors

Competent uniformed traffic directors shall be employed at every location where equipment is working immediately adjacent to, or is entering, leaving, or crossing active traffic lanes. Traffic directors shall be utilized while all such conditions exist. Uniformed trained traffic directors are to be provided, as required or requested by Department Representatives.

Curb Ramps

Access Points with radius curbing within an area which has existing or proposed sidewalks shall be constructed or reconstructed to provide ramps for the handicapped conforming the Department's standard detail CD-606-1.

Utilities

The Permittee shall reimburse the Department for all costs incurred for the relocation and/or replacement of its utility lines and equipment.

Safety

The Permittee shall provide sufficient advance warning signs, lights, cones, barricades, and other approved safety devices in accordance with "The Manual on Uniform Traffic Control Devices."

Two-way traffic shall be maintained at all times.

Not more than one-half of the State highway shall be occupied at any time.

No portion of trench over 2 inches in depth shall be left open overnight, on weekends, or holiday. Any trench or excavation within 30 feet of the traveled way shall have escape ramps at 6:1 slope provided overnight.

Uniformed trained traffic directors are to be provided, as required or requested by Department representatives.

Tree Removal

The Department has no objection to the removal of the tree(s) as shown on the plans at the Permittee's cost and expense.

Two-Year Restoration Guarantee

The Permittee will properly restore to the satisfaction of the Department any portion of the State highway which it may have disturbed, and will maintain it to the satisfaction of the Department from any settlement or depression resulting from this work for a period of one year after approval of such restoration by the Department. If settlement occurs during the one-year period of time the Department will require that the necessary restoration be made by the Permittee.

Trees

The Department will hold the Permittee responsible for a period of two years to guarantee the life of the trees which are encountered within the limits of construction. Any tree that is destroyed shall be replaced by type of species. The size of the tree will be determined by the Department landscape forces.

Maintenance of Access Points

The Permittee is responsible for maintenance of the access point to the longitudinal gutterline of the State highway.

Maintenance of Drainage Facilities

The Permittee shall maintain any drainage facilities outside the Department right of way.

Additional Traffic Safety Conditions

The Permittee will not be permitted to store material or park equipment within Department right of way or within 30 feet of the edge of the traveled way except as necessary during actual working operations and then only by permission of the Permit Inspector.

All work is subject to inspection by Department personnel to insure that adequate traffic protection devices are being used and are properly placed and maintained. If it is found that insufficient traffic protection is provided, the Permit Inspector will advise the Permittee of the deficiencies. If the deficiencies are not immediately corrected, the Permit Inspector will advise the Permittee that he is prohibited from further work within the Department's jurisdiction until such time as approved and adequate traffic protection is provided.

Trenches shall not be left open overnight. Steel plating shall not be utilized between November 1st and April 30, inclusive.

The Permittee shall contact all utilities for location and mark out.

Plan Errors

All work shall conform to the plans on file with the Department (if discrepancies arise, this permit shall take precedence over plans). The Department plan review is only for the general conformance with the Department design and Access Code requirements. The Department is not responsible for errors, omissions, or the accuracy adequacy of the design, of dimensions, and elevations which shall be confirmed and correlated at the site. The Department through the approval of the permit, assumes no responsibility other than stated above and completeness and/or accuracy of the plans.

Specifications

The work shall follow the applicable construction specifications set forth by the Department in the latest "Standard Specifications for Road and Bridge Construction", and the M.U.T.C.D.

Construction signs, when not in use, shall be covered as specified in the Standard Specifications.

Damages

Any damage to any present highway facilities shall be repaired immediately and prior to continuing other work. Any mud or other material tracked or otherwise deposited on the roadway shall be removed daily or as ordered by the Inspector.

Future Traffic Signal

If, at any time after the date of issuance of this permit, the Commissioner, in his sole discretion, determines that public safety or highway efficiency warrants the installation of a traffic signal at any access point that is the subject of the permi the Permittee shall allow the placement of any component associated with such a traffic signal on the lot to which this permit pertains. If any such components are placed on the subject lot, the Permittee shall maintain its roadway pavement and property in a manner conducive with the satisfactory operation of the components and the signal.

Further, prior to the installation of any such signal, the Permittee shall enter into an agreement with the Department incorporating other conditions pertaining to the cost, installation, and maintenance.

Maintenance Guarantee

The Permittee shall provide a bond or certified check to New Jersey Department of Transportation in the amount of $.00 to guarantee or to insure proper maintenance or restoration of the area disturbed by the Permittee for a period of one year after the Department's acceptance of the construction. If it becomes necessary for Department forces or contractors to make such repairs, for any reason, the cost of such work shall be borned by the Permittee.

Restoration Guarantee

A certified check, money order, or bond, in the amount of $.00, shall be secured in the name of the New Jersey Department of Transportation to guarantee that all work (including restoration) will be in accordance with Department specifications. The Restoration Guarantee will be released upon the Department's acceptance of the construction.

Utility Poles

All utility poles shall be relocated behind the proposed curbline prior to the construction of new curb.

Traffic Stripe Removal

All traffic stripes to be removed or changed are to be removed by the grinding method only. Blacking out with paint is unacceptable.

Raised Pavement Marker

If traffic is diverted from normal travel lanes during the hours of darkness, raised pavement markers within the limits of the diversion shall be deactivated.

Additional Traffic Safety Conditions

The Permittee shall maintain the uninterrupted flow of traffic at all times and no operation which will interfere with traffic or restrict the available pavement width shall be performed. On roadway widths of 40 feet or greater, two lanes of traffic will be maintained at a minimum of 10 feet each.

On roadway widths of less than 40 feet, when construction work necessitates the closing of one lane of traffic, thereby causing vehicles travelling in both directions to alternately use one lane, the Permittee shall insure that said vehicles will be delayed for a period not to exceed five minutes.

The Permittee shall be responsible for maintaining approved construction warning signs in each direction of travel. All signs and other protective devices provided by the Permittee, unless otherwise directed by the permit inspector, shall comply with the requirements of the "Manual on Uniform Traffic Control Devices for Streets and Highways", published by U.S.D.O.T, Federal Highway Administration. Competent uniformed traffic directors shall be employed at every location where the Permittee's equipment is working immediately adjacent to, where entering, leaving or crossing active traffic lanes. The traffic directors shall be employed continuously for the full time such conditions exist. Should it become necessary to leave a project unfinished, it shall be protected during the hours of darkness by flashing warning lights to be maintained by the Permittee at

each location where it is necessary to warn oncoming traffic of any existing danger area. Lights shall also be used to define the edge of usable pavement throughout the construction area.

In addition, standard barricades or drums shall be utilized as required. When battery operated flashing warning lights are used, they shall conform to Department Standard Specifications. Inspection and cleaning shall be conducted daily to provide for optimum efficiency. When work is in progress during hours of darkness, special traffic protection precautions shall be in effect as deemed necessary by the permit inspector. In substance, the Permittee shall provide special signs approved by the permit inspector with a legend warning motorists that night work is in progress, and such shall be displayed in conjection with high intensity flashing warning lights. Special signs applying only to night time work shall be covered during the daytime hours.

If future traffic volumes could warrant installing a traffic signal at an access point covered by this permit and signalized spacing requirements cannont be met, the Department may, at such time as future traffic volumes are reached, close the left-turn access in accordance with N.J.A.C. 16:47-4.33(b).

If an undivided highway becomes divided, the Department may at such time close the left-turn in accordance with N.J.A.C. 16:47-4.33(b).

ONE CALL REQUIREMENT

This permit is not valid until the confirmation number obtained from the one call system is supplied to the Regional Permits Office in accordance with P.L. 1994, Chapter 118, Item #11 of the Underground Facility Protection Act.

Permit # A-120-N-N036-2011

Condition of the permit:

1. This Permit is the replacement of the previously approved Permit #A-120-N-N033-2004, under which 4,760,000 Sq. Feet of Meadowland Xanadu was built. (excluding the existing are facility.)

2. Permit is of "Major" category, because less than 200 peak hour trips are generated by t addition of the 15 acres Amusement Park.

3. Condition of the Permit # A-120-N-N033-2004 to keep Turnpike Ramp # 18W open for 24 hours, 7 days a week is also applicable to this permit.

4. This permit is based on the allocation of 30% for alternative Access, as documented in the Traffic Assessment dated 10/25/11 and accepted by NJDOT.

APPENDIX B

DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT ON CD

DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

Amusement Park and Water Park Redevelopment Project at the Arena Site

East Rutherford, New Jersey



Prepared for:

New Jersey Sports And Exposition Authority
East Rutherford, NJ

Presented to:

New Jersey Department of Environmental Protection
Trenton, NJ

New Jersey Meadowlands Commission
Lyndhurst, NJ

Prepared by:

Langan Engineering & Environmental Services
Elmwood Park, NJ

October 2011


PARKING DECK "A"
ENTERTAINMENT / RETAIL
PARKING DECK "BCD"
IZOD CENTER
ENTERTAINMENT / RETAIL
PARKING DECK "E"
ENTERTAINMENT RETAIL
AMUSEMENT PARK
WATER PARK

DRAFT
SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

AMUSEMENT PARK AND WATER PARK
American Dream Meadowlands
Redevelopment Project at the Arena Site

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AMUSEMENT PARK
WATER PARK

EXECUTIVE SUMMARY

Introduction

In August 2004 a Final Environmental Impact Statement (EIS) was prepared and issued by the New Jersey Sports and Exposition Authority (NJSEA) for the Meadowlands Xanadu Redevelopment Project at the Continental Airlines Arena Site. The first structures envisioned in the Meadowlands Xanadu Redevelopment Project, the Entertainment/Retail Component (ERC) and associated parking decks, were partially constructed but the ERC was never completed due to financial difficulties. The severity of the recent economic recession has shut down the redevelopment project, and the various development teams who had partnered with NJSEA no longer have the economic viability to finish the project. As such, the project is currently not meeting the goals of the NJSEA for redevelopment of the Arena Site.

In early 2011, an affiliate of Triple Five Development (Triple Five; Developer) entered into an agreement to purchase the main component (ERC) of the Meadowlands Xanadu Redevelopment Project. Triple Five intends to complete the ERC building, with minor modifications, and build a new entertainment component consisting of an integrated, indoor Amusement Park and Water Park facility immediately adjacent to and connecting to the ERC. The ERC and Amusement Park and Water Park will be called "American Dream Meadowlands." The lack of a significant entertainment type attraction with the current design of the redevelopment project does not accomplish the purpose and need established by the NJSEA for the Arena Site redevelopment. The addition of the Amusement Park and Water Park facility is necessary to accomplish the State's and the new developer's objectives of creating an economically viable world class tourist destination.

The addition of the Amusement Park and Water Park facility is necessary to accomplish the State's and the new developer's objectives of creating an economically viable world class tourist destination. The addition of this entertainment component (i.e., Amusement Park and Water Park) is a similar approach to the entertainment format currently provided at Triple Five's other world class tourist destination centers located in Bloomington, Minnesota (Mall of America) and Edmonton, Alberta, Canada (West Edmonton Mall). The presence of these types of large entertainment facilities attracts patrons/tourists to the centers where the desired synergies between entertainment and retail uses are realized.

The Amusement Park and Water Park Project, as part of the American Dream Meadowlands, is sponsored by the NJSEA, a state agency which owns and manages the Meadowlands Sports Complex. It is anticipated that the NJSEA and Triple Five will enter into a ground lease for the ERC and Amusement Park and Water Park. The Radio Tower Site where the Amusement Park and Water Park is proposed, currently in control of Triple Five, will be transferred to the NJSEA,

incorporated into land holdings of the Meadowlands Sports Complex, and then leased by the NJSEA to an affiliate of Triple Five. The NJSEA's Board of Commissioners, by a resolution adopted on October 13, 2011, approved the Amusement Park and Water Park Conceptual Design, Site Plan and Use for the American Dream Meadowlands Project as presented in the Developer's September 27, 2011 Major Modification submission.

The Meadowlands Xanadu Redevelopment Project, which was the subject of the August 2004 EIS, encompassed the entire Arena Site, but excluded the IZOD Center. The proposed lease area for the American Dream Meadowlands Project does not encompass the entire footprint of the original Meadowlands Xanadu Redevelopment Project area. The American Dream Meadowlands Project area is comprised of three distinct project areas as defined and referred to in this Draft Supplemental EIS. The first project area is the ERC of the former Meadowlands Xanadu Redevelopment Project area, which encompasses the actual ERC building and associated parking decks constructed on the Arena Site. The second project area is the Radio Tower Site on which the Amusement Park and Water Park is proposed. The third project area is the Drainage Improvement Area within the New Jersey Turnpike right-of-way that extends into the drainage easement on the Radio Tower Site.

The Amusement Park and Water Park component of American Dream Meadowlands Project is the subject of this Draft Supplemental EIS. The NJSEA's enabling legislation requires that it "...consult with the Meadowlands Commission before making any determinations as to the location, type and character of the project" and "...consult with the Meadowlands Commission and the New Jersey Department of Environmental Protection with respect to the ecological factors constituting the environment of the Hackensack meadowlands..." (N.J.S.A. 5:10-5(x) and 5:10-23). This consultation process involves site plan review as well as an environmental assessment and analysis of the project including the preparation of an Environmental Impact Statement, public comments and a public hearing before hearing officers appointed by the New Jersey Meadowlands Commission (NJMC) and New Jersey Department of Environmental Protection (NJDEP). Since an EIS was prepared for the original Meadowlands Xanadu Redevelopment Project in 2004 and the proposed Amusement Park and Water Park facility is a new entertainment component to the overall redevelopment project, a Supplemental EIS was deemed appropriate for addressing Sections 5(x) and 23 of the enabling NJSEA legislation.

This Draft Supplemental EIS for the proposed Amusement Park and Water Park Project (Project) has been prepared by Triple Five for the NJSEA for review by the NJMC and NJDEP, as well as members of the public, as part of the "Consultation Process" required by the NJSEA enabling legislation for the Project. The Project will be located on the 21.75-acre Radio Tower Site, which is identified as Block 107.02, Lot 3 in the Borough of East Rutherford, Bergen County, New Jersey. The Radio Tower Site is generally bordered by the western spur of the New Jersey Turnpike on the east, N.J. Route 3 on the south, N.J. Route 120 on the west, and

the Meadowlands Sports Complex Arena Site on the north. The purpose of this Draft Supplemental EIS is to provide information regarding the nature of the Project and a discussion and analysis of the potential environmental impacts of the Project on the Hackensack Meadowlands, and receive comments and input from the regulatory agencies and general public. Based on comments received on this Draft Supplemental EIS, Triple Five and the NJSEA will prepare a Final Supplemental EIS for submission to the NJMC and NJDEP as well as the general public.

The environmental impacts from the ERC building and parking decks (i.e., first project area) are not changing, except for some minor modifications, from the original August 2004 EIS. Therefore, this Supplemental EIS does not address these components of the overall Arena Site. This Draft Supplemental EIS addresses the proposed structures and infrastructure improvements associated with the Amusement Park and Water Park component which is be constructed on the 21.75-acre Radio Tower Site (i.e., second project area) and drainage improvements proposed within the Turnpike right-of-way (i.e., third project area).

Project Description

Triple Five is proposing to build a new entertainment component, the Amusement Park and Water Park, on the Radio Tower Site which is immediately adjacent to the Arena Site. The entertainment component of the redevelopment project will be expanded by approximately 639,000 square feet gross buildable area (GBA) with the addition of the new, integrated, indoor Amusement Park and Water Park facility. The Amusement Park and Water Park will increase the total GBA of the overall redevelopment project at the Arena Site from 4.96 million square feet to 5.6 million square feet GBA.

The Amusement Park will be contained within a one floor enclosed structure with a footprint of approximately 318,000 square feet and a height above grade of approximately 120 feet. In addition, for certain rides with drop towers, a pop-up enclosure will extend vertically above the main roof of the building up to 150 feet. The Water Park will be contained within another one floor enclosed structure with a footprint of approximately 236,000 square feet and a height above grade of approximately 115 feet. The Amusement Park and Water Park will be climate controlled and open year round.

The Amusement Park and Water Park structures will be integrated by sharing a common area located between the parks, totaling approximately 85,000 square feet. The common area will be directly connected to the first floor of the existing ERC building (i.e., lowest commercial floor level) through an elevated pedestrian bridge extending over the East Peripheral Road. All patrons of the Amusement Park and Water Park will enter from the ERC into the Mezzanine Level through the pedestrian bridge. The Mezzanine Level will contain a food court, guest

services, ticketing, overlooks of the parks, and entrances to the parks. The first level below the common area will contain a number of uses including water park changing facilities, restrooms, water park mechanical areas and back of house administrative areas for both parks.

The Amusement Park will provide experiences in the state-of-the-art, adrenaline inducing rides (roller coasters, drop tower) for the teen demographic through to traditional family friendly rides (i.e., carousel) for the youngest guests. The ride selection will include some of the more recent developments in the attraction industry, and will be kept relevant over time with the addition of complimentary and cutting edge equipment to ensure that its appeal in the marketplace continues. In the circulation spaces there will be games, kiosks and site furnishings all integrated to enhance the guest experience.

The Water Park will include popular and cutting edge water based rides and attractions available in the industry today, including pools (wave pool, river, spas) and water slides (speed slides, tube slides, interactive water play structures), as well as extensive deck areas for lounging and relaxation. Food and beverage areas will also be provided.

The Amusement Park and Water Park will not provide any patron parking areas on the Radio Tower Site. Patrons for the Amusement Park and Water Park will generally arrive at the ERC from the adjacent roadways and park at the current ERC parking areas, or by rail or other mass transit, and then access the Amusement Park and Water Park by foot through the ERC via the proposed pedestrian bridge. The pedestrian bridge will be elevated above and cross over the East Peripheral Road, and have approximate dimensions of 60 feet wide by 150 feet long.

The existing roadways (South Connector Road and East Peripheral Road) on the Arena Site will be retained with this expansion of the entertainment development. The roadways are not part of the redevelopment footprint of the Amusement Park and Water Park, and will remain as main circulation roads for vehicular traffic at the Meadowlands Sports Complex. Vehicular access points to the Amusement Park and Water Park development will be connected via the East Peripheral Road at two locations: the proposed loading dock and a maintenance/emergency access point just north of the support foundation to the observation wheel. A perimeter access road will be constructed around the Amusement Park and Water Park buildings for emergency and maintenance access purposes. No additional public roadway improvements are proposed as part of the Amusement Park and Water Park Project.

As part of Phase I and II of the Meadowlands Xanadu Redevelopment Project, a series of extensions and improvements to existing infrastructure on and adjacent to the Arena Site were completed. For the Amusement Park and Water Park facility, potable water, sanitary sewerage, electricity and natural gas service will be extended from the Arena Site to the Amusement Park and Water Park Site. For sanitary sewerage, a new force main from the

Amusement Park and Water Park facility to the existing sanitary system pump station north of ERC Building A (constructed as part of the Meadowlands Xanadu Redevelopment Project) will be installed. From that point, the sewerage will be carried along with other sanitary waste from the redevelopment project to the East Rutherford pump station on the north side of the racetrack. For potable water, new tie-ins into the existing water main located within the East Peripheral Road will be constructed.

As part of the Amusement Park and Water Park Project, certain drainage improvements are proposed within the drainage easement and Turnpike right-of-way to reestablish proper drainage from the project site. The majority of the stormwater on the Radio Tower Site presently flows easterly to a drainage easement on the Site immediately adjacent to the Turnpike right-of-way, then through the Turnpike right-of-way easterly to a 96-inch diameter CMP storm pipe located beneath the Turnpike roadway. Accumulated sediments in the drainage area will be removed to reestablish a drainage ditch connecting the drainage easement area on the Radio Tower Site to the Turnpike culvert. The existing 96-inch culvert under the Turnpike will be cleaned out. The ends of the 96-inch culvert will be improved with new headwalls and outlet protection.

Wetlands mitigation will be provided for at off-site locations such as the Secaucus High School Wetland Mitigation Site constructed by the NJMC, through purchases of credits from wetland mitigation banks, and/or preservation of wetlands. An in-lieu fee payment agreement as per U.S. Army Corps of Engineers (USACE) guidance may also be pursued.

Regulatory Review and Approvals

The Meadowlands Sports Complex is exempted from the Hackensack Meadowlands District legislation by the statute governing the operation of the NJSEA (see N.J.S.A. 5:10-1 et seq.). Under Section 5(x) of this statute, the NJSEA may determine the location, type and character of a project or any part thereof and all other matters in connection with all or any part of the project, notwithstanding any land use plan, zoning regulation, building code or similar regulation adopted by the State, any municipality, county, public body politic and corporate, including but not limited to the Meadowlands Commission, or any other political subdivision of the State. Therefore, this exemption applies to the redevelopment of the Arena Site and the Amusement Park and Water Park Project.

The NJSEA's enabling legislation, however, does require it to consult with the NJMC and NJDEP "with respect to the ecological factors constituting the environment of the Hackensack meadowlands to the end that the delicate environmental balance of the Hackensack meadowlands may be maintained and preserved" (*N.J.S.A. 5:10-23*). This Consultation Process must occur between the NJMC and NJDEP for new development on NJSEA-owned land. This

Draft Supplemental EIS has been prepared as a means to facilitate the goal of NJSEA's consultation process with the NJMC and NJDEP concerning the addition of a new component (i.e., Amusement Park and Water Park) to the overall redevelopment project, and meets the scope and intent of the New Jersey Executive Order No. 215 EIS process.

The Amusement Park and Water Park Project will require a number of environmental, transportation, and construction related permits and approvals from Federal, State, and regional regulatory agencies. Necessary permits and approvals will be pursued by the Developer and, in some cases, with the NJSEA separate and apart from the Consultation Process. The approvals include, for example, a Department of the Army permit for the proposed filling of wetlands; NJDEP Division of Land Use Regulation permits (i.e., Waterfront Development, Flood Hazard Area Permit, Water Quality Certification, Coastal Zone Management Consistency Determination); NJDEP Treatment Works Approvals for sanitary sewer improvements; NJDEP Water Main Extension Certification for potable water mains; and, a New Jersey Department of Transportation (NJDOT) Major Access Permit (Without Planning Review) for use of existing access points to Route 120.

Affected Environment

The Amusement Park and Water Park Project will be located on the Radio Tower Site, which is located immediately to the south of the Arena Site. The Radio Tower Site is bordered by the New Jersey Turnpike to the east, U.S. Route 3 to the south and U.S. Route 120 to the west. The site is approximately 21.75 acres and is currently occupied by one radio tower transmission building and three radio towers. The radio towers are no longer operational and will be taken down. The operation of the towers was moved to a site in North Bergen as part of past Meadowlands Xanadu Redevelopment Project activities. The radio tower transmission building will also be razed as part of the Project.

The extent of regulated tidal and non-tidal wetlands and waters on the Radio Tower Site and adjacent Turnpike right-of-way where off-site drainage improvements are proposed has either been confirmed or is in the process of being confirmed through the issuance of a Jurisdictional Determination letter from the USACE. A total of approximately 7.4 acres of wetlands have been delineated on the 21.75-acre site. The majority of wetlands identified on the Site are tidal and non-tidal emergent wetlands dominated by common reed. The upland areas located on the Site are maintained grassed areas, previously disturbed areas with successional vegetation, and small isolated stands of shrubs and trees.

The Radio Tower Site is located within the Hackensack Meadowlands District (HMD), a 32-square mile area that presently includes 8,500 acres of wetlands and aquatic habitat. The Radio Tower Site is located to the west of the Hackensack River. One unnamed tributary to the

Hackensack River is found within the drainage easement on the Radio Tower Site, extending from a 96-inch culvert under the Turnpike to the Radio Tower Site. The majority of the Radio Tower Site and areas adjacent to N.J. Route 120 and East Peripheral Road drain to the 96-inch culvert, eventually discharging to the Hackensack River. A small portion of the northern end of the Radio Tower Site discharges to an unnamed tributary to Cedar Creek and the 108-inch culver under the Turnpike. The majority of the Radio Tower Site is located within the 100-year tidally influenced floodplain of the Hackensack River. No special wildlife habitat or threatened or endangered species habitat has been documented on the Radio Tower Site.

Soils and sediments on the Radio Tower Site have been sampled and found to contain certain contaminants. Overall, the soil sample results identified semi-volatile organic compounds (SVOCs), poly-chlorinated biphenyls (PCBs), one pesticide compound (chlordane), extractable petroleum hydrocarbons (EPH) and metals above their NJDEP Non-Residential Soil Remediation Standards (SRS). These soil sample results confirm that there are historic fill type compounds on the property consistent with the historic fill classification as defined by the NJDEP in the Technical Requirements for Site Remediation (N.J.A.C. 7:26E-1.8 and 4.6). Site conditions are influenced by the presence of historic fill and contaminant levels observed are not attributable to current site operations. A Remedial Action Workplan (RAW), including a Soil Reuse Proposal (SRP), will be developed for the Radio Tower Site by a Licensed Site Remediation Professional (LSRP). The RAW will propose engineering and institutional controls as the remedial action for historic fill and non-historic fill compounds. The concrete from the demolition of the existing structures will be crushed and used on the property as fill. Any imported fill material to be place beneath the proposed "cap" (i.e. concrete, structures) will be similar in contaminant type and concentration to the existing historic fill and non-historic fill.

The Remedial Action Workplan, Soil Reuse Plan, and Health and Safety Plan to be prepared Plan in accordance with the New Jersey Technical Requirements for Site Remediation by the LSRP will provide direction and guidance on minimizing potential impacts to humans and the environment during construction and operation of the Amusement Park and Water Park Project due to the presence of contaminated resources on the Radio Tower Site.

Environmental Consequences and Mitigation

The Amusement Park and Water Park Project will avoid many potential adverse environmental impacts due to the location of the Project on previously-developed land and the proposed use of existing infrastructure. In conformance with the State of New Jersey Smart Growth policies, the Project minimizes adverse environmental impacts by using an already-developed site (i.e., Radio Tower Site) that offers redevelopment opportunities and limits the potential adverse environmental impacts compared to locating the Project on an undeveloped site. If the Amusement Park and Water Park Project were to be constructed on an undeveloped site,

adverse environmental impacts greater than those expected to occur at the Radio Tower Site, such as site clearing of forested areas, loss of wildlife habitat, loss of wetland, and changes in land use would likely occur at the undeveloped site.

The placement of the Amusement Park and Water Park Project on the Radio Tower Site allows for the use of the infrastructure improvements associated with the redevelopment of the Arena Site including roads, sewers, water mains, power lines and telephone lines such that adverse environmental impacts are avoided for connection to these services. Redevelopment of the Radio Tower Site allows the use of the existing infrastructure on the Arena Site such that offsite improvements for the Project are only limited to drainage improvements within the Turnpike right-of-way. Potential environmental impacts from the expansion of infrastructure to service a new development on an undeveloped site are thereby avoided. Often, new development located on an undeveloped site requires extensive infrastructure improvements, such as new roadways and sewer mains, which lead to adverse environmental impacts both onsite and offsite for the construction of this new infrastructure. The placement of the Amusement Park and Water Park Project adjacent to the ERC also allows for the use of vehicular parking available for the ERC. Therefore, the Amusement Park and Water Park Project does not provide for any patron vehicular parking areas on the Radio Tower Site. This sharing of parking resources reduces the land mass required for the Amusement Park and Water Park Project compared to locating the parks on their own site. This reduced footprint avoids potential environmental impacts.

In order to provide for the necessary land area to accommodate the Amusement Park and Water Park Project immediately adjacent to the ERC, some environmental impacts on the Radio Tower Site are unavoidable. Approximately 5.24 acres of tidal and non-tidal emergent wetlands would be filled on the Radio Tower Site for construction of the Amusement Park and Water Park buildings and perimeter access road; and, an additional 0.23 acres of tidal emergent wetlands would be filled to complete drainage improvements within the adjacent Turnpike right-of-way. Approximately 0.66 acres of wetlands and waters will be temporarily impacts from the dredging of a drainage area as part of the drainage improvements for the Project. Approximately 13 acres of lands on the Radio Tower Site currently within the 100-year tidal floodplain of the Hackensack River will be filled. These proposed adverse environmental impacts are necessary and unavoidable.

The design and operation of the Amusement Park and Water Park Project will be performed in a manner that avoids adverse environmental impacts through the use of proper utilities to manage and convey potable water to the buildings, and collect and direct wastewater produced within the buildings to the local public wastewater treatment plant conveyance system. A stormwater management system will be designed, permitted, constructed and maintained on the Project Site to minimize any potential flooding and water quality degradation from the

Project. Drainage improvements within the drainage easement located on the Radio Tower Site and within the Turnpike right-of-way, associated with a 96-inch culvert which conveys runoff from the Radio Tower Site easterly towards the Hackensack River, will be performed as part of the Project. Solid waste, including recyclables, will be collected and stored in suitable containers and disposed of in accordance with federal and state solid waste programs and regulations.

To limit potential adverse environmental impacts from the operation of the Project to energy resources in the region, energy conservation steps will be taken during design and operation of the Project. Where feasible, low-emission equipment, energy-efficient fixtures, energy-efficient glazing, proper insulation to control heat and cooling losses, and state-of-the-art systems will be utilized.

The Developer is committed, to the extent practicable, to developing and implementing environmentally responsible building and design steps into the design, construction and operation of the Amusement Park and Water Park. Environmentally responsible building concepts such as water conservation, energy conservation, peak load reduction, and construction phase and operational phase management programs are being evaluated. In addition, specific State energy and incentive programs will be incorporated into the evaluation and design process.

The Amusement Park and Water Park will not require any additional onsite or offsite roadway improvements. The existing Meadowlands Sports Complex roadways (South Connector Road and East Peripheral Road) on the Arena Site will remain with this expansion of the entertainment component. Vehicular access points to the Amusement Park and Water Park facility will be by two connections along the East Peripheral Road.

A Traffic Impact Assessment was prepared to determine the additional trips from the Amusement Park and Water Park Project and compare them with the original traffic volumes of the redevelopment project at the Arena Site. The Traffic Impact Assessment concluded that the roadway improvements constructed over the past several years for the redevelopment project combined with other regional road improvements, as well as the new rail line, have improved traffic conditions in the Meadowlands Sports Complex area. Based on criteria set forth in the New Jersey State Highway Access Management Code, the Amusement Park and Water Park Project would result in a minimal increase in traffic compared to the original redevelopment project.

Combined with the ERC building and part of the American Dream Meadowlands, the Amusement Park and Water Project will have many significant, beneficial socioeconomic impacts to the NJSEA, local region, and State. Tax revenues will provide beneficial impacts to

the local region and State. Jobs to the region will be increased from the Project. The Project will also contribute to the continuing economic development of the Meadowlands region.

Completing the former ERC and constructing the new Amusement Park and Water Park will have immediate benefits to the State. The Developer has projected that completion of the existing ERC building and construction of the new Amusement Park and Water Park facility will create up to 9,100 construction jobs onsite over a two-year period. Further, the expected $1.8 billion in American Dream Meadowlands project costs will generate economic multiplier effects throughout the State economy, supporting an additional 10,600 jobs and $1.5 billion in indirect business and household spending until the American Dream Meadowlands opens. Once open, the American Dream Meadowlands will employ nearly 11,500 people onsite and generate nearly $1 billion in annual spending. This annual spending, in turn, will generate significant multiplier effects statewide by supporting an additional 5,670 jobs and $0.85 billion in statewide economic activity.

The design and implementation of the Amusement Park and Water Park Project will incorporate and undertake a number of actions to minimize and compensate for potential adverse environmental impacts during construction and operation of the Project. During the construction phase of the Project, a series of environmentally-oriented management plans will be implemented to control and manage dust and noise, soil erosion, dewatering, construction traffic, construction equipment emissions, and the reuse of soil. A Health and Safety Plan will be implemented to protect workers against any potential contaminated materials with which they may come into contact. The safety of the public will also be addressed through proper fencing and controlled access to work areas. Landscaping will be established as part of the construction phase of the Project to provide the greening of open space along the building and perimeter access road.

During the operation phase of the Project, additional environmentally-oriented management plans will be implemented to control and manage traffic, maintain the infrastructure, and manage solid waste. Recycling will be promoted to decrease the quantity of solid waste making its way to landfills. Landscaping will be maintained to provide appropriate screening.

The Developer will provide a suitable wetland mitigation plan to compensate for the proposed filling of 5.47 acres of wetlands. The type and characteristics of the wetland mitigation necessary to compensate for the filling of the wetlands will be determined during the review of the Project at the Federal level for the required Department of the Army permit.

The Developer is working with NJ TRANSIT and other transportation planning agencies to increase bus service to the Project Site and develop regular rail service to the Meadowlands Sports Complex. The Developer is preparing a transportation management plan to increase the

use of mass transit by patrons. With the addition of a rail station at the Meadowlands Sports Complex in 2010, access to the project site by rail is now possible. With future daily rail service to the Meadowlands Sports Complex and improved bus service, the Developer anticipates a substantial increase in the use of mass transit by American Dream Meadowlands patrons and employees and a concomitant decrease in automobile traffic.

The Developer also envisions a wide range of programs to be explored and potentially implemented as part of the overall transportation management plan. Each program would help to increase the use of mass transit by patrons and employees. These programs include expanding Meadowlink service to the project site from existing mass transit hubs, marketing promotions and packages encouraging the use of mass transit, employee incentives to use mass transit, marketing incentives for patron off-peak visits; and preferred patron carpool parking and ride/car-sharing.


PARKING DECK "A"
ENTERTAINMENT / RETAIL
PARKING DECK "BCD"
IZOD CENTER
ENTERTAINMENT / RETAIL
PARKING DECK "E"
ENTERTAINMENT / RETAIL
AMUSEMENT PARK
WATER PARK

1.0 PROJECT DESCRIPTION

1.1 Project Setting and Description

1.1.1 Project Setting

In August 2004, a Final Environmental Impact Statement (EIS) was published for the Meadowlands Xanadu Redevelopment Project proposed at the Arena Site (Arena Site) at the Meadowlands Sports Complex in the Hackensack Meadowlands District, in East Rutherford, Bergen County, New Jersey (NJSEA 2004) (Figure 1-1). The first building envisioned in the Meadowlands Xanadu Redevelopment Project, the Entertainment/Retail Component (ERC), was partially constructed but the ERC was never completed due to financial difficulties.

In early 2011, an affiliate of Triple Five Development (Triple Five) entered into an agreement to purchase the main component (ERC) of the Meadowlands Xanadu Redevelopment Project. The ERC component and the Amusement Park and Water Park component have been renamed "American Dream Meadowlands." The American Dream Meadowlands encompasses a portion of the Arena Site. Triple Five intends to complete the ERC building, with minor modifications, and build a new entertainment component consisting of an integrated, indoor Amusement Park and Water Park facility located on the Radio Tower Site immediately adjacent to and connecting to the ERC.

The American Dream Meadowlands Project is sponsored by the New Jersey Sports and Exposition Authority (NJSEA), a state agency which owns and manages the Meadowlands Sports Complex. It is anticipated that Triple Five will enter into a ground lease with the NJSEA for the ERC and Amusement Park and Water Park. The Radio Tower Site where the Amusement Park and Water Park is proposed, currently in control of Triple Five, will be transferred to the NJSEA, incorporated into the land holdings of the Meadowlands Sports Complex, and then leased by the NJSEA to an affiliate of Triple Five. The NJSEA approved the Amusement Park and Water Park Conceptual Design, Site Plan and Use for the American Dream Meadowlands Project as presented in the Developer's September 27, 2011 Major Modification submission.

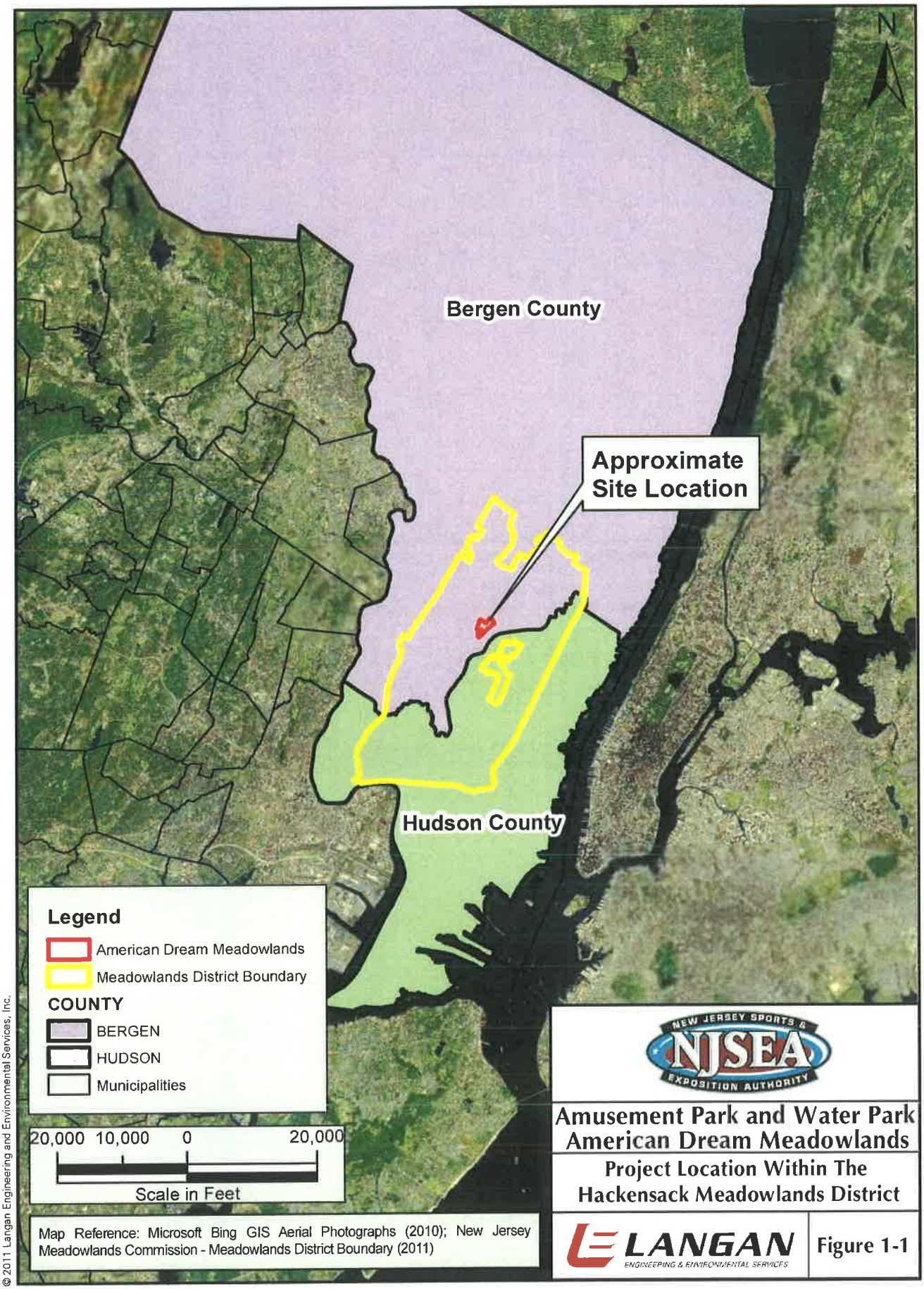
The Amusement Park and Water Park component of American Dream Meadowlands Project is the subject of this Draft Supplemental EIS. The NJSEA's enabling legislation requires that it "...consult with the Meadowlands Commission before making any determinations as to the location, type and character of the project" and "...consult with the Meadowlands Commission and the New Jersey Department of Environmental Protection with respect to the ecological factors constituting the environment of the Hackensack meadowlands..." (N.J.S.A. 5:10-5(x)

and 5:10-23). This consultation process involves site plan review as well as an environmental assessment and analysis of the Amusement Park and Water Park Project including the preparation of an EIS, public comments and a public hearing before hearing officers appointed by the New Jersey Meadowlands Commission (NJMC) and New Jersey Department of Environmental Protection (NJDEP). Because an EIS was prepared for the redevelopment project on the Arena Site and the proposed Amusement Park and Water Park facility is a new entertainment component to the overall redevelopment project, a Supplemental EIS was deemed appropriate for addressing Sections 5(x) and 23 of the enabling NJSEA legislation.

The new Amusement Park and Water Park component of the redevelopment project at the Arena Site is proposed to be constructed on property located immediately to the south of the Arena Site known as the "Radio Tower Site" (Figure 1-2 and 1-3). The Radio Tower Site property is approximately 21.75 acres and is identified as Block 107.02, Lot 3 on the Borough of East Rutherford's tax maps. The Radio Tower Site is located in the Hackensack Meadowlands District and is bound to the north by the East Peripheral Road (Arena Site loop road) and the Arena site, to the east by the New Jersey Turnpike, to the south by NJ State Route 3, and to the west by NJ State Route 120.

The Radio Tower Site is presently developed with three, 500+ foot high steel lattice radio transmission towers, access roads and a radio transmission building (Figures 1-3 and 1-4). The three radio towers are aligned in a southwest to northeast orientation near the central portion of the property. The transmission building and access driveways occur in the southern and western sections of the site. Herbaceous upland and wetland areas comprise the vegetative community on the Radio Tower Site. A drainage easement is located on the Radio Tower Site to maintain a drainage area that flows through the Turnpike right-of-way to a 96-inch culvert located under the New Jersey Turnpike (See Figure 4-3 in Section 4.2.1).

Historically the Radio Tower Site has been used for radio tower transmission. Based on a review of historic aerial photographs and documents, the Radio Tower Site and adjacent lands were filled before 1967 as part of the development of NJ Route 120 (formerly designated Route 20) (Figure 1-5). With the construction of the New Jersey Turnpike and the Meadowlands Sports Complex in the 1960's and 1970's, further fill and isolation of the Radio Tower Site from the Hackensack River occurred. According to the New Jersey Geological Survey Historic Fill Map prepared in 2009, the Radio Tower Site is located within a "historic fill" area, except for the very northern tip of the property (Figure 1-6).



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Amusement Park and Water Park
American Dream Meadowlands

Meadowlands Sports Complex
Vicinity Map

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Figure 1-2

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Amusement Park and Water Park
American Dream Meadowlands

Aerial Photograph

LANGAN ENGINEERING & ENVIRONMENTAL SERVICES

Figure 1-3

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500 250 0 500

Scale in Feet

Reference: Promaps Inc., Moorestown, NJ - Flyover Aerial Photography (6-2011)

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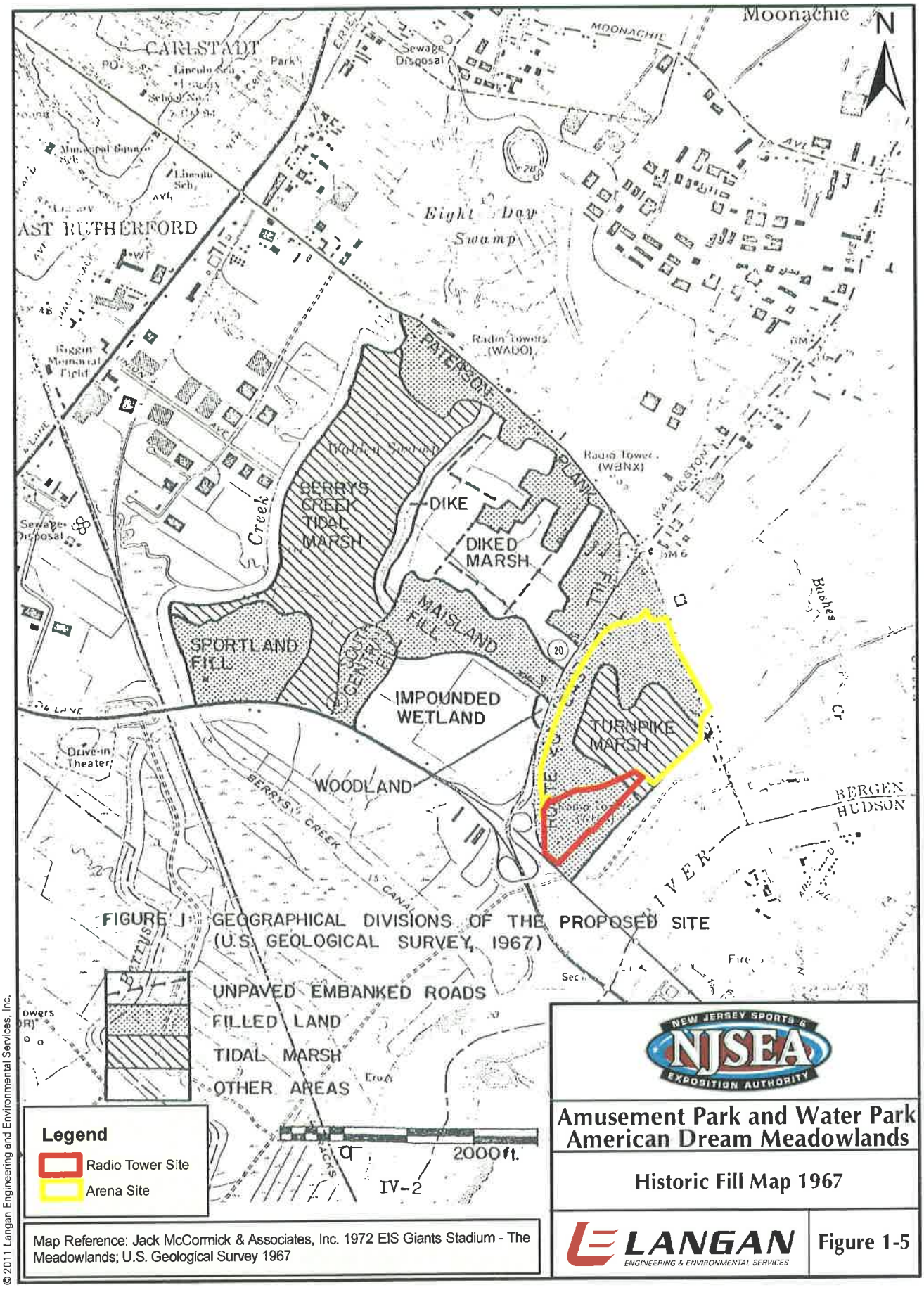
NEW JERSEY SPORTS & EXPOSITION AUTHORITY

Amusement Park and Water Park
American Dream Meadowlands

Aerial View of the Radio Tower Site and Arena Site Looking North

LANGAN ENGINEERING & ENVIRONMENTAL SERVICES

Figure 1-4



Map Reference: Jack McCormick & Associates, Inc. 1972 EIS Giants Stadium - The Meadowlands; U.S. Geological Survey 1967

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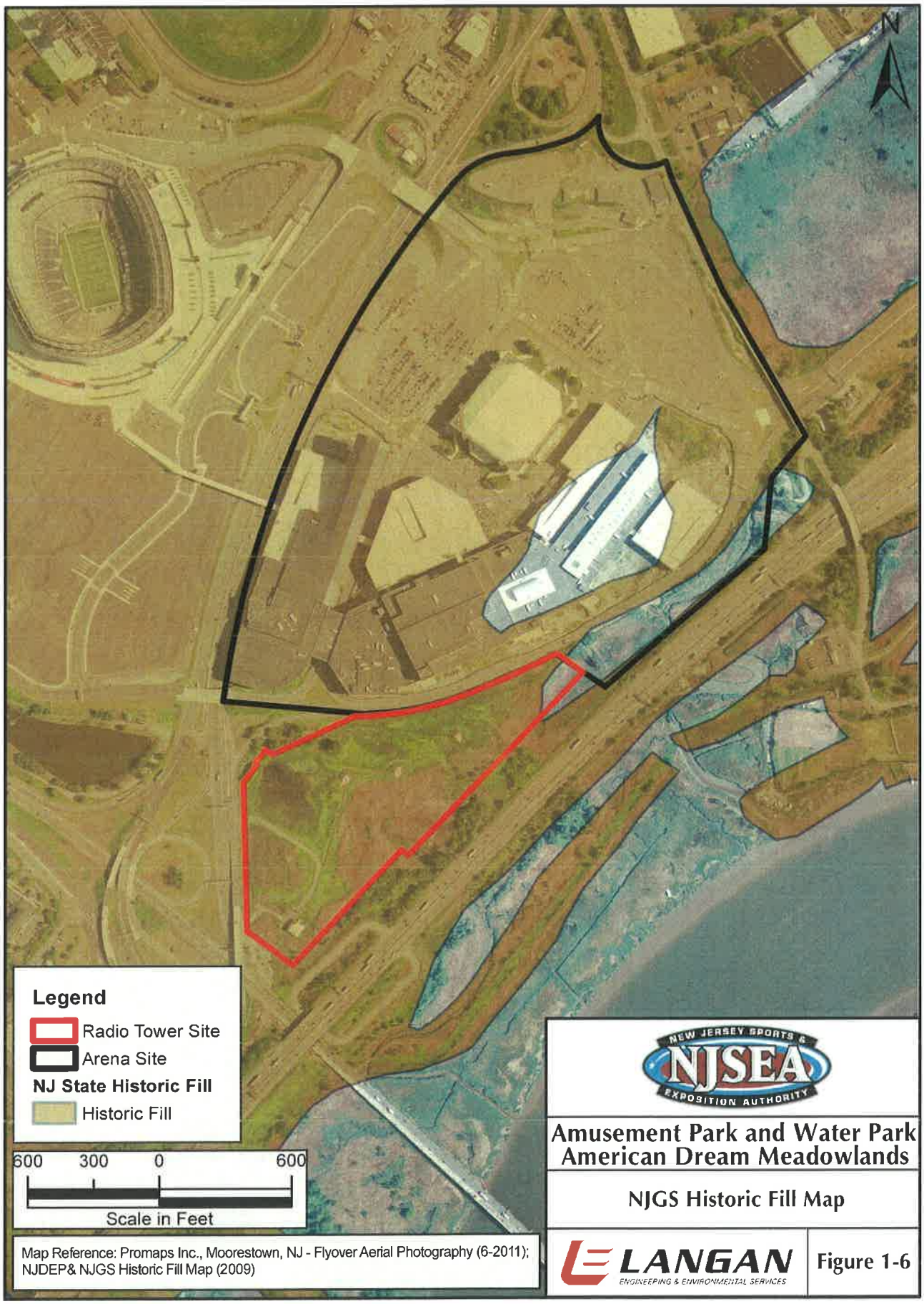
Amusement Park and Water Park
American Dream Meadowlands

Historic Fill Map 1967

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Figure 1-5

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The radio tower transmission operation on the Radio Tower Site was moved to another site in North Bergen related to the redevelopment of the Arena Site. With the cessation of radio tower transmission activities and control of the property by Triple Five, redevelopment of the Radio Tower Site is now feasible. With the addition of the 21.75-acre radio tower property to the Meadowlands Sports Complex, the Sports Complex lands will increase in size to approximately 706 acres, making the Meadowlands Sports Complex one of the largest sports and entertainment venues in the entire country.

1.1.2 Project Description

The original August 2004 EIS described the Meadowlands Xanadu Redevelopment Project, which was a 4.96 million square feet, mixed-use project with diverse components of sports and family entertainment, ancillary retail, select restaurants, hotel with conference facilities, and Class A offices to complement and enhance the NJSEA's existing Meadowlands attractions. Phase I of the Meadowlands Xanadu Redevelopment Project was completed which included the construction of a parking deck and internal roadway configuration. Phase II, which included the construction of the ERC and additional parking decks, was partially completed when construction ceased in 2009.

In early 2011, an affiliate of Triple Five entered into an agreement to purchase the ERC component of the Meadowlands Xanadu Redevelopment Project and rename this component of the redevelopment project on the Arena Site to "American Dream Meadowlands." Triple Five intends to complete the ERC building and construct a new entertainment component consisting of an integrated indoor Amusement Park and Water Park facility immediately adjacent to and connecting to the ERC building. A portion of the master plan for the Arena Site has been revised to reflect the addition of the Amusement Park and Water Park component to the overall redevelopment project at the Arena Site (Figure 1-7).

The addition of the Amusement Park and Water Park facility is necessary to accomplish the State's and the new developer's objectives of creating an economically viable world class tourist destination (McMillan Doolittle 2011; See Appendix G). The addition of this entertainment component (i.e., Amusement Park and Water Park) is a similar approach to the entertainment format currently provided at Triple Five's other world class tourist destination centers located in Bloomington, Minnesota (Mall of America) and Edmonton, Alberta, Canada (West Edmonton Mall). The presence of these types of large entertainment facilities attracts patrons/tourists to the centers where the desired synergies between entertainment and retail uses are realized.

No changes are proposed at this time for the hotel, office and baseball park components of the redevelopment project at the Arena Site that were originally approved in 2004 (Figure 1-7). These components of the redevelopment project are not under the control of Triple Five at this time.

1.1.2.1 Project Components and Uses

Like the former ERC, the American Dream Meadowlands Project will provide the entertainment and retail uses of the redevelopment project at the Arena Site. Triple Five will complete the current ERC building and build a new entertainment component, the Amusement Park and Water Park. The Gross Buildable Area (GBA) square footage of the original ERC building will essentially remain unchanged (approximately 2.7 million square feet). The Amusement Park and Water Park building, with a GBA of approximately 639,000 square feet, will increase the overall entertainment of the American Dream Meadowlands Project (Figure 1-8). The redevelopment project at the Arena Site will increase from approximately .96 million to 5.6 million square feet GBA. A more detailed description of the Amusement Park and Water Park component is presented below.

Entertainment – Amusement Park and Water Park

The entertainment component of the redevelopment project at the Arena Site will be expanded by approximately 639,000 square feet GBA with the addition of a new, integrated, indoor Amusement Park and Water Park facility (Figure 1-8). The Amusement Park will be contained within a one floor enclosed structure with a footprint of approximately 318,000 square feet and a height above grade of approximately 100 feet. In addition, for certain rides with drop towers, a pop-up enclosure will extend vertically above the main roof of the building up to 150 feet. The Water Park will be contained within another one floor enclosed structure with a footprint of approximately 236,000 square feet and a height above grade of approximately 115 feet. The Amusement Park and Water Park will be climate controlled and open year round. The Amusement Park and Water Park Project, including the perimeter access corridor around the building, has a footprint of approximately 19 acres.

The Amusement Park and Water Park structures will be integrated by sharing a common area located between the parks (Figure 1-8). The Mezzanine Level will contain a food court, guest services, ticketing, overlooks of the parks and entrances to the parks, with 85,000 square feet of common area. The common area on the mezzanine level will be directly connected to the first floor of the existing ERC building (i.e., lowest commercial floor level) through an elevated pedestrian bridge extending over the East Peripheral Road. All patrons of the Amusement Park and Water Park will enter through the pedestrian bridge. The first level below the common

area will contain a number of uses including water park changing facilities, restrooms, water park mechanical areas and back-of-house administrative areas for both parks.

The Amusement Park will provide experiences in the state-of-the-art, adrenaline inducing rides (roller coasters, drop tower) for the teen demographic through to traditional family friendly rides (i.e., carousel) for the youngest guests. The ride selection will include some of the more recent developments in the attraction industry, and will be kept relevant over time with the addition of complimentary and cutting edge equipment to ensure that its appeal in the marketplace continues. In the circulation spaces there will be games, kiosks and site furnishings all integrated to enhance the guest experience.

The Water Park will include popular and cutting edge water based rides and attractions available in the industry today, including pools (wave pool, river, spas) and water slides (speed slides, tube slides, interactive water play structures), as well as extensive deck areas for lounging and relaxation. Food and beverage will also be provided.

Patrons for the Amusement Park and Water Park will generally arrive at the ERC from the adjacent roadways and park at the current ERC parking areas, or by rail or other mass transit, and then access the Amusement Park and Water Park by foot through the ERC via the proposed pedestrian bridge to the ERC. The proposed pedestrian bridge will be elevated above and cross over the East Peripheral Road, and have approximate dimensions of 60 feet wide by 150 feet long.

LIMIT OF PARCELS TO BE CONTROLLED BY TRIPLE FIVE DEVELOPMENT

ROUTE 120

120

ENTERTAINMENT / RETAIL

PARKING DECK "A"

PARKING DECK "BCD"

BALLPARK

OFFICE TOWER

PARKING DECK

OFFICE TOWER

HOTEL

IZOD CENTER

OFFICE TOWER

PARKING DECK

OFFICE TOWER

PARKING DECK "E" WEST

ENTERTAINMENT / RETAIL

ENTERTAINMENT/ RETAIL

PARKING DECK "E" EAST

AMUSEMENT PARK

WATER PARK

PATERSON PLANK ROAD

NEW JERSEY TURNPIKE

95

250 0 125 250

SCALE IN FEET

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NEW JERSEY SPORTS & EXPOSITION AUTHORITY NJSEA

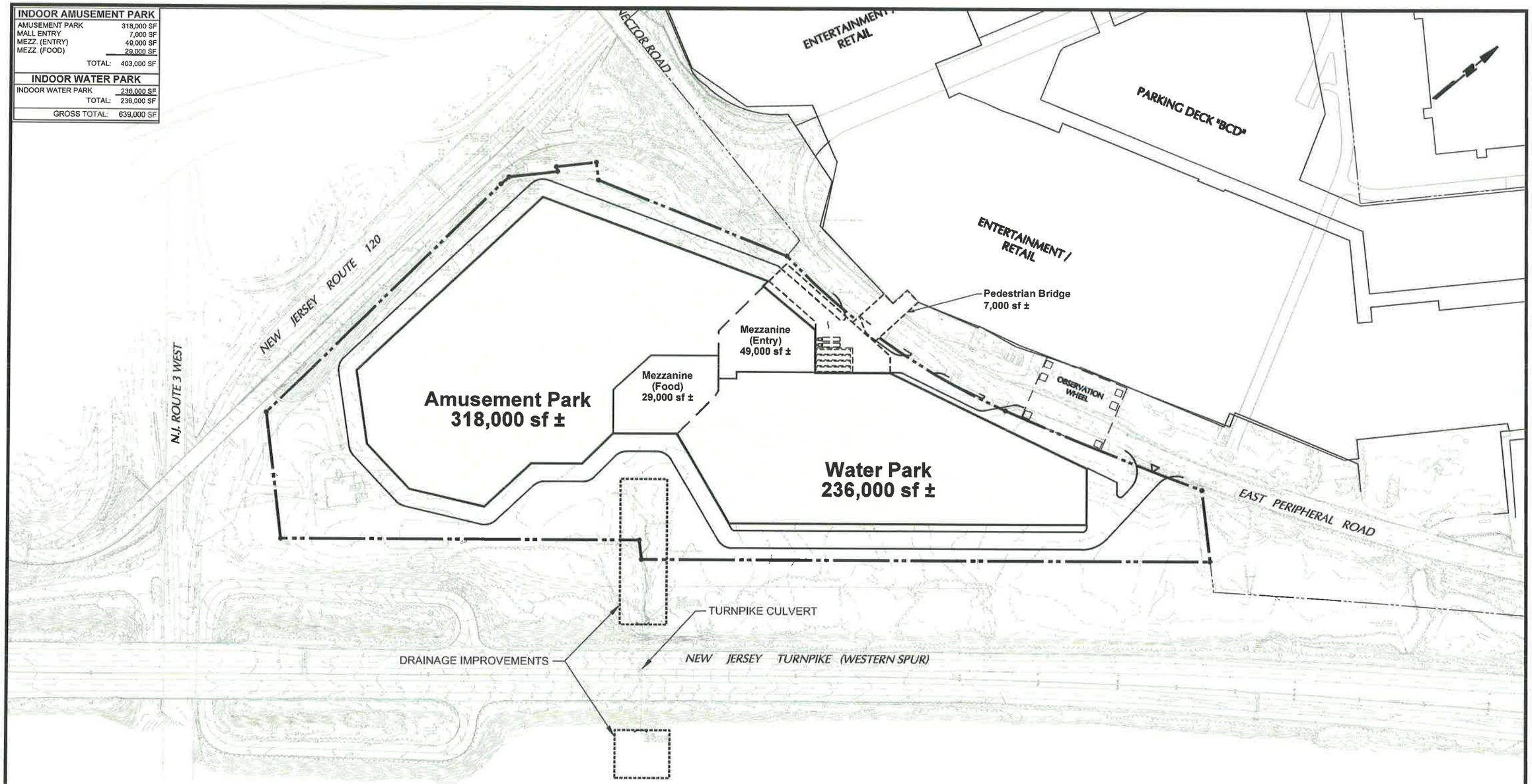
Amusement Park and Water Park
American Dream Meadowlands

Revised Master Plan

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Figure 1-7

INDOOR AMUSEMENT PARK	
AMUSEMENT PARK	318,000 SF
MALL ENTRY	7,000 SF
MEZZ. (ENTRY)	49,000 SF
MEZZ. (FOOD)	29,000 SF
TOTAL:	403,000 SF
INDOOR WATER PARK	
INDOOR WATER PARK	236,000 SF
TOTAL:	236,000 SF
GROSS TOTAL:	639,000 SF



250 0 125 250

SCALE IN FEET

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NEW JERSEY SPORTS & EXPOSITION AUTHORITY

Amusement Park and Water Park
American Dream Meadowlands
Amusement Park and Water Park
Site Plan

LANGAN

Figure 1-8

1.1.2.2 Parking

There are no new parking surface lots or parking structures proposed as part of the Amusement Park and Water Park facility. Visitors to the Water Park and Amusement Park will park underneath the adjacent, existing ERC, which is set up on stilt-like structures, or in the adjacent parking decks (Deck A, Deck BCD and Deck E East and West) and surface parking areas at the Meadowlands Sports Complex, or arrive by rail or other mass transit. Employees for the ERC and Amusement Park and Water Park will park off-site and be transported by shuttles. There are no changes proposed to the existing parking areas and counts that were originally proposed and authorized for the redevelopment project at the Arena Site.

Some of the parking areas at the Meadowlands Sports Complex are designated as shared parking areas in parking management plans. These parking areas are shared between the components of the redevelopment project and events at the Stadium and Arena. A discussion of the Event Parking and Transportation Management Plan for the redevelopment project at the Arena Site was presented in Appendix G of the August 2004 EIS. Subsequently, updates to the development of the Event Parking and Transportation Management Plan were provided in the January 2005 and January 2008 Quarterly Progress Reports (NJSEA and Meadowlands Management 2005, NJSEA and Meadowlands Management 2008).

Parking demand will be substantially decreased by the development of regular service to the Meadowlands rail station located next to the Stadium as well as providing bus service from other mass transit locations in the region. By providing regular service to the Meadowlands Sports Complex by rail and bus, daily ridership on mass transit can be generated and lead to a decrease in travel by automobile and related parking demands at the Arena Site.

1.1.2.3 Roadway Improvements

A series of on-site and off-site roadway improvements were completed as part of Phase I of the Meadowlands Xanadu Redevelopment Project from 2006 through 2009, including a new flyover ramp from Route 3 Eastbound to Route 120 Northbound, reconfiguration of ramps to and from the Turnpike's Interchange 18W, and lane additions/improvements along Route 120 next to the Arena Site. In addition, since the issuance of the August 2004 EIS, a series of other roadway improvements to the Meadowlands Sports Complex roadway network and regional roadway network have been completed including connections from the Sports Complex to Route 120, internal circulation on the West Side of the Meadowlands Sports Complex, reconfiguration of Route 3 ramps and improvements to the Turnpike's Interchange 16W.

- Additional ramps and lanes on the Arena Site;
- New service road along Route 120 Northbound;
- New flyover ramp from Route 3 Eastbound to Route 120 Northbound Service Road;
- Additional lane on ramp from Route 120 Southbound to Route 3 Westbound;
- Additional lane on Route 120 Southbound adjacent to Meadowlands Sports Complex;
- Additional lanes on the New Jersey Turnpike Interchange 18W Sports Complex access ramps;
- Reconfiguration of the New Jersey Turnpike Interchange 16W with additional lanes and ramps;
- Additional lane on Route 3 Eastbound Sports Complex Access Ramp;
- New flyover from Route 120 Southbound to Route 3 Eastbound; and,
- Additional lanes, widening and shoulders on Paterson Plank Road to Route 17.

In addition to the above completed roadway improvements, several additional improvements are in progress and include:

- Replacement of Route 3 structure over the Passaic River;
- Additional lanes and shoulders at the Route 3 Passaic River crossing; and,
- Rehabilitation of both Eastbound and Westbound Route 3 structures over the Hackensack River.

Besides these completed roadway improvements and improvements in progress, mass transit improvements at the Meadowlands Sports Complex and ongoing development of a regional traffic signal management program by the NJMC will further help traffic operating conditions in the region. NJ Transit, in concert with the NJSEA, constructed a rail station adjacent to the Stadium and a rail line to the Pascack Valley line, part of the regional NJ Transit rail system. The rail service became operational in 2010 for events at the Stadium and full service will be provided with the opening of American Dream Meadowlands. The NJMC is developing the "Meadowlands Adaptive Signal System for Traffic Reduction (MASSTR), which is a traffic signal program to help traffic flow in the District by immediately adapting to current traffic conditions. (Appendix F).

The Amusement Park and Water Park will not require any additional offsite public roadway improvements. The existing Meadowlands Sports Complex roadways (South Connector Road and East Peripheral Road) on the Arena Site will remain with this expansion of the entertainment development. The roadways are not part of the redevelopment footprint for the Amusement Park and Water Park, and will remain as main circulation roads for vehicular traffic and circulation at the Meadowlands Sports Complex. Vehicular access points to the Amusement Park and Water Park facility will be by two connections along the East Peripheral

Road: the proposed loading dock and a maintenance/emergency access point just north of the support foundation for the observation wheel (Figure 1-8).

1.1.2.4 Infrastructure Improvements

As part of Phase I and II of the Meadowlands Xanadu Redevelopment Project, a series of extensions and improvements to existing infrastructure on and adjacent to the Arena Site were completed. For the Amusement Park and Water Park facility, potable water, sanitary sewerage, electricity and natural gas service will be extended from the Arena Site to the Amusement Park and Water Park site (see Section 4.13.2). For sanitary sewerage, a new force main from the Amusement Park and Water Park facility to the existing sanitary system pump station north of ERC Building A will be constructed. From that point, the sewerage will be carried along with other sanitary waste from the redevelopment project at the Arena Site to the East Rutherford pump station on the north side of the racetrack. For potable water, new tie-ins into the existing water main located within the East Peripheral Road will be constructed.

The majority of the stormwater on the Radio Tower Site presently flows easterly to a drainage easement on the Radio Tower Site immediately adjacent to the Turnpike right-of-way, then through the Turnpike right-of-way easterly to a 96-inch diameter CMP storm pipe located beneath the New Jersey Turnpike roadway. As part of the Amusement Park and Water Park Project, certain drainage improvements are proposed within the drainage easement and Turnpike right-of-way to reestablish proper drainage from the Radio Tower Site (Figure 1-8). Accumulated sediments in the drainage area will be removed to reestablish a drainage ditch connecting the drainage easement area on the Radio Tower Site to the Turnpike culvert. The existing 96-inch culvert under the Turnpike will be cleaned out. The ends of the 96-inch culvert will be improved with new headwalls and outlet protection. Temporary construction access areas will be required to construct these improvements. Further details about the drainage easement on the Radio Tower Site, drainage improvements within the Turnpike right-of-way, and infrastructure improvements are provided in Section 4.13.

1.1.2.5 Wetlands Mitigation

The Federal Section 404(b)1 Guidelines set forth the standards for evaluating impacts associated with discharges of dredged or fill material and establish requirements for mitigating permittable impacts to waters of the United States. The Guidelines require applicants to follow the mitigation hierarchy of avoidance, minimization and ultimately, compensation for unavoidable impacts.

As discussed in the Alternatives Analysis in Section 3.0, avoidance of wetland impacts is not practicable given the project purpose. Not building the Amusement Park and Water Park would cause the American Dream Meadowlands Project to be economically unviable. No viable offsite alternatives exist that would avoid impacts to waters of the U.S. Based on the configuration of the onsite wetlands, it is not possible to avoid impacting them.

The Amusement Park and Water Park Project results in approximately 5.24 acres of permanent impacts for the construction of the Amusement Park and Water Park buildings and associated infrastructure, and approximately 0.23 acres of permanent impacts for certain drainage improvements.

Through the evaluation of onsite alternative designs for the Amusement Park and Water Park, impacts to wetlands have been minimized from a total of approximately 6.7 acres under Alternative 1 to approximately 5.24 acres under Alternative 3, which is the selected alternative and the least environmentally damaging alternative. The Amusement Park and Water Park Project proposes no onsite parking. Instead, patrons will park at the existing parking lots/parking garages already constructed at the ERC, or arrive by rail or other mass transit. This shared parking approach results in a significant reduction in potential wetland impacts by reducing the overall footprint of the project. Thus, impacts to waters of the U.S. have been minimized to the extent practicable.

These design considerations notwithstanding, the project, including the drainage improvements adjacent to the Turnpike culvert, will result in approximately 5.47 acres of unavoidable impacts to waters of the U.S. These permanent impacts will be compensated for at offsite locations within the same watershed including the purchase of wetland mitigation from the Secaucus High School Wetland Mitigation Site constructed by the New Jersey Meadowlands Commission; through the purchase of available credits from any approved wetland mitigation banks; through the preservation of wetlands; and/or, compensation through in-lieu fee payment. The final compensatory mitigation program for the Amusement Park and Water Park Project will be consistent with the March 2008 U.S. Army Corps of Engineers (USACE) and U.S. Environmental Protection Agency (USEPA) Compensatory Mitigation for Losses of Aquatic Resources Rule.

1.1.3 Definition of the Project Area(s)

The Meadowlands Xanadu Redevelopment Project, which was the subject of the August 2004 EIS, encompassed the entire Arena Site as shown on Figure 1-9, but excluded the IZOD Center. The proposed lease area for the American Dream Meadowlands Project does not

encompass the entire footprint of the original Meadowlands Xanadu Redevelopment Project area. The American Dream Meadowlands Project area is comprised of three distinct project areas as defined and referred to in this Draft Supplemental EIS (Figure 1-9). The first project area is the ERC of the former Meadowlands Xanadu Redevelopment Project area, which encompasses the actual ERC building and associated parking decks constructed on the Arena Site. The second project area is the Radio Tower Site on which the Amusement Park and Water Park is proposed. The third project area is the Drainage Improvement Area within the New Jersey Turnpike right-of-way which extends into the drainage easement on the Radio Tower Site.

The environmental impacts associated with the ERC building and parking decks (i.e., first project area) are not changing from the original August 2004 EIS. Therefore, this Supplemental EIS does not address these components of the overall Arena Site. This Draft Supplemental EIS addresses the proposed structures and infrastructure improvements associated with the Amusement Park and Water Park to be constructed on the 21.75-acre Radio Tower Site (i.e., second project area) and drainage improvements within the Turnpike right-of-way (i.e., third project area).

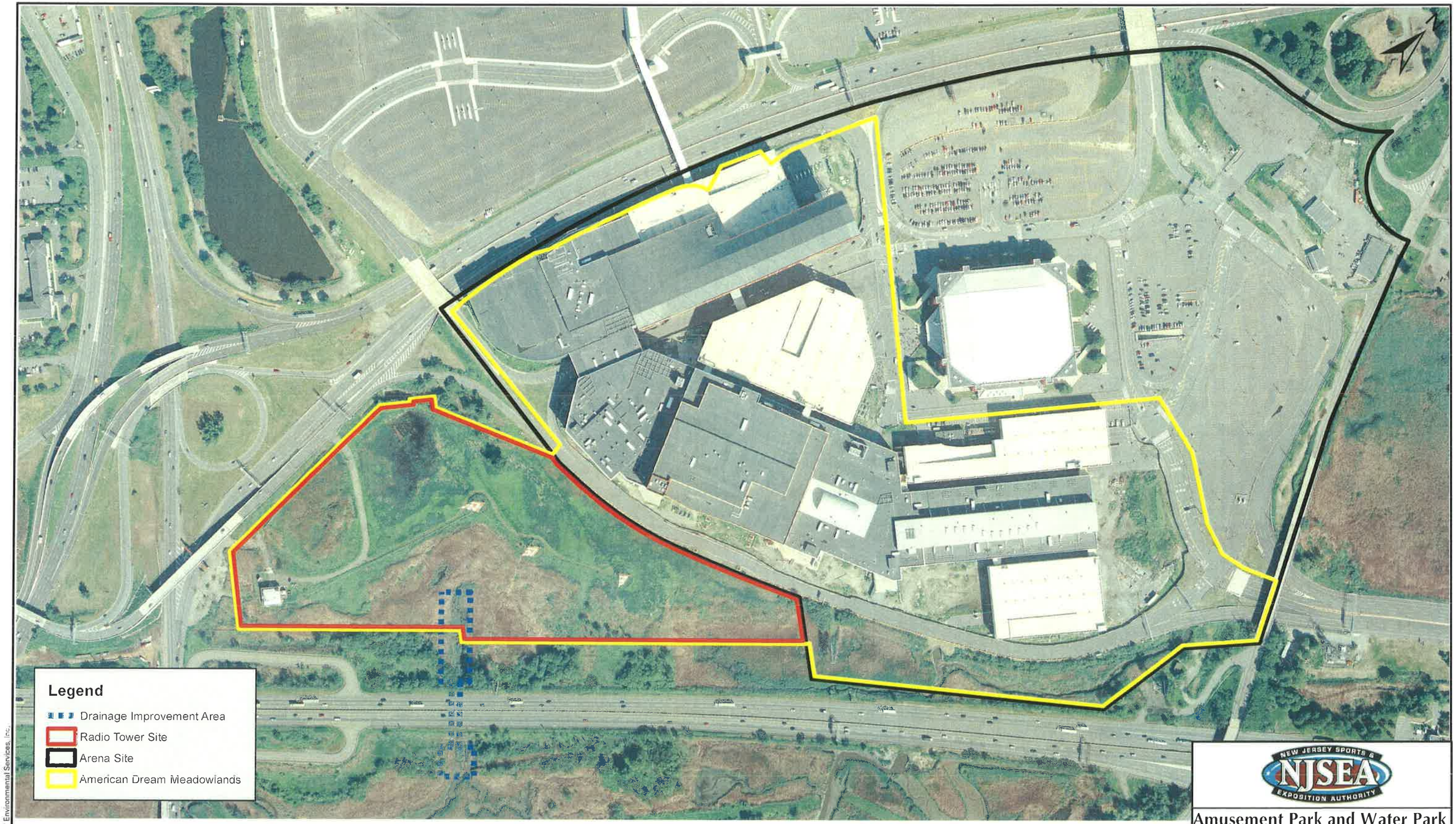
1.2 Project Sponsor

The Amusement Park and Water Park component of the American Dream Meadowlands Project is sponsored by the NJSEA, which owns and manages the entire Meadowlands Sports Complex. The NJSEA and Triple Five anticipate that the Radio Tower Site will be transferred to the NJSEA, incorporated into the lands of the Meadowlands Sports Complex, and then leased by the NJSEA to an affiliate of Triple Five.

As an entity of the State of New Jersey, the NJSEA is the official preparer of this Draft Supplemental EIS, which is to be used to support the Consultation Process with the NJMC and NJDEP. The Consultation Hearing process is being undertaken pursuant to Sections 5:10-5(x) and 5:10-23 of the NJSEA's enabling legislation (Public Law 1971, Chapter 137 (codified at N.J.S.A. 5:10-1 et seq.)).

1.3 Project Schedule / Construction Sequencing

Construction of the Amusement Park and Water Park is anticipated to begin in 2012 after required permits and approvals have been obtained. Subject to obtaining the required permits, the project's schedule anticipates opening of the Amusement Park and Water Park prior to the Super Bowl scheduled for February of 2014.



300 150 0 300

Scale in Feet

Map Reference: Promaps Inc., Moorestown, NJ - Flyover Aerial Photography (6-2011)

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NEW JERSEY SPORTS & EXPOSITION AUTHORITY

Amusement Park and Water Park American Dream Meadowlands

Project Area and Drainage Improvements Area

LANGAN ENGINEERING & ENVIRONMENTAL SERVICES

Figure 1-9

1.4 Location, Type and Character

Section 5(x) of the NJSEA's enabling Legislation requires the NJSEA to consult with the NJMC on the location, type and character of proposed projects (N.J.S.A. 5:10-5x). This section of the Draft Supplemental EIS has been prepared to summarize information about the location, type, and character of the Amusement Park and Water Park Project and reference the reader to other sections of this Draft Supplemental EIS where this information is presented in further detail.

Project Location – As described in Section 1.1.1, the Amusement Park and Water Park will be located on the Radio Tower Site located to the south of the Arena Site. The Radio Tower Site is bordered by the New Jersey Turnpike to the east, U.S. Route 3 to the south and U.S. Route 120 to the west (Figures 1-2, 1-3 and 1-4). The site is approximately 21.75 acres and is currently occupied by one radio tower transmission building and three radio towers. There are no other structures on the property. The radio towers are no longer operational and will be taken down. The operation of the towers was moved to a site in North Bergen as part of past Meadowlands Xanadu Redevelopment Project activities. The radio tower transmission building will also be razed as part of the project. The existing roadways (South Connector Road and East Peripheral Road) on the Arena Site will be retained with this expansion of the entertainment development. The roadways are not part of the redevelopment footprint of the Amusement Park and Water Park, and will remain as main circulation roads for vehicular traffic at the Meadowlands Sports Complex (Figure 1-8). Vehicular access points to the Amusement Park and Water Park development will be connected via the East Peripheral Road at two locations: the proposed loading dock and a maintenance/emergency access point just north of the support foundation to the observation wheel.

The location of this entertainment component is critical to the overall success of the project. Specifically, by locating the Amusement Park and Water Park at the south end of the ERC, away from the parking, patrons using the Amusement Park and Water Park must pass through the ERC on their way in and on their way out, thereby achieving the desired interaction with the retail component of the ERC. This circulation pattern would not be achievable if the Amusement Park and Water Park were located at the north or northwest side of the ERC, where close proximity to parking would negate the potential for patrons to interact with the retail component. The addition of the Amusement Park and Water Park is necessary to fulfill the goals of the NJSEA in the redevelopment plan for the Arena site of "creating a multi-use destination that capitalizes on existing uses at the Meadowlands and expands the product mix in a manner that is complimentary to those uses."

Project Type - The design concept combines new entertainment uses to complement those incorporated in the ERC, focused on large volume indoor Amusement Park and Water Park components connected via an elevated pedestrian bridge to the existing ERC. The addition of the Amusement Park and Water Park entertainment components to the ERC will reinforce the vision of the NJSEA and the Developer to be a compelling international family entertainment destination and contribute a significantly broader appeal to the mix of uses compared to those proposed in the original Meadowlands Xanadu Redevelopment Project.

The Amusement Park and Water Park will provide an additional entertainment component to the overall ERC, and adds approximately 639,000 square feet of additional Gross Buildable Area (GBA) to the redevelopment project at the Arena Site (See Figure 1-8). South of the South Connector Road will be a two lobed building, with one end starting near Route 3 extending northerly towards Interchange 18W of the Turnpike. The Amusement Park and Water Park will be integrated into one building. The Amusement Park will be contained within a one floor enclosed structure with a footprint of approximately 318,000 square feet and a height above grade of approximately 120 feet. The Water Park will be contained within another one floor enclosed structure with a footprint of approximately 236,000 square feet and a height above grade approximately 115 feet.

The Amusement Park will provide experiences in the state-of-the-art, adrenaline inducing rides (roller coasters, drop tower) for the teen demographic through to traditional family friendly rides (i.e., carousel) for the youngest guests. The ride selection will include some of the more recent developments in the attraction industry, and will be kept relevant over time with the addition of complimentary and cutting edge equipment to ensure that its appeal in the marketplace continues. In the circulation spaces there will be games, kiosks and site furnishings all integrated to enhance the guest experience.

The Water Park will include most of the most popular and cutting edge water based rides and attractions available in the industry today, including pools (wave pool, river, spas) and water slides (speed slides, tube slides, interactive water play structures), as well as extensive deck areas for lounging and relaxation. Food and Beverage areas will also be provided.

Project Character – The indoor Amusement Park and Water Park will become entertainment anchors with broad appeal to the expanded entertainment offerings of the ERC, providing year-round consistent patron visits to the Meadowlands Sports Complex. The Amusement Park and Water Park will provide active and participatory components, as part of a program mix that will appeal to a broad demographic and foster significant repeat visitation. The concept combines and expands upon the best of Triple Five's other proven venues to provide a sense of place and an international family entertainment destination.

The Amusement Park and Water Park facility will optimize the use of the Radio Tower Site, integrate and complement the existing sports venues, retail and entertainment tenants, and restaurants, attracting a broader range of visitors, including local and regional visitors as well as tourists. The general configuration of the indoor Water Park and Amusement Park responds to the environmental and other constraints of the Radio Tower Site, while satisfying the functional and operational needs of a project of this type. The Amusement Park and Water Park building will face the New Jersey Turnpike and Route 120. The existing onsite Sports Complex roadway network will not require any reconfiguration to accommodate the new building. The Amusement Park and Water Park, combined with the ERC, will create a compelling signature attraction unparalleled in the world at this time.

1.5 Environmentally Responsible Buildings and Design

In the NJDEP Commissioner's October 1, 2004 Order it was concluded that the design and site constraints presented in the record may preclude LEED certification for all elements of the original redevelopment project. Accordingly, the LEED requirement of the HOR was modified by the Commissioner to require the developer to incorporate, to the extent practicable, LEED and Energy Star Program standards within the design of the redevelopment project. For the ERC, the developer submitted an Energy Conservation and Sustainable Design Preliminary Status Report, dated October 2008, that addressed the incorporation of energy conservation and environmental design into the ERC building (Meadowlands Management, 2008).

The Developer is committed, to the extent practicable, to developing and implementing environmentally responsible building and design steps into the design, construction and operation of the Amusement Park and Water Park. A summary of some of the environmentally responsible building and design aspects being considered for the Amusement Park and Water Park facility are provided in Table 1-1. Environmentally responsible building concepts such as water conservation, energy conservation, peak load reduction, and advanced building controls are being evaluated. In addition, specific State energy and incentive programs will be incorporated into the evaluation and design process. The New Jersey Board of Public Utilities (BPU) Pay-for-Performance program can assist in achieving a superior level of energy performance of buildings. The Developer anticipates that an updated Energy Conservation and Sustainable Design Status Report will be provided to the Hearing Officer's as the design of the Amusement Park and Water Park is advanced.

Table 1-1

SUMMARY OF ENVIRONMENTALLY RESPONSIBLE BUILDING AND DESIGN FEATURES

General Category	Features for Evaluation and Implementation	Description of Potential Building and Design Feature
SITE SELECTION	Brownfield Redevelopment	The Amusement Park and Water Park Project is being developed on the Radio Tower Site that is a brownfield site. The redevelopment of the Radio Tower Site avoids potential impacts to undeveloped sites. The Project will take advantage of the existing Meadowlands Sports Complex surface parking areas by having patrons park at the existing parking areas on the Arena Site, thereby minimizing the need for building expansive new parking areas for the Project. No parking areas are being built on the Radio Tower Site as part of the Project.
	Reduce Heat Island Effect	The Heat Island Effect is the temperature difference between developed and undeveloped areas. Buildings, surface parking lots and streets contribute to the heat island effect by retaining solar energy. Roof surfaces that are either high albedo (high solar reflectance) or vegetated reduce heat absorption and, therefore, reduce the heat island effect. High albedo materials reflect solar energy rather than absorb it. For a sustainable design, roofing material for a flat or low-sloped roof should have an SRI of at least 78. The Amusement Park and Water Park roofs will evaluate the use of a roofing system that will allow the project to reduce potential heat island effects.
WATER CONSERVATION	Native Plant Landscaping	The majority of plantings in the landscape areas around the Project will be plants native to New Jersey and Northeastern America, as well as plants recommended by the NJMC. Native plants typically require less watering for proper growth and maintenance, and can withstand drought better than non-native exotic landscape plants.
	Select Fixtures For Potable Water Use Reduction	The Amusement Park and Water Park Project will incorporate a number of potable water use saving devices. Low-flush toilets, low consumption urinals and self-metering faucets will be installed in the public restrooms to reduce potential potable water consumption. Low-flush toilets are low consumption fixtures with 1.6 gallons per flush. Low-consumption urinals have 1.0 gallon per flush. Self-metering 0.25 gallon per cycle faucets will be installed in the public restrooms.
ENERGY CONSERVATION	Energy Efficient Envelope and Glazing	The design of the walls and roofs of the park buildings will be evaluated to provide for a high insulation value for energy efficiency. Where windows are provided in the buildings, windows will be double-glazed with Low-Emissivity Glass Coating (Low 'E'), thereby increasing their energy efficiency.
	Energy Star Product Utilization	The Energy Star Program (ESP) is a joint energy management strategy program of the Environmental Protection Agency (EPA) and the U.S. Department of Energy (DOE). The goal of the ESP is to promote energy efficiency in order to obtain environmental and economic benefits. The ESP promotes energy efficiency within the nation's residential, commercial, and industrial sectors in order to provide cost savings and reduce greenhouse gas emissions. The ESP promotes energy efficient decision-making by providing the information and tools that make such decisions appealing and practicable, and reducing the risks and costs typically associated with energy-efficient technology. The ESP provides a range of Energy Star endorsed products oriented toward the commercial industry that are known for reliability and energy efficiency. Certain products will be evaluated and incorporated into the design of the Parks.
	Lighting Design and Lighting	The lighting design for the Amusement Park and Water Park will evaluate the use of energy efficient lighting fixtures. The lighting design will be compliant with the applicable energy code for the State of New Jersey, which follows ASHRAE 90.1 (2004). This means that the common area lighting is designed so it does not exceed 1.7 watts per square foot. The design of the Parks will also consider the use of automated lighting control system that promotes energy conservation through the use of an advanced control and management software systems.

Table 1-1

SUMMARY OF ENVIRONMENTALLY RESPONSIBLE BUILDING AND DESIGN FEATURES

General Category	Features for Evaluation and Implementation	Description of Potential Building and Design Feature
CONSTRUCTION	Construction Waste Recycling Program	A construction phase waste recycling program will be implemented for the Amusement Park and Water Park Project. The program will recycle major construction waste materials including wood, metal, concrete, cardboard and sheetrock. All construction waste is placed into designated waste containers and taken offsite to an off-site sorting facility. Certain materials may also be reused onsite. Both the construction waste recycling program and reuse of certain materials on-site will lead to the recycling and reuse of many waste products at the project site during the construction phase of the Project.
	Construction Phase Diesel Emission Reduction Program	A Diesel Emissions Reduction Program will be implemented for the construction phase of the Project. The goal of the program will be to reduce diesel particulate matter (PM) emissions by thirty five percent (35%) through the use of ultra-low sulfur diesel fuel and use of late-model equipment with specific retrofits that limit particulate matter emissions. The diesel emissions management program focuses on major construction equipment used on-site to build the Project.
	Use of Material with Recycled Content	Using materials with high recycled content conserves natural resources and reduces the energy used in the manufacturing process. By incorporating waste products, such as fly ash from coal combustion and blast furnace slag from steel production, into the production of cement a significant amount of energy is conserved. For the Project, the use of materials with recycled content will be evaluated and incorporated to the extent feasible.
	Low-Emitting Materials	The paints, coatings, adhesives, caulking and carpeting used for the Amusement Park and Water Park Project will be selected to reduce or eliminate "volatile organic compounds" or VOC's. Coupled with good ventilation, reducing or eliminating the VOC vapors emitted by caulking and carpeting and by drying paint and adhesives helps maintain a high standard of indoor air quality.
	Buy-Local Program	Long before diesel fuel prices soared past $5.00 a gallon, the importance of buying materials from sources close to the project was recognized by sustainable design programs and initiatives. Materials manufactured within 500 miles of a project site, or both manufactured and sourced within 500 miles of the project site are typically considered "local." The Project will be incorporating a substantial amount of local materials in the park buildings such as foam insulation, synthetic rubber and concrete.
OPERATIONS	Recycling Program	The Project will establish an extensive recycling program during operation of the parks to encourage and promote recycling by patrons. The recycling program will focus on the recycling of paper, glass, plastics, metals, cardboard and light bulbs.
	Post-Consumer Recycled Paper	All public restrooms will use papers with post-consumer recycled content. Operators of the Parks will highly recommend and encourage all tenants to use post-consumer recycled paper for all tenant applications including restaurants, fast food establishments, and other paper products used by tenants and customers.
	Building Management Systems	During the design of the Amusement Park and Water Park Project advanced metering building management systems, lighting control systems, efficient HVAC systems and exhaust fans with sensors will be evaluated for incorporation into the Project. These types of systems help to manage and minimize the use of electricity as well as cooling demands.
	Green Cleaning Products Program	Management of the Amusement Park and Water Park will require the use of "environmentally friendly" cleaning products. Management will consider the green seal standard GS-37 while procuring institutional cleaning products.

1.6 Hearing Officer's Report and Recommendations and Quarterly Reports

The NJMC and NJDEP Hearing Officers issued their findings and recommendations on the original August 2004 EIS in their Hearing Officer's Report and Recommendations in the Matter of the Hearings Held on the Proposed Meadowlands Xanadu Redevelopment Project (April 26-30, 2004), dated August 2004, and Section 5(X) Consultation Report and Recommendations in the Matter of Location, Type and Character of the Proposed Meadowlands Xanadu Redevelopment Project, dated August 2004 (NJMC and NJDEP 2004; NJMC 2004b). In accordance with their recommendations, the NJSEA and the previous developer have submitted a series of Quarterly Progress Reports to the Hearing Officers indicating the status of the redevelopment project at the Arena Site and how each of the requirements is being addressed.


PARKING DECK "A"
ENTERTAINMENT / RETAIL
PARKING DECK "BCD"
IZOD CENTER
ENTERTAINMENT / RETAIL
PARKING DECK "E"
ENTERTAINMENT / RETAIL
AMUSEMENT PARK
WATER PARK

2.0 PROJECT PURPOSE AND NEED

Statement of Project Purpose – To ensure that the State of New Jersey and its guests enjoyed the continued success and entertainment and economic benefits of the Meadowlands Sports Complex, the NJSEA developed a Master Plan in the mid-1990s. In furtherance of fulfilling the goal of the Master Plan to maintain the Meadowlands Sports Complex as a world-class entertainment, sports and tourist destination, the NJSEA determined that it was necessary to improve the Meadowlands Sports Complex with a project including, but not limited to, an entertainment and retail complex, restaurants, recreation areas, hotels, offices and other related buildings. Pursuant to that goal, the NJSEA approved the development of the project currently known as the American Dream Meadowlands Project. The purpose of the American Dream Meadowlands Project is to successfully complete the redevelopment of that portion of the former Continental Airlines Arena Site (Arena Site) at the Meadowlands Sports Complex that was designated for the ERC as envisioned and authorized by the NJSEA, in conformance with the NJSEA Master Plan. The addition of the Amusement Park and Water Park to the American Dream Meadowlands Project will provide two key, integrated entertainment components for the economic success of the ERC.

Need for the Project – The American Dream Meadowlands Project, along with the addition of the Amusement Park and Water Park, will help to achieve the goals of the NJSEA's Master Plan by enhancing the entertainment and economic benefits of the Arena Site and the Meadowlands Sports Complex overall. The expansion of the ERC component of the project to include an Amusement Park and Water Park is necessary to ensure the economic viability of the American Dream Meadowlands Project and to further enhance the public purpose (McMillan Doolittle 2011). Without the Amusement Park and Water Park, the ERC will not be economically viable.

Construction of the original ERC component of the project was discontinued in 2009. To this day the ERC has not been completed. As a result of the economic downturn and other factors involving the retail industry, the then ERC project proponents were unable to attract tenants by being able to demonstrate that sufficient customers would come to shop, dine or otherwise use the amenities at the site. In order to fulfill the project purpose, there is a need for additional entertainment components to attract more patrons; and these patrons must be attracted to the site in a manner that will encourage shopping at the stores, utilizing the restaurants and otherwise spending time at the ERC. Based upon its experience at the Mall of America and West Edmonton Mall, Triple Five has demonstrated that the integration of amusement and water park components directly into these centers are effective means of attracting patrons and creating "destination type" centers that ensures economic viability so

long as these entertainment components are positioned in a manner that will encourage patronage at the retail component of the centers.

Mixed-use development is the customary form of development for large-scale projects. The Urban Land Institute's (ULI's) *Mixed-Use Development Handbook* documents that mixed-use development, which co-locates entertainment, retail, office, hotel and residential uses, has become the predominant form of large-scale development in modern America (ULI 2003). ULI documents reasons for supporting this type of large-scale development including: creation of synergies among multiple uses which produces an induced demand from other onsite uses; creation of a "sense of place" which makes the development a destination for consumers; sharing of infrastructure, such as parking and roads, which reduces projects costs and land use impacts; greater financial stability due to diversification of income sources; and a clustering of uses which leads to a reduction of sprawl and promotion of smart growth. This supports co-location of components. For the American Dream Meadowlands Project, the co-location and proper integration of nationally recognized entertainment components (i.e., Amusement Park and Water Park) with the retail components is critical to the success of the project (McMillan Doolittle 2011).

The American Dream Meadowlands Project is intended to meet the strategic planning objectives of the NJSEA. The Project will generate economic development for the Meadowlands Sports Complex and the State, increase tourism to the State, increase tax revenue, and contribute to the smart growth approach for the region. The Project will also generate greatly needed construction and operation jobs for the New Jersey and New York metropolitan area.


PARKING DECK "A"
ENTERTAINMENT / RETAIL
PARKING DECK "BCD"
IZOD CENTER
ENTERTAINMENT / RETAIL
PARKING DECK "E"
ENTERTAINMENT / RETAIL
AMUSEMENT PARK
WATER PARK

3.0 ALTERNATIVES ANALYSIS FOR THE PROPOSED PROJECT

Alternatives to the Amusement Park and Water Park component of the American Dream Meadowlands Project were examined to see if adverse environmental impacts could potentially be avoided or minimized, to the extent practicable, while still achieving the project purpose. This alternatives analysis was prepared following Federal guidance concerning alternatives for the proposed placement of fill in wetlands (i.e., Guidelines for Specification of Disposal Sites for Dredged or Fill Material (40 CFR Part 230) and State requirements relating to Coastal Zone Management Rules (N.J.A.C. 7:7E). These Federal and State guidelines provide for the examination of alternatives through a project-specific list of criteria, with the goal of selecting and demonstrating that the selected alternative minimizes or avoids environmental impacts, to the extent practicable, while achieving the project purpose.

Under the 404(b)(1) Guidelines (40 CFR § 230.10(a)), a permit for the discharge of dredged or fill material will not be granted "if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences." An alternative is practicable if it is "available and capable of being done after taking in account cost, existing technology, and logistics, in light of overall project purposes." Thus, an alternative may be deemed impracticable if it is not available to the applicant or if it would cost too much or for the reasons related to logistics or existing technology. An alternative may also be rejected because it has other significant environmental consequences. Finally, to be "practicable," an alternative must meet the overall project purposes.

Although there are a number of elements contained in the project purpose, at a minimum, each alternative must provide the following to satisfy the project purpose: adequate size and shape for the planned entertainment uses; close proximity and functional relationship to the existing ERC to achieve necessary synergies; economic viability, including good visibility from major highways; and adequate public benefits to NJSEA, the Meadowlands, and the local community. Each Alternative considered in this analysis will be evaluated to determine whether it satisfies these elements, as well as the other requirements of practicability.

3.1 Methodology

This alternatives analysis considered and examined three types of alternatives: No-Action Alternative, Offsite Alternatives, and Onsite Alternatives. Within each of these types of alternatives several alternatives were considered. The following alternatives as discussed below are:

i) No-Action Alternative
ii) Offsite Alternatives
    (a) East Side of Meadowlands Sports Complex
    (b) West Side of Meadowlands Sports Complex
    (c) Paterson Plank Road
iii) Onsite Alternatives
    (a) Onsite Design Alternative 1
    (b) Onsite Design Alternative 2
    (c) Onsite Design Alternative 3

In addition, under the Onsite Alternatives analysis, potential steps to minimize the footprint of the proposed development are considered, such as stacking of buildings and a reduction in the overall gross buildable area of the parks.

Section 3.2 below presents the No-Action Alternative and discusses the feasibility of taking no action or, more specifically, not redeveloping the Radio Tower Site with the Amusement Park and Water Park. Section 3.3 presents the limitations inherent in considering the Offsite Alternatives for this redevelopment project and a discussion of offsite alternatives adjacent to the existing ERC building. Section 3.4 examines the feasibility of several onsite design alternatives in light of three general evaluation criteria (e.g., technology and logistics, cost and economic viability, and environmental consequences). The evaluation of the three onsite design alternatives considers the design and practicability of the alternatives, and their potential environmental consequences. An evaluation of the Onsite Alternatives is presented along with a discussion concerning potential minimization of impacts. Section 3.5 below presents the conclusions of the analysis and the least environmentally damaging practicable alternative.

3.2 No-Action Alternative

The No-Action Alternative would not realize any redevelopment of the Radio Tower Site and would fail to meet the project purpose. The environmental and socioeconomic impacts of the No-Action Alternative have been comparatively evaluated against those of the Project. Without the Amusement Park and Water Park component for the American Dream Meadowlands Project, the ERC would not meet the purpose of the Project. The danger of not making the site suitable for a strong entertainment component, combined with retail, raises the possibility of

financial weakness in this market and the likelihood of not completing the ERC. The ERC would remain an unfinished eyesore on state owned land. Without the completion and success of the ERC, the redevelopment of the Arena Site will not proceed.

Under the No-Action Alternative the wetlands on the Radio Tower Site would not be filled and the proposed wetland mitigation would not be realized. Neither the NJSEA, local communities nor the general public would fully realize the positive social and economic gains from the project. The increase of employment opportunities, both during construction and operation phases of the project, and the indirect employment created in northern New Jersey would not be realized. Additionally, the NJSEA would not receive other economic benefits and the State and local municipalities would not gain increased tax revenues.

3.3 Offsite Alternatives

The NJSEA went through an extensive alternative site selection process for locating the Meadowlands Sports Complex in the early 1970s (NJSEA 2004). The Redevelopment of the Continental Airlines Arena Site, which led to the selection of the Meadowlands Xanadu Redevelopment Project, considered a number of different developer proposals for the Arena Site. These off-site and on-site site selection processes are detailed in the August 2004 EIS for the Meadowlands Xanadu Redevelopment Project.

There are no feasible offsite alternative sites for the construction and operation of the Amusement Park and Water Park component of the American Dream Meadowlands Project. The Amusement Park and Water Park must be located immediately adjacent to and fully integrated with the existing ERC building. The entertainment uses must be in close proximity to the retail uses of the ERC and facilitate pedestrian traffic past the retail operations. By locating the Amusement Park and Water Park adjacent to the ERC and requiring patrons of the Amusement Park and Water Park to walk from their point of arrival (existing parking facility or mass transit) through the ERC, the necessary interaction between the entertainment and retail uses of the project is accomplished. Triple Five's experience at their other centers where they successfully operate large scale entertainment and retail facilities clearly shows the close interactive nature of the entertainment and retail uses and the need to configure the American Dream Meadowlands Project components as proposed for the project to be economically viable (see also McMillan Doolittle 2011).

Integration of traditional mixed-use development facilities with emphasis on sports and entertainment venues creates important synergies among the different uses. Increasing the diversity of uses and income streams adds to the overall project's financial stability. Excluding entertainment and sports would undermine the NJSEA's objective of a sports and

entertainment-themed redevelopment project. Thus, moving one or more of the overall project components offsite would undermine NJSEA strategic planning objectives.

Alternative locations for the Amusement Park and Water Park around the existing ERC building are not feasible. The offsite alternative locations are listed below with a discussion of why each of them is not feasible.

East Side of Meadowlands Sports Complex - The land on the East Side of the Sports Complex (i.e., Arena Site) located to the north of the IZOD Center is not controlled by Triple Five. This land is part of the former Meadowlands Xanadu Redevelopment Project and is master planned for a hotel and office complex. Even if this land were to become available to Triple Five, this alternative site would still not be a viable alternative since the location does not achieve the necessary configuration and integration for the entertainment components. Specifically, this site would allow patrons to directly access the entertainment venues without first circulating through the ERC and walking past the retail uses since parking is available immediately adjacent to this site. Such a configuration violates the economic model that makes this project viable.

The land on the East Side of the Sports Complex (i.e., Arena Site) located west of the IZOD Center is not controlled by Triple Five. This land is part of the former Meadowlands Xanadu Redevelopment Project and is master planned for a minor league baseball park. Even if this land were to become available to Triple Five, this alternative site would still not be a viable alternative since the location does not achieve the necessary configuration and integration for the entertainment components. Specifically, this site would allow patrons to directly access the entertainment venues without first circulating through the ERC and walking past the retail uses since parking is available at this site. Such a configuration violates the economic model that makes this project viable.

West Side of Meadowlands Sports Complex -The surface parking lots located on the west side of Route 120 around MetLife Stadium is used for parking during events at the stadium. These lands are not controlled by Triple Five and are part of a long-term lease between the NJSEA and professional football teams (New York Giants and New York Jets). Even if these lands were to become available to Triple Five, this alternative site would still not be a viable alternative since the location does not achieve the necessary configuration and integration for the entertainment components. Specifically, the entertainment components would be located too far from the existing ERC building.

Paterson Plank Road –The redevelopment zone of Paterson Plank Road is located to the north of the East Side of the Sports Complex. The accumulation of several of these properties might provide enough acreage to meet the size and shape requirements of the entertainment component. These properties are not a viable alternative since the location does not achieve the necessary configuration and integration for the entertainment components. Specifically, the entertainment components would be located too far from the existing ERC building. It would require Triple Five and or the NJSEA to purchase these privately owned parcels at significant cost.

All of the off-site alternatives discussed above and related to the Project were not considered practicable or able to meet the project purpose and, therefore, were not further examined.

3.4 Onsite Alternatives

The Amusement Park and Water Park are key project entertainment uses that are intended to attract and retain tourists and patrons to the American Dream Meadowlands Project. The Amusement Park and Water Park component of the American Dream Meadowlands Project has minimum size requirements to achieve the scale and diversity of amusement park and water park features that will attract tourists and patrons. The location and proximity of the Amusement Park and Water Park to the ERC is critical to the success and economic viability of the American Dream Meadowlands Project.

Triple Five currently operates several world class tourist destination centers where the integration of an Amusement Park and Water Park with retail uses has led to economically successful projects. For the American Dream Meadowlands Project, the goal is to develop an integrated Amusement Park and Water Park component with the existing ERC building that will attract and retain patrons. The Project has been designed such that people must walk through the ERC and past retail uses on their way into and out of the Amusement Park and Water Park. This circulation pattern is crucial to the financial viability of the Project. The large size and diversity of the water park features and amusement rides is critical to realizing a world class destination that will attract patrons from all over the world. Triple Five's objective is to build a large indoor Amusement Park and Water Park in North America, thereby creating a draw for national and international tourists to visit the American Dream Meadowlands Project.

Based on Triple Five's experience with their other centers, tourists are attracted to these types of entertainment features where activities in the parks can provide entertainment for a one to two day period. Triple Five has found that a diversity of rides provides a key entertainment component that attracts patrons and tourists for long periods of time and repeat visits. These

patrons also visit and support the retail elements of the centers, creating important synergies between the two uses.

The footprint of a general amusement park and water park layout must have a minimum size of around 20 acres to achieve the desired scale and diversity of attractions. The overall footprint of the buildings for the parks and perimeter access roadway is as follows:

Amusement Park Building - The minimum footprint of an amusement park building is approximately 318,000 square feet of indoor floor space. The amusement park typically includes a wide range of rides and attractions, with different zones for different themes/rides targeted at specific age groups (i.e., toddler, children and teenager). In addition to the indoor floor space of the amusement park, the building also provides for support areas including a food court, restrooms, ticketing booth, information kiosks, guest services, administrative offices and mechanical areas (approximately 50,000 square feet).

Water Park Building - The minimum footprint of a water park building is approximately 236,000 square feet of indoor floor space. The water park includes a main wave pool, large river and water play areas. Similar to the amusement park, the water park also provides for different zones for different rides and age groups. In addition to the indoor floor space for the water park, the building also provides for support areas including a food court, restrooms, changing rooms, ticketing booth, information kiosks, guest services, administrative offices and mechanical areas (approximately 75,000 square feet).

Perimeter Access Corridor Around Buildings - The amusement park and water park buildings require a perimeter access corridor for the constructability and operation of the buildings. The perimeter corridor provides an area during construction of the building outside of the building footprint. After construction, the perimeter corridor provide an area for a road that allows access to the exterior of the buildings for maintenance, emergency access for fire trucks, and a place to direct patrons and workers should evacuations of the buildings be required in an emergency situation. The perimeter access corridor also provides room for underground utilities, landscaping, grading, and stormwater management infrastructure. A perimeter corridor from the edge of the structure footprint outward to the property boundary was set at 60 feet. Considering that the buildings have a perimeter of approximately 3,000 linear feet, the footprint of the perimeter access corridor around the building is approximately 180,000 square feet.

Combining the estimated footprints of the amusement park building, water park building and perimeter access corridor around the buildings yields a total project footprint of approximately 20 acres. This general amusement park and water park described above does not include any space for on-site automobile parking.

The actual footprint and configuration of an indoor amusement park and water park building has limited flexibility. The large dimensions of the parks are suitable for a square or rectangular shaped building. A narrow long building or a building varying in multiple dimensions is not a suitable design. Each park requires a separate, one-level floor area specifically for their rides and attractions with a vaulted roof (at least 115 in height). The water park is a fully enclosed structure due to humidity and climate requirements. The amusement park is fully enclosed to provide for year round operations. The food courts, restrooms, loading areas, ticketing booths, information kiosks, guest services and administrative offices of both parks can be shared if the amusement park and water park buildings are designed adjacent to each other, thereby reducing the overall footprint of the project.

The northern edge of the Radio Tower Site is immediately adjacent to the East Peripheral Road of the Meadowlands Sports Complex. This road is part of the "loop road" that connects the Arena Site (i.e., East Side of the Meadowlands Sports Complex) with the Stadium Site (i.e., West Side of the Meadowlands Sports Complex) and regional highways (New Jersey Turnpike, Route 120 and Route 3). The redevelopment of the Radio Tower Site will allow for direct access from the Radio Tower Site to the East Peripheral Road and regional highways. No roadway improvements are necessary for the Amusement Park and Water Park development, except for the two planned connections from the Radio Tower Site to the East Peripheral Road.

The redevelopment of Radio Tower Site is limited to its current shape and configuration, roadway access to the East Peripheral Road, and the current location of the ERC building. The Radio Tower Site is surrounded by the New Jersey Turnpike to the east, Route 3 to the south and Route 120 to the west. To the north is the Arena Site, with the East Peripheral Road and the existing ERC building. The proposed elevated pedestrian bridge connecting the Amusement Park and Water Park to the ERC building will occur at that section of the ERC closest to the Radio Tower Site. Customers and employees of the American Dream Meadowlands Amusement Park and Water Park will park at the surface parking lots or parking structures already constructed at the ERC, or arrive by mass transit. This arrangement provides for shared parking that reduces the potential footprint of the Amusement Park and Water Park Project.

The Amusement Park and Water Park are integrated into the overall project to attract patrons who must walk through the retail component (i.e., ERC) of the project. The retail uses of the

ERC experience walk-by pedestrian traffic of patrons who make retail purchases. This patron synergy between the entertainment and retail uses is critical. The interaction between the entertainment and retail uses are based on pedestrian movements of patrons to the facility. A short walking distance from the ERC to the Amusement Park and Water Park is important to attract tourists and allow for the entertainment and retail use interactions. Therefore, the Amusement Park and Water Park must be located immediately adjacent to the ERC and be specifically situated to provide for this important interaction between the entertainment and retail uses of the American Dream Meadowlands Project. With a short walk over an elevated pedestrian platform from the ERC to the Amusement Park and Water Park entrance, the Radio Tower Site is the only feasible location for the Amusement Park and Water Park.

To construct the Amusement Park and Water Park, additional acreage for this project component is required beyond the current footprint of the ERC building. The existing ERC building cannot be reconfigured to accommodate the Amusement Park or Water Park. The existing building does not have the structural support required for the loads associated with parks, does not have the minimum roof heights for parks, and does not have the dimensional space needed for the parks. In addition, the loss of retail space from any retrofit of the existing ERC building would significantly reduce the necessary retail component of the project. Stacking of the Amusement Park or Water Park on top of the existing ERC is not feasible due to foundation and structural constraints of the existing structure. Therefore, horizontal expansion is necessary.

All of the onsite design alternatives considered below have the same basic project components and characteristics as the Amusement Park and Water Park plan.

3.4.1 Evaluation Criteria

Technology and Logistics

These criteria considered and examined the technological and logistical practicability of the onsite design alternatives for each project component. The functionality of each project component design and the potential synergy between project components through component design and layout were examined. The technology and logistics criteria included several requirements as follows:

- Building Component Configuration –The Project has two main facilities, the amusement park and water park. Both of these facilities will share common areas such as loading docks, restrooms and food courts to reduce the overall footprint of the project. The orientation of the two facilities and the pedestrian

bridge connecting the integrated amusement park and water park building to the ERC is critical to patron flow between the existing ERC and the parks (McMillan Doolittle 2011). The interactive concept between the retail and entertainment uses of the project allows patrons to walk through and pass the retail uses on their way to and from the entertainment uses, thereby creating the desired interaction between park patrons and retail. The proximity of the building and the two main facilities within walking distance of the ERC is paramount to realize the integration of entertainment and retail uses. Upon walking over an enclosed pedestrian bridge, the visual interaction of the patron with both the amusement park and water park is important. Therefore, locating the common area between the two main facilities near the enclosed pedestrian bridge is important. Positioning one park after the other (i.e., one would have to walk through the amusement park to get to the water park) would not allow the desired patron interaction between the two parks within close proximity to the ERC.

- One Level Configuration – The indoor amusement park and water park must be configured on one level with an elevated roof to provide patrons with an "open space" and "natural daylight" experience. These parks or portions of the parks cannot be "stacked" into several stories of operational levels. The rides in the amusement park and water park will have elevated components at least 80 feet in height, and in some cases even higher. Constructing a multi-story building and stacking the amusement park on top of the water park is impracticable when considering the weight of the equipment, additional costs of an elevated building and circulation logistics for patrons. The desired "natural daylight" experience in the parks would also be diminished in the lower level of a stacked arrangement. A stacking approach would not provide a building scale that is compatible in scale with the design and architecture of the surrounding development. A stacked park approach would also lead to a costly building structure due to the weight of the parks that would negate the economic viability of the project.

- Circulation and Access - The circulation and access criterion considers existing and proposed roadway and pedestrian circulation patterns that would provide a safe and workable solution in light of the existing characteristics of the Arena Site, Meadowlands Sports Complex, and the existing design of the ERC. From a vehicular access perspective, the existing counter-clockwise movement of traffic entering and leaving the Arena Site on the existing loop road needs to be maintained. Presently, traffic entering the site moves around the East Peripheral Road enters parking areas or connects to other roads servicing the ERC, Arena

Site and Meadowlands Sports Complex. One design objective was to continue this general counter-clockwise movement of traffic on the Arena Site, and if relocating a portion of this peripheral road, maintaining its overall function to the traffic pattern on the Meadowlands Sports Complex and egress to the regional roadway network. Pedestrian circulation in the ERC was considered in developing a feasible project plan since circulation of patrons to the amusement park and waterpark by directing patrons through the ERC is critical to the successful operation of the overall American Dream Meadowlands Project. The pedestrian circulation to and from the entertainment components with the ERC is critical.

The configuration of the amusement park and water park building was not substantially changed when examining onsite design alternatives due to the inherent design limitations discussed above. The parks connection to the ERC building by a pedestrian bridge was maintained in all three onsite alternatives, but expanded to a two bridge approach when considering constructing two separate buildings. The configuration of the amusement park and water park was maintained as a one level structure. In addition, some stacking of the common areas was used to reduce the overall footprint of the project while still maintaining the minimal size requirements of the parks.

Cost and Economic Viability

This criterion considered and examined the potential cost and economics of the onsite design alternatives. Variations in onsite design may lead to significant differences in cost of the project. Synergy between the new entertainment uses and the retail uses in the ERC are critical (McMillan Doolittle 2011). The creation of one of the largest indoor parks in North America is necessary to create the desired world class tourist destination for the American Dream Meadowlands Project. The size of the parks creates the attractions of tourists and patrons, who support the retail, which makes the economics and financing of the project possible.

The immediate proximity and integration of the Amusement Park and Water Park to the existing ERC building and the pedestrian movements through the ERC to the Amusement Park and Water Park dictate the economic viability of the Project. Building the Amusement Park and Water Park too far from the retail uses in the ERC would result in the retail uses failing to realize the economic gains from the patron interaction between the entertainment and retail uses, and; therefore, the project would not be economically viable.

Integrating certain common areas of the Amusement Park and Water Park helps to reduce the footprint of the Project and provides cost savings for the construction and operation of these types of entertainment features. Loading docks, food courts, restrooms, ticketing booths, information kiosks, guest services and administrative areas can be shared between the parks. Patron parking will not be required on the Amusement Park and Water Park Project site since shared parking will be provided at the existing ERC building.

Direct and indirect economic benefits are anticipated from the project including development that will create a large number of new local jobs, attract visitors and generate new tax collections for State and local governments.

Environmental Consequences

This criterion considered the projected wetlands and floodplain fill for each design alternative. Although the project will have other environmental consequences, such as wastewater production from operation of the project and enhancement of the regional Hackensack River ecosystem due to wetlands mitigation, the environmental consequences of the design alternatives beside impacts to wetlands and floodplains are basically similar and, therefore, were not repeated in the environmental consequences evaluation of this onsite alternatives analysis.

The redevelopment of the Radio Tower Site will have environmental impacts and require the filling of approximately 2.4 acres of tidal wetlands and approximately 2.8 acres of non-tidal, isolated wetlands (See Section 4.3.2). The wetlands on the Radio Tower Site have been heavily impacted from historic activities and are dominated by common reed. These wetlands have been subjected to human disturbance and are surrounded by development including the Turnpike, Route 3, Route 120 and Meadowlands Sports Complex, thereby limiting their functions and values. The only surface hydrology connection from the tidal wetlands on the Radio Tower Site to the Hackensack River is through two culverts under the Turnpike highway. The non-tidal wetlands are isolated and are not hydrologically connected to the river by any surface connections. Approximately 70 percent of the property is located within the 100-year tidal floodplain of the Hackensack River, of which approximately 14 acres will be filled for the Project. This area lies within a tidal floodplain; therefore, restrictions regarding filling do not apply (See Section 4.5.2). The fill has no impact on flooding of the adjacent areas because the flood levels are driven by tidal storm surges.

3.4.2 Onsite Design Alternatives

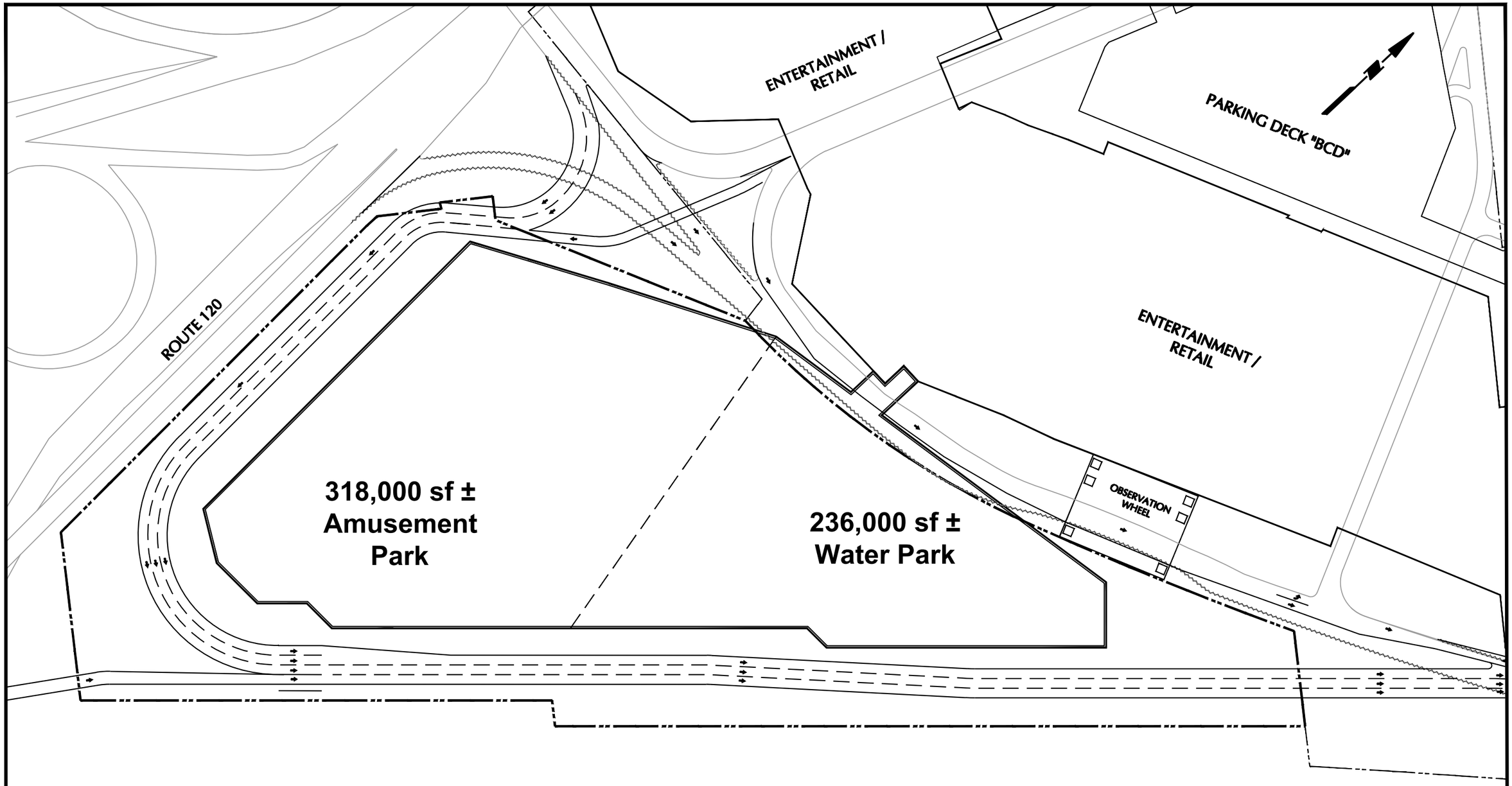
Several onsite design alternatives were developed to evaluate if there are practicable and feasible alternatives that could meet the project purpose while reducing or eliminating wetland impacts from the project. Three design alternatives, designated as Onsite Design Alternatives 1, 2 and 3, are presented below that evaluate the practicability and wetlands impact of onsite design alternatives. The environmental impacts projected for these alternatives do not include any drainage improvements since all alternatives will require these improvements.

Onsite Design Alternative 1

Onsite Design Alternative 1 (Alternative 1) is an integrated indoor amusement park and water park with a total footprint of approximately 20 acres (Figure 3-1). This design considered moving the existing three (3) lane peripheral road (East Peripheral Road/South Connector Road), which connects the southern end of the Arena Site with the West Side of the Meadowlands Sports Complex and the New Jersey Turnpike to the north, to the outer edges of the radio tower property so that the Amusement Park and Water Park building would be located within the main perimeter loop road encompassing the Arena Site. This would allow the Amusement Park and Water Park building to be as close to the existing ERC as possible and minimize the length of the pedestrian bridge first-level connection structure to the ERC. The current East Peripheral Road would be reduced to a one-lane road between the ERC and Amusement Park and Water Park building to allow continued access to the existing entrances for the ERC, while the main, multi-lane peripheral road for the Arena Site would be relocated to the outer portion of the Radio Tower Site.

Technology and Logistics

Under Onsite Design Alternative 1, the movement of the peripheral road on the Arena Site would require the existing right lane of the fly-over ramp from Route 3 East to Route 120 North to be redirected to enter the Radio Tower Site along the far eastern boundary parallel to the New Jersey Turnpike. An additional flyover structure over Route 3 Westbound would need to be constructed. The existing southern-most ramp into the Arena site coming off the Route 3 Eastbound fly-over ramp and connection to the East Peripheral Road would be closed. The main travel access road would provide the necessary fire access to the Amusement Park and Water Park building, eliminating the need for a separate perimeter access road around the Amusement Park and Water Park buildings as proposed in Onsite Design Alternative 2 (Alternative 2) and Onsite Design Alternative 3 (Alternative 3).



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Onsite Design Alternative 1

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Figure 3-1

Onsite Design Alternative 1 provides the closest pedestrian distance between the ERC and the Amusement Park and Water Park building. The shorter walk between the ERC and Amusement Park and Water Park building is a preferred building configuration when considering pedestrian circulation between the retail and entertainment uses of the American Dream Meadowlands Project. Therefore, the building location and configuration of Alternative 1 is preferred to Alternative 2 and Alternative 3. In addition, Alternative 1 has a preferred circulation and access arrangement compared to Alternative 2 and Alternative 3 since Alternative 1 is the closest to the existing ERC.

Cost and Economic Viability

Alternative 1 would be more costly compared to Alternative 2 and Alternative 3 since Alternative 1 has the additional expense of relocating and constructing a portion of the East Peripheral Road to the outer edge of the Radio Tower Site, and constructing a modified flyover structure and ramp from Route 3 Eastbound. Any underground utilities under the East Peripheral Road might need to be relocated, adding to the cost of this alternative design. The cost of the pedestrian bridge connecting the ERC to the Amusement Park and Water Park building would be smaller compared to Alternative 2 and Alternative 3. The cost and economic viability of Alternative 1 is less preferred compared to Alternative 2 and Alternative 3.

Environmental Consequences

Alternative 1 would have a total area of disturbance of approximately 20 acres, plus additional lands beyond the Radio Tower Site that would be impacted for the roadway improvements required for this alternative. Approximately 6.7 acres of wetlands would be impacted by Alternative 1, while approximately 14.8 acres of floodplain would be impacted. Alternative 1 would have the largest impacts to wetlands and floodplains compared to Alternative 2 and Alternative 3.

Onsite Design Alternative 2

Onsite Design Alternative 2 is the development of separate Amusement Park and Water Park buildings on the Radio Tower Site (Figure 3-2). Each building would have its own food court, restrooms, ticketing booth, information kiosks, guest series, administrative areas and loading area. As a result, Alternative 2 has a larger footprint. Onsite Design Alternative 2 does not change the current location of the East Peripheral Road. The East Peripheral Road remains in place and no additional roadway improvements are required. Alternative 2 has a two-way access road around the perimeter of the Amusement Park building and Water Park building.

ENTERTAINMENT / RETAIL

PARKING DECK "BCD"

ROUTE 120

236,000 sf ±
Water Park

ENTERTAINMENT / RETAIL

OBSERVATION WHEEL

318,000 sf ±
Amusement Park

NEW JERSEY TURNPIKE

150 0 75 150
SCALE IN FEET

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Onsite Design Alternative 2

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Figure 3-2

This road provides access to the building's exterior for maintenance, utility corridor and fire access. The footprint of the perimeter road also provides the necessary construction zone work area to construct each of the buildings.

Under Onsite Design Alternative 2 the Amusement Park building and Water Park building are situated further from the ERC compared to the building location in Alternative 1. A pedestrian bridge is provided to each building under Alternative 2, leading to a longer distance for patrons to walk to the Amusement Park and Water Park from the ERC compared to Alternative 1.

Under Onsite Design Alternative 2 the Amusement Park building is situated in the eastern portion of the Amusement Park and Water Park Project site and the Water Park building is situated in the western portion. The configuration of the pedestrian bridges accessing the Amusement Park and Water Park from the ERC under Alternative 2 does not provide for the preferred patron access configuration where patrons have a short walk from the ERC and encounter both facilities. Onsite Design Alternative 2 does not provide for shared common areas, leading to a larger overall footprint compared to Alternative 3.

Technology and Logistics

Under Onsite Design Alternative 2 no roadway relocations or reconfigurations are required. The new perimeter access corridor around the two buildings would provide access from the Amusement Park and Water Park Project site to the Arena Site loop road. Alternative 2 provides an acceptable one level configuration of the parks.

Onsite Design Alternative 2 provides a greater pedestrian distance between the ERC and the Amusement Park building and Water Park building compared to Alternative 1. The longer walk between the ERC and Amusement Park building and Water Park building is a less preferred configuration when considering pedestrian circulation between the retail and entertainment uses of the American Dream Meadowlands Project. The buildings configuration of Alternative 2 is less preferred compared to Alternative 1 and Alternative 3.

Cost and Economic Viability

Alternative 2 would incur less cost compared to Alternative 1, and be slightly more expensive compared to Alternative 3. The two-way perimeter road under Alternative 2 would be less costly than the relocation of the East Peripheral Road and new ramp construction as proposed under Alternative 1. The cost of the pedestrian bridge connecting the ERC to the Amusement Park and Water Park building and two separate buildings with their own support areas would be

higher compared to Alternative 3. The cost and economic viability of Alternative 2 is preferred compared to Alternative 1.

Environmental Consequences

Alternative 2 would have a total area of disturbance on the Radio Tower Site of approximately 19.4 acres. Additional lands beyond the Radio Tower Site would not be impacted since roadway improvements are not required for this alternative. Approximately 6.0 acres of wetlands would be impacted by Alternative 2, while approximately 14.6 acres of floodplain would be impacted. Alternative 2 would have smaller impacts to wetlands and floodplains compared to Alternative 1, but would have larger impacts to wetlands and floodplains compared to Alternative 3.

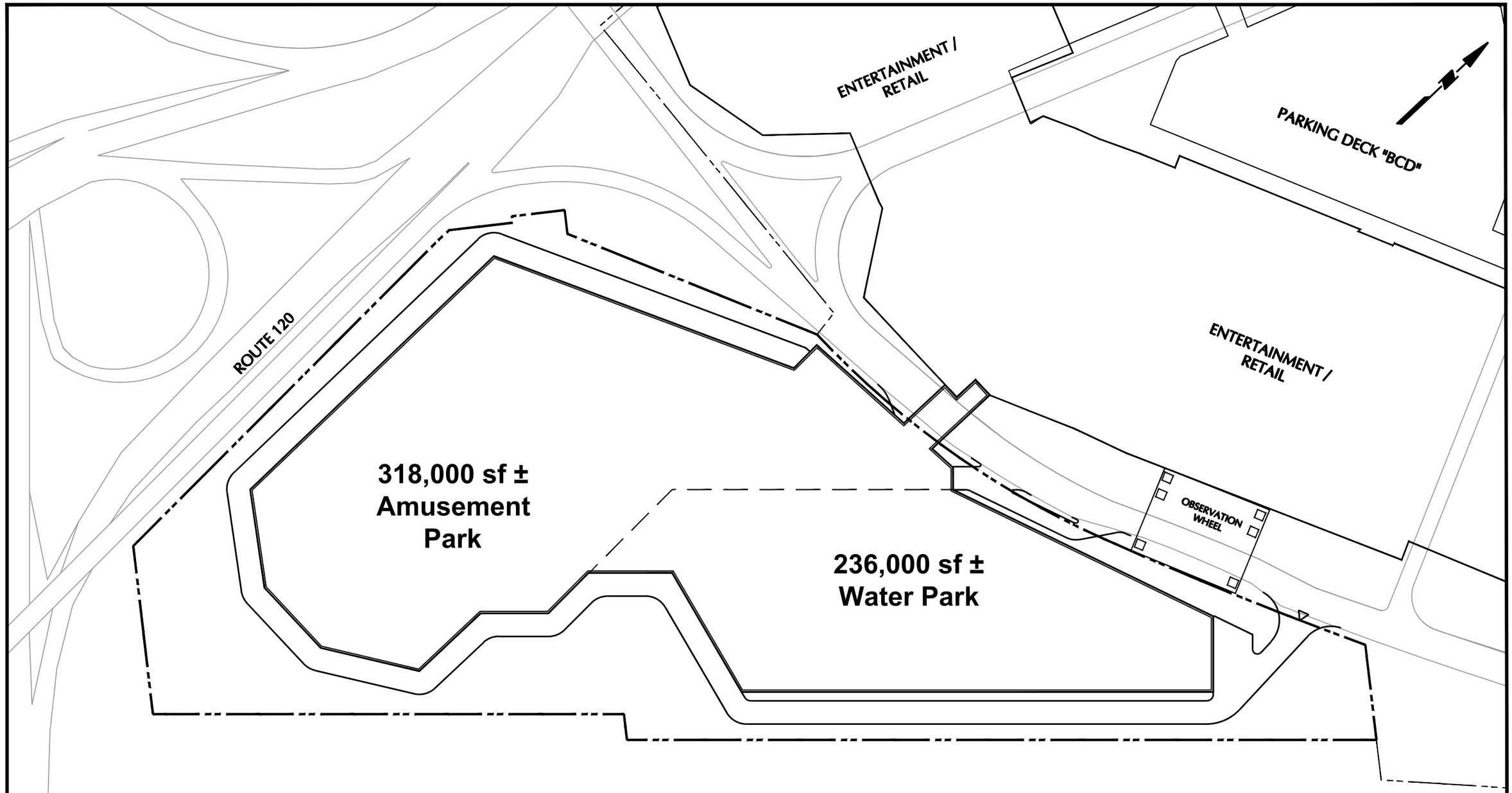
Onsite Design Alternative 3

Onsite Design Alternative 3, like Alternative 1, integrates the Amusement Park and Water Park buildings to facilitate the sharing of common areas (i.e., food court, restrooms, ticketing booths, information kiosks, guest services, administrative areas) (Figure 3-3). Onsite Design Alternative 3 does not change the current location of the East Peripheral Road. The East Peripheral Road remains in place and no other additional roadway improvements are performed. Alternative 3 has a two-way access road around the perimeter of the Amusement Park and Water Park building. This road provides access to the building's exterior for maintenance, utility corridor and fire/emergency access. The footprint of the perimeter road also provides a necessary construction zone work area to construct the building.

Under Onsite Design Alternative 3, the Water Park component is situated in the eastern portion of the Amusement Park and Water Park Project site and the Amusement Park component is situated in the western portion. The configuration of the Amusement Park and Water Park under Onsite Design Alternative 3 does provide for an appropriate configuration where patrons entering the facility from the ERC will encounter both facilities. This building configuration also provides a building shape that minimizes tidal wetland impacts along the eastern portion of the Amusement Park and Water Park Project site to the extent practicable.

Technology and Logistics

Under Onsite Design Alternative 3 no roadway relocations or reconfigurations are required. The new perimeter road would provide access from the Amusement Park and Water Park Project site to the Arena Site loop road.



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Onsite Design Alternative 3

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Figure 3-3

Onsite Design Alternative 3 provides a slightly greater pedestrian distance between the ERC and the Amusement Park and Water Park building compared to Alternative 1, but less than Alternative 2. The longer walk between the ERC and Amusement Park and Water Park building is a less preferred building configuration when considering pedestrian circulation between the retail and entertainment uses of the American Dream Meadowlands Project. The location of the Water Park under Alternative 3 is preferred compared to the location of the Water Park under Alternative 2. Under Alternative 3 both the Amusement Park and Water Park are immediately accessible after the pedestrian bridge, which is a preferred configuration for patron interaction with these entertainment uses. Therefore, the building location and configuration of Alternative 3 is preferred compared to Alternative 2.

Cost and Economic Viability

Alternative 3 would incur less cost compared to Alternative 1. The two-way perimeter road under Alternative 3 would be less costly than the relocation of the East Peripheral Road as proposed under Alternative 1. The cost of the pedestrian bridge connecting the ERC to the Amusement Park and Water Park building would be higher compared to Alternative 1. The cost and economic viability of Alternative 3 is preferred compared to Alternative 1.

Alternative 3, like Alternative 2, does not change the current main travel access road on the Arena Site. Instead, a separate perimeter road would be constructed around the Amusement Park and Water Park buildings to provide access to the buildings for exterior maintenance, fire/emergency access, and utility corridors. The perimeter road would also provide the necessary work area during the construction phase.

Environmental Consequences

Alternative 3 would have a total area of disturbance on the Radio Tower Site of approximately 19 acres. Additional lands beyond the Radio Tower Site would not be impacted since roadway improvements are not required for this alternative. Approximately 5.2 acres of wetlands would be impacted by Alternative 3, while approximately 14 acres of floodplain would be impacted. Alternative 3 would have fewer impacts to wetlands and floodplains compared to Alternative 1 and Alternative 2.

3.4.3 Evaluation of Onsite Alternatives and Minimization

The three onsite design alternatives for the Amusement Park and Water Park Project looked at reconfiguration of project components on the Radio Tower Site to reduce and avoid potential impacts to wetlands while still conforming to the project purpose and maintaining basic project

component shapes and sizes for the parks. The stacking of common areas and integrating the two buildings into one, overall building design as presented in Alternative 3 minimizes impacts to wetlands and floodplains to the extent practicable.

Each onsite alternative takes advantage of the existing vehicular parking at the ERC. No parking is provided for the Amusement Park and Water Park on the Radio Tower Site. This shared parking approach helps to reduce the potential footprint of development for all three onsite alternatives.

Each onsite alternative incorporates solutions to vehicular access to the Amusement Park and Water Park buildings. Alternative 1 contemplates the relocation of the East Peripheral Road around the outside of the Amusement Park and Water Park building. This approach leads to the largest amount of wetland and floodplain impacts of the three onsite alternatives considered. Alternatives 2 and 3 take advantage of the existing roadway network and do not require extensive roadway work, except for the perimeter access road, thereby minimizing impacts to wetlands and floodplains.

As discussed, laying out each park in their own building with its own loading dock and common areas yields a larger development footprint compared to sharing common areas and stacking the common areas. Alternative 2 is one to two acres larger than Alternative 3. Therefore, the ability to share common areas including a loading dock, pedestrian bridge, food court and restrooms helps to minimize the overall footprint of the project; thereby reducing potential impacts to wetlands and floodplain areas.

The synergy between the ERC and Amusement Park and Water Park needs to be carefully considered in each alternative. Each of the three onsite alternatives provides an elevated pedestrian bridge to the parks from the ERC. Alternative 1 provides one bridge with the shortest distance to the ERC. Alternative 3 also provides one pedestrian bridge connection, but with a slightly greater distance compared to Alternative 1. Alternative 2 provides for two pedestrian bridges since the parks are independent of each other in this alternative.

With respect to cost and economic viability, Alternative 3 will be less costly than Alternative 1 and Alternative 2 because of the shared common areas and smaller footprint of disturbance. Alternative 1 has expensive roadway relocations compared to Alternative 2 and Alternative 3. Alternative 2 has two pedestrian bridges, with one bridge requiring a long walk by patrons to the Water Park. Alternative 3 has the desired synergistic arrangement of having the Amusement Park and Water Park located immediately adjacent to the ERC with a short pedestrian walk.

The environmental consequences of each onsite design alternative are progressively minimized. Alternative 1 results in the filling of approximately 6.7 acres of wetlands, while Alternative 2 results in approximately 6.0 acres of wetland impacts. Alternative 3 has minimized wetland impacts to approximately 5.2 acres. A similar decreasing trend in floodplain impacts is also realized as you proceed with the Alternative designs (approximately 14.8, 14.6 and 13.4 acres, respectively).

Alternative 3 is the practicable alternative design that provides the desired synergy with the existing ERC building and results in an economically viable design that also minimizes wetland impacts to the maximum extent practicable. The Amusement Park and Water Park is located immediately adjacent to the ERC, providing a short walking distance for the patrons from the ERC to the parks. The location of the pedestrian bridge requires patrons to walk through the ERC, thereby creating the desired synergy between the different uses. Alternative 3 provides for the sharing of common areas typical of the parks and stacking of these common areas, both of which reduce the required footprint of the project and, in turn, reduce potential wetland impacts.

Alternative 3 minimizes the project footprint but still requires unavoidable impacts to approximately 5.2 acres of wetlands on the Radio Tower Site. These wetlands are fragmented from the Hackensack River. The tidal wetlands are only hydrologically connected to the Hackensack River by two culverts under the Turnpike. The non-tidal wetlands are isolated and not connected by surface flow to the river.

Avoidance of the wetland impacts is not practicable given the project purpose. As discussed earlier in the analysis, not building the Amusement Park and Water Park would cause the American Dream Meadowlands Project to be economically unviable. Based on the configuration of the wetlands on the Radio Tower Site, it is not possible to avoid the wetland impacts without eliminating one of the parks and downsizing the other park to a size that does not satisfy the project purpose.

3.4.4 The Least Environmentally Damaging Practicable Onsite Alternative

In conclusion, based on an examination of the constraints of redeveloping the Radio Tower Site and the economic viability of the American Dream Meadowlands Project, the evaluation of the three onsite design alternatives, and the impracticability of further minimization of potential wetland impacts, Onsite Design Alternative 3 is the practicable onsite design that fulfills the project purpose and is the least damaging to the aquatic ecosystem.

3.5 Analysis Conclusion and Least Environmentally Damaging Practicable Alternative

The No-Action Alternative considered the potential alternative of not building the Amusement Park and Water Park. The projected socioeconomic and wetland mitigation benefits from the project would not be realized, and the current failing nature of the Meadowlands Xanadu Redevelopment Project would continue. Without the indoor Amusement Park and Water Park, the synergy between entertainment and retail uses would not be realized and the project would not go forward. The 5.2 acres of wetland impacts estimated for Onsite Design Alternative 3 would not occur. The No-Action Alternative would not meet the project purpose, and not assist in achieving the NJSEA strategic planning objectives for redeveloping of the Arena Site. An analysis of potential offsite alternatives was performed of sites immediately adjacent to the existing ERC building. No feasible offsite locations were identified.

An onsite alternatives analysis was performed to examine configurations that might reduce impacts to wetlands on the Radio Tower Site. The scattered location of tidal wetlands and isolated, non-tidal wetlands on the property made avoidance impracticable. Different designs including the use of common areas by both parks and the stacking of the common areas resulted in a reduced project footprint; thereby reducing potential wetland impacts. The onsite design alternatives were evaluated using technology and logistics, cost and economic viability, and environmental consequence criteria. It was concluded that although Alternative 1 was preferable from a logistics perspective, it was not preferred from costs and economic viability because of the extensive roadway construction required. Alternative 2 was more economically viable compared to Alternative 1, but did not meet the logistics criteria because of the far distance patrons would have to walk to the Water Park. Alternative 3 was preferred to Alternative 2 and Alternative 1 since it had the least environmentally damaging practicable onsite design alternative that meets the project purpose.

Based on this analysis it was concluded that Onsite Design Alternative 3 is the least environmentally damaging practicable alternative that meets the project purpose and, therefore, is the preferred alternative.


PARKING DECK "A"
ENTERTAINMENT / RETAIL
PARKING DECK "BCD"
IZOD CENTER
ENTERTAINMENT / RETAIL
PARKING DECK "E"
ENTERTAINMENT / RETAIL
AMUSEMENT PARK
WATER PARK

4.0 ENVIRONMENTAL CONDITIONS, IMPACTS AND MITIGATION

This section of the Draft Supplemental EIS focuses on the construction of the new indoor Amusement Park and Water Park Project (i.e., Project) of the American Dream Meadowlands, which will be constructed on the Radio Tower Site. This section provides a description of the existing environmental resources and conditions present on and around the Radio Tower Site, and discusses impacts and mitigation associated with the Amusement Park and Water Park. Existing environmental conditions, impacts and mitigation associated with the offsite drainage improvements proposed within the New Jersey Turnpike right-of-way are also addressed.

This section is subdivided into separate subsections based on each of 21 separate environmental disciplines/resources as presented in the original August 2004 EIS. Each discipline/resource subsection is further subdivided into separate discussions of Existing Conditions, Impacts, and Mitigation. At the end of this section, following the separate environmental discipline/resource discussions, are three additional subsections pertaining to Avoidance of Adverse Impacts, Short Term and Long Term Impacts, and Indirect and Cumulative Impacts.

4.1 Geology and Soils

4.1.1 Existing Conditions

The Radio Tower Site has the same geologic conditions as the Arena Site as presented in the August 2004 EIS (NJSEA 2004). The United States Geological Survey (USGS) and the New Jersey Geological Survey *Bedrock Geologic Map of Northern New Jersey* (1996), characterizes the underlying bedrock in the region as reddish-brown silty to sandy mudstone, siltstone, and shale as part of the Passaic Formation (formerly Brunswick) dating from the Lower Jurassic and Upper Triassic Period (Figure 4-1). The Passaic Formation is part of the Newark Supergroup of sedimentary and bedded volcanic rocks. The reddish-brown mudstone, siltstone and shale of this bedrock originated from non-marine sediments deposited from erosion of much older rocks, primarily from the Paleozoic and Precambrian ages.

In more recent geological times, the Hackensack Meadowlands was covered by glacial advances (USACE and USEPA, 1995). The ice sheets scoured and eroded the Hackensack River Valley and then deposited the eroded material as they retreated. As a result, glacial deposits cover most of the bedrock in the area.

The most recent glacial advance carved out a depression in the Hackensack Meadowlands that allowed for the formation of what is called Lake Hackensack (USACE and USEPA, 1995). As

the glacier receded, meltwater filled the lake and deposited alternating layers of sand, silt, and clay on the lake bottom. Coarser soil particles, sands and gravels were deposited during the warmer periods of a year. Fine-grained, suspended silt and clay particles settled out during the winter when there was less runoff into the lake. This deposition pattern resulted in one coarse-grain varve and one fine-grain varve per year. There are areas in the Hackensack Meadowlands where the varved clay stratum is nearly 200 feet thick. As water levels in the ocean and lakes rose, the natural dam that enclosed Lake Hackensack was eroded away. The draining of the lake caused a discontinuous layer of silty sand to deposit over portions of the area. As ocean levels continued to rise, the deposits of organic matter (peat or "meadow mat," and organic silt and clay) created tidal marsh areas in the Hackensack River basin.

The underlying geology of the Radio Tower Site is similar to that of the Arena Site. A preliminary geotechnical field investigation of the Radio Tower Site was performed by Langan Engineering and Environmental Services (Langan) to provide information for the design of the proposed structures, utilities and earthwork (Langan 2011e). The geotechnical investigation consisted of 5 drilled borings and 3 cone probe borings that were performed at select locations within the footprint of the amusement park and water park.

The Radio Tower Site subsurface conditions generally consist of fill materials underlain by organic silt and peat (marsh deposits), varved clay, glacial till, and shale bedrock. The following provide a detailed description of the observed subsurface strata:

- ***Fill*** - A 4 foot to 17-foot-thick layer of fill consisting primarily of brown to black sand with varying amounts of gravel, silt, clay, peat, roots, and debris was encountered in all three borings.

- ***Marsh Deposits*** - A layer of marsh deposits consisting of black peat (meadowmat) and gray organic silt was encountered beneath the fill layer in thicknesses typically ranging from 5.5 feet to 8 feet. A 1.5-foot thick layer of gray silty sand was encountered beneath the marsh deposits in one of the borings.

- ***Varved Clay*** - A stratum of brown varved clay and silt (identified herein as "varved clay") was encountered beneath the marsh deposits. The thickness of this stratum ranged from approximately 32 feet to 45 feet.

- ***Glacial Till*** - Glacial till consisting of reddish brown sand with varying proportions of silt, clay, and gravel was typically encountered beneath the varved clay. This stratum varied in thickness from approximately 10 feet to 19 feet.

- ***Shale*** - Shale rock was encountered beneath the glacial till in all of the drilled borings. In four of the borings, the upper 5 feet to 10 feet of the shale rock was observed to be decomposed or weathered. The top of shale rock was inferred by refusal of advancement of the drilling equipment to be at depths ranging from 68 feet to 80 feet.

According to the National Resource Conservation Service mapping, there are two soil types mapped within the site (Figure 4-2). A description of this soil type is provided below.

- UdouB-Udorthents-Organic Substratum-Urban Land Complex – These soils are found in low areas of marine and estuarine deposits and in uplands. Udorthents consist of areas where various types of material have been used to fill tidal marsh. Dredged material makes up a considerable portion of this unit. The largest area of this soil mapping unit is found in the Hackensack Meadowlands in East Rutherford.

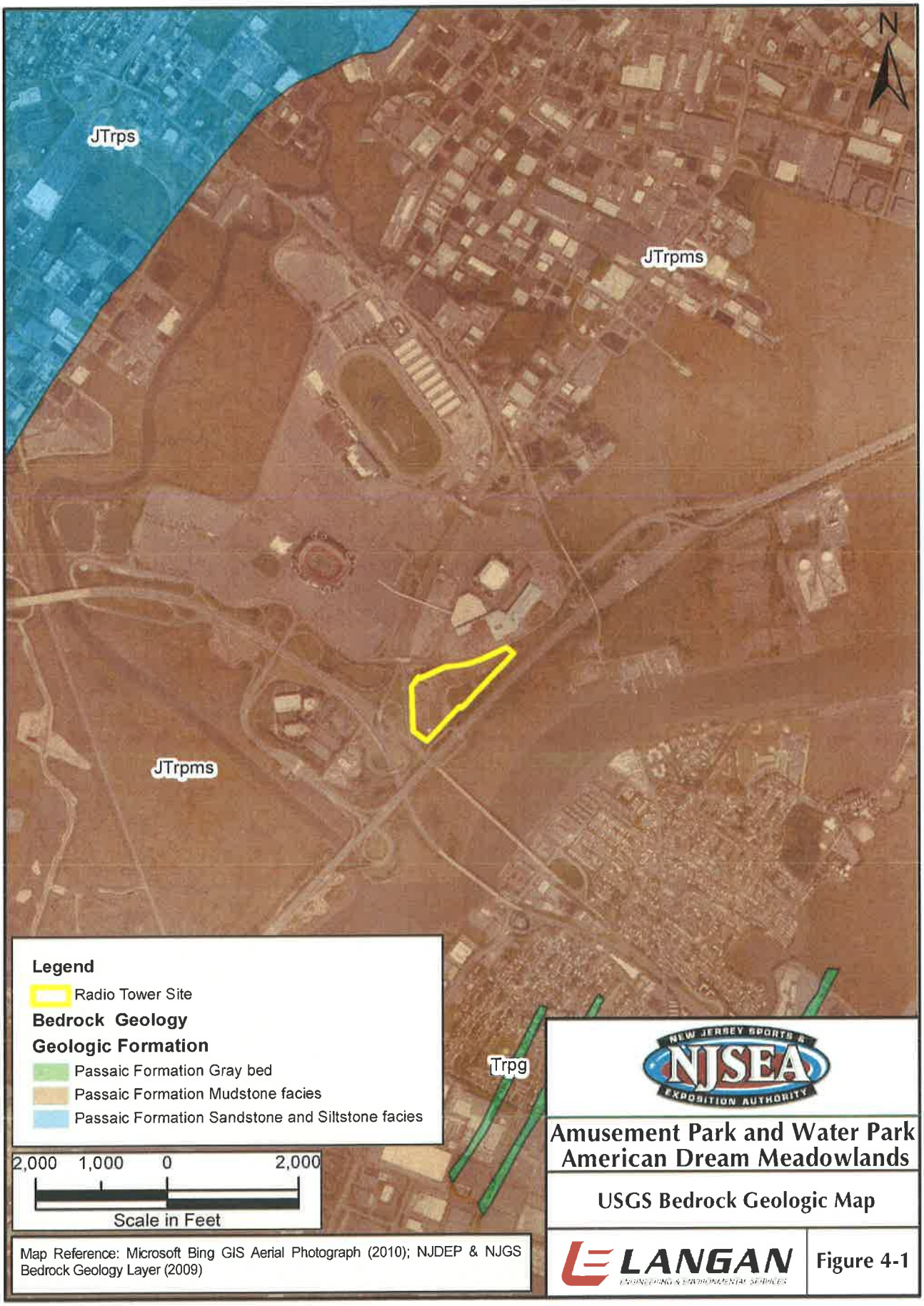
- UR – Urban Land – This soil is characteristic of areas that have been cut and filled or areas in which more than 85 percent of the surface has been urbanized and covered by man-made impervious surfaces such as pavement or buildings. These soil areas tend to be nearly level or gently sloping, with grades from 1 to 5 percent. Also included in this map unit are high-density residential areas where less than 85 percent of the surface is urbanized but the soil material has been reworked or contains Udorthents that have a loamy or wet substratum (USDA 1995).

4.1.2 Impacts

The geology of the underlying bedrock associated with the Amusement Park and Water Park and drainage improvements area would not change from the construction or operation of the Project. No adverse impacts to the underlying glacial till and decomposed bedrock layers would be expected as a result of the Project. The Project will not have any impacts related to the regional geology of the area, although the fill, marsh deposits, and varved clay strata present will compress under the very high column loads to be applied by proposed structures (Langan 2011e).

4.1.3 Mitigation

Due to the compression of the fill, marsh deposits, and varved clay strata that are expected to occur under the very high column loads to be applied by proposed structures, it is proposed that the structures be constructed on pile supported foundations, with piles driven down to existing bedrock to transfer loads from the structures directly to the glacial till or bedrock. This construction technique will avoid any potential impacts to the structures from the compressible materials underlying the Project Area.



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MUSYM	Soil Description	Hydric
UdouB	Udorthents, organic substratum -Urban land complex, 0 to 8 percent slopes	No
UR	Urban Land	No

Map Reference: Promaps Inc., Moorestown, NJ - Flyover Aerial Photography (6-2011); NRCS Soil Boundaries - Bergen County, NJ (2008)

NEW JERSEY SPORTS & EXPOSITION AUTHORITY

Amusement Park and Water Park American Dream Meadowlands

Soil Survey Map

LANGAN ENGINEERING & ENVIRONMENTAL SERVICES

Figure 4-2

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Existing site grades will need to be raised by approximately 2 feet to 8 feet to meet proposed finished grades and as much as 5 feet to 9 feet in wetland areas. Loose fill, very soft organic soils, and underlying varved clay will compress under the weight of the new fill. It is anticipated that new fill on the order of approximately 2 feet to 15 feet will need to be placed within the site to meet proposed grades and account for anticipated settlement.

The fill, marsh deposits, and varved clay will compress under the column loads applied by the proposed building and by the associated amusement rides. The column and amusement ride loads will be transferred to the glacial till or bedrock using deep foundations.

In order to reduce post-construction settlements to within tolerable amounts for the proposed on-grade perimeter access road, a surcharge having a height of 10 feet above finished grades should be constructed after filling in the wetland areas. Preliminarily estimates identify that the surcharge will need to remain in place for a period of approximately 6 months. The actual surcharge period will be confirmed by settlement monitoring during construction. As an alternative to surcharging with on grade support, a pile or controlled modulus column supported structural slab could be used.

To minimize any impact that the construction activities may have on other areas of the Radio Tower Site or surrounding areas, a Soil Erosion and Sediment Control Plan and a Soil Reuse Plan will be implemented. These plans are discussed below.

Soil Erosion and Sediment Control Plan

Soil erosion and sediment control measures will be employed to control erosion and minimize sedimentation of nearby tidal wetlands and floodplains. A site-specific Soil Erosion and Sediment Control Plan in accordance with the Standards for Soil Erosion and Sediment Control in New Jersey, certified by the SCS, will be prepared and implemented as a part of the Project's Best Management Practices (BMPs) for construction.

Soil erosion and sediment control measures, as defined in the Soil Erosion and Sediment Control Plan, will be in place prior to any site disturbance activities and will be maintained throughout the construction phase of the Project. The following measures will be incorporated into the Soil Erosion and Sediment Control Plan:

- Turbid discharge from dewatering construction activities will be contained in temporary dewatering basins to control sediment and provide water filtration prior to discharge;

- Soil stockpiles will be placed in well drained areas with adequate temporary soil erosion and sediment control measures, at least 50 feet from wetlands;
- Soil erosion control measures will be inspected after each rain event and corrective measures implemented to ensure adequate function when rip-rap stones, coarse aggregate, silt fence, or hay bales are damaged due to washouts or siltation; and,
- Sediment traps and basins will be cleaned and silt fences, stone outlet structures, and hay bales will have sediment removed when material accumulates as required.

In addition, soil erosion and sediment control features coupled with fencing will be used to demarcate and protect adjacent environmentally sensitive areas that are not to be impacted from the Amusement Park and Water Park Project.

4.2 Land Form

4.2.1 Existing Conditions

The Radio Tower Site is developed with three, 500+ foot high steel lattice radio transmission towers, access roads and a radio transmission building (Figures 1-3 and 1-4). Existing site grades vary throughout the Radio Tower Site and typically range between el 5 and el 15 (NGVD 29 datum) (Figure 4-3). The central portion of the site is occupied by three radio towers where site grades are at approximate el 10. Earth embankments associated with Route 120 and the East Peripheral Road are located on the south and west sides of the site, respectively. Site grades in these areas range from approximately el 6 to el 26 on the south and from el 10 to el 15 on the west. Wetlands located onsite range in elevation from el 3 to el 7. The channels within the ditch located adjacent to the ramp for the East Peripheral Road extend to approximately elevation 1. Topographical features within and adjacent to the Radio Tower Site are shown in Figure 4-3.

The areas adjacent to the Radio Tower Site contain several regional roadways including portions of N.J. Route 3, N.J. Route 120, and the New Jersey Turnpike. These roadways are all fairly flat and contain asphalted roads with grassed shoulders and drainage features. Bridges that allow for the crossing of these roadways provide elevation change to these features.

N36°26'02"E
82.52'

N60°52'20"W
10.08'

N36°26'02"E
100.27'

P.O.B.

S53°33'58"E
37.00'

R=230.00'
A=21.95'
D= 5°28'03"
CB=N00°46'25"E
CL=21.94'

N65°02'40"E 417.62'

R=1373.00'
A=553.97'
D= 23°07'03"
CB=N78°28'14"E
CL=550.22'
(NON-TANGENT)

BLOCK 107.02, LOT 3
N/F METRO CENTRAL, LLC
PARCEL CONTAINS
947,202 S.F. OR 21.745 ACRES
MORE OR LESS

R=6048.00'
A=433.80'
D= 4°06'35"
CB=N65°07'34"E
CL=433.71'
(NON-TANGENT)

NEW JERSEY ROUTE 120

N01°57'36"W 671.04'

N.J. ROUTE 3 WEST

N53°33'58"W 262.48'

Radio Tower Transmission Building

Drainage Easement

Radio Towers

EAST PERIPHERAL ROAD

S53°33'58"E
148.42'

S43°05'51"W 730.94'

N53°33'58"W
40.27'

S43°05'51"W 1162.86'

NEW JERSEY TURNPIKE (WESTERN SPUR)

96-Inch Culvert
Under Turnpike

Legend

- Drainage Improvement Area
- Radio Tower Site

150 75 0 150
Scale in Feet

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American Dream Meadowlands

Topographic Survey of the Project Area

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Figure 4-3

4.2.2 Impacts

The Amusement Park and Water Park Project will not have impacts on major land forms in the Hackensack Meadowlands District (HMD) or the Meadowlands Sports Complex property. The Project will require the regrading of portions of the Radio Tower site to bring some low areas to the Project's general elevation of approximately 12+ feet NGVD, leading to minor changes in existing land forms on and near the Radio Tower Site. Existing site grades will need to be raised by approximately 2 feet to 8 feet to meet proposed finished grades and as much as 5 feet to 9 feet in wetland areas. Raising the site will not require changes to any of the adjacent roadways or ramps surrounding the Radio Tower Site.

4.2.3 Mitigation

No mitigation is necessary with regard to land form impacts, and no mitigation is proposed.

4.3 Wetlands

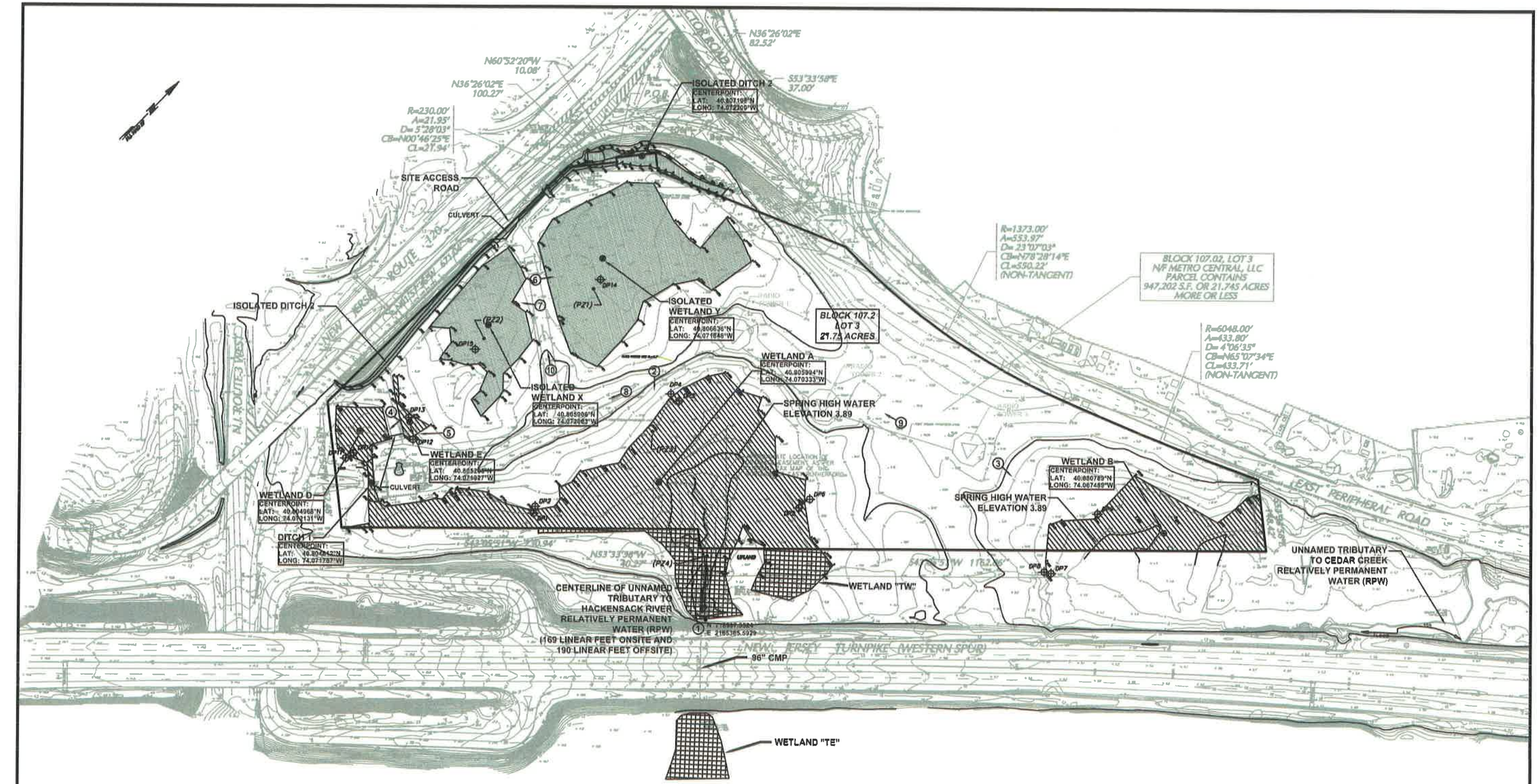
4.3.1 Existing Conditions

Several tidal and non-tidal emergent wetland areas dominated by common reed are present on the Radio Tower Site. In addition, tidal wetland areas are present within the New Jersey Turnpike right-of-way where offsite drainage improvements are proposed as part of the Amusement Park and Water Park Project. Wetlands on the Radio Tower Site were delineated in accordance with Federal delineation methodology (Langan 2011a). The U.S. Army Corps of Engineers (USACE) has confirmed the accuracy of the delineation on the Radio Tower Site as depicted on Figure 4-4 and issued a Jurisdictional Determination letter dated 30 September 2011, a copy of which is provided in Appendix A. Wetland areas on the Radio Tower Site total approximately 7.36 acres, which includes 0.21 acres of wetland ditches (Table 4-1). Wetlands within the Turnpike right-of-way have been identified using elevation 5.5 as the upper limit (see Figure 4-4). The wetlands within the Turnpike will be confirmed through a delineation and field survey in the near future.

Radio Tower Site

A delineation and survey of the wetlands / waters of the U.S. on the Radio Tower Site was performed in May and June 2011 (Langan 2011a). This delineation was performed in accordance with the methodology established in the Corps of Engineers Wetland Delineation Manual, 1987 and subsequent guidance. Based on this delineation, a total of six (6) wetland and two (2) ditch features were identified, delineated, and surveyed (Figure 4-4 and Table 4-1). As shown on Figure 4-4, two emergent, tidally-influenced wetland areas were identified along the eastern perimeter of the site (Wetland A and Wetland B); two small, non-tidal emergent wetlands and a man-made drainage ditch were identified in the southern portion of the site (Wetland D, Wetland E and Ditch 1); two isolated, non-tidal emergent wetland areas were identified in the western portion of the site (Wetland X and Wetland Y); and a ditch associated with an offsite roadway system (Ditch 2) was also delineated because it straddled the border of the property. A summary of these features is provided in Table 4-1.

Soil borings taken with a hand auger during the delineation revealed soils that showed a high level of prior disturbance as a result of historic filling activities. Large rock boulders and debris were encountered in many of the upland and wetland soil borings. The historic filling of the property is evidenced by Figure 1-5 (Historic Fill Map 1967) and Figure 1-6 (NJGS Historic Fill Map).



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Amusement Park and Water Park
American Dream Meadowlands

Wetland Delineation Map

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Figure 4-4

TABLE 4-1

WETLANDS IDENTIFIED IN THE PROJECT AREA

Identified Feature	Wetland Type (Cowardin Classification)	Area (Acres)
Wetland A	E2EM5P6d	3.1
Wetland B	E2EM5P6d	0.97
Wetland D	PEM5A0d	0.22
Wetland E	PEM5A0d	0.06
Ditch 1	PEM5J0d	0.03
Wetland X	PEM5A0d	0.81
Wetland Y	PEM5C0d	1.99
Ditch 2	POW	0.18
Wetland TW	E2EM5P6d	0.76 (See Note 1)
Wetland TE	E2EM5P6d	0.3 (See Note 1)

E2EM5P6d - Estuarine Intertidal Emergent Phragmites Irregularly Flooded Oligohaline Partly Drained/Ditched
PEM5A0d - Palustrine Emergent Phragmites Temporarily Flooded Fresh Partly Drained/Ditched
PEM5C0d - Palustrine Emergent Phragmites Seasonallly Flooded Fresh Partly Drained/Ditched
PEM5J0d - Palustrine Emergent Narrow Leaved Persistent Intermittently Flooded, Fresh, Partially Drained/Ditch
POW - Paulstrine Open Water

Note 1: Wetland acreage is approximate and shown only in the vicinity of the drainage improvements and associated construction access routes.

Source: Langan 2011b

A summary description of the wetlands and waters of the U.S. observed on the Radio Tower Site is provided below (Langan 2011a).

Wetland A

Wetland A is a 3.10-acre estuarine emergent wetland dominated by common reed. Using the Cowardin classification system, it can be classified as E2EM5P6d (Estuarine Intertidal Emergent Phragmites Irregularly Flooded Oligohaline Partly Drained/Ditched). Wetland A is situated adjacent to an unnamed tributary to the Hackensack River. This wetland extends along the eastern boundary of the property and continues into the New Jersey Turnpike right-of-way. The wetland is drained by the unnamed tributary via direct surface flow, and the tributary is culverted beneath the Turnpike by a 96-inch corrugated metal pipe (CMP). Portions of Wetland A become inundated during high tide events. During low tides the wetland drains and becomes free of standing water. As shown on Figure 4-4, the spring high water elevation in this tidal wetland area is elevation 3.89 (NGVD 29 datum).

Wetland B

Wetland B is an approximate 0.97-acre estuarine emergent wetland dominated by common reed. It is situated adjacent to the unnamed tributary to Cedar Creek and can be classified as E2EM5P6d (Estuarine Intertidal Emergent Phragmites Irregularly Flooded Oligohaline Partly Drained/Ditched). This wetland extends easterly into the New Jersey Turnpike right-of-way and northerly into the Meadowlands Sports Complex. The wetland is drained by the unnamed tributary to Cedar Creek via direct surface flow, and the tributary is culverted beneath the Turnpike by a 108-inch reinforced concrete pipe (RCP). Wetland B likely becomes inundated during major high tide events and during low tides drains of standing water. The wetland's hydrology is influenced by the ebb and flow of the tide and like Wetland "A", the spring high water elevation is 3.89 NGVD 29.

Ditch 1

An approximate 0.03-acre ditch is present in the southwestern corner of the property, just south of the radio transmission building. Vegetation in the ditch is dominated by common reed. The ditch can be classified as POW/PEM (Palustrine open water, palustrine emergent wetland). Based on fields observations in May 2011, the ditch appears to occasionally convey excess surface water from Wetland D and Wetland E, to Wetland A during major rain events.

Wetland D

Wetland D is an approximate 0.22-acre palustrine emergent wetland dominated by common reed and can be classified as PEM5A0d (Palustrine Emergent Phragmites Temporarily Flooded Fresh Partly Drained/Ditched). As shown on Figure 4-4, Wetland D is situated near Route 3, Route 120 and the radio tower transmission building. Wetland D is hydrologically driven by

precipitation and local surface water runoff. This wetland is directly connected to Ditch 1 and, therefore, surface water likely drains intermittently during major rain events from the Wetland D through Ditch 1 into Wetland A. Thus, Wetland D indirectly drains to the unnamed tributary of the Hackensack River.

Wetland E

Wetland E is situated near the radio transmission building and access road. It is an approximate 0.06-acre palustrine emergent wetland that has formed over old fill soils. Wetland E is dominated by emergent vegetation comprised mainly of common reed, broadleaf cattail (*Typha latifolia*), common three square (*Scirpus pungens*) and spiked rush (*Eleocharis sp.*). This wetland can be classified as PEM5A0d (Palustrine Emergent Phragmites Temporarily Flooded Fresh Partly Drained/Ditched). Wetland E is hydrologically driven by precipitation and local surface water runoff. This wetland is directly connected to Wetland D through a pipe that goes under the access road to the transmission building. Therefore, excess surface water draining from Wetland E flows intermittently through the pipe, through Wetland D then Ditch 1 and Wetland A. As such, Wetland E indirectly flows to the unnamed tributary of the Hackensack River.

Wetland X

Wetland X is an approximate 0.81-acre palustrine emergent wetland dominated by common reed and is situated in the southwest portion of the property. Using the Cowardin system it can be classified as PEM5A0d (Palustrine Emergent Phragmites Temporarily Flooded Fresh Partly Drained/Ditched), although no ditches or drainage features are found in the wetland. The wetland is located in a depression in the landscape and has formed over old fill soil. Elevated gravel access roads wrap around two sides of the wetland which is hydrologically isolated from other features on the property. No evidence of overland drainage or culverted connections to other surface waters or wetlands was observed. Even during the extreme wet conditions encountered during the field delineation in late May 2011, no surface water was observed leaving this wetland feature.

Wetland Y

Wetland Y is an approximate 1.99-acre palustrine emergent wetland also dominated by common reed. It is situated in the western portion of the property and using the Cowardin system can be classified as PEM5C0d (Palustrine Emergent Phragmites Seasonally Flooded Fresh Partly Drained/Ditched). Despite this classification, no ditches or drainage features occur in the wetland. Like Wetland X, this wetland is located in a depression in the landscape. Its hydrologic input is driven by precipitation and surface water runoff from its upland drainage area. Wetland Y is hydrologically isolated from other features on the property. The ground surface surrounding the wetland is elevated and entirely upland. No overland or culverted connections to other surface waters or wetlands was observed and even during the extreme

wet period during the field observations made in late May 2011, no surface water was observed leaving this wetland feature.

Ditch 2

Ditch 2 is a linear stormwater conveyance ditch that was constructed to manage stormwater runoff from the adjacent, newly realigned, State Route 120 and East Peripheral Road ramp system. The on and offsite delineated surface area of the ditch is 0.18 acres and the vegetative community is dominated by common reed and red maple. At the time of the field investigation in May 2011, standing water was found in the ditch. Due to its proximity to the isolated features onsite, the ditch was investigated to determine if there was any connection between it and isolated Wetland X and Wetland Y. The ditch receives surface runoff from the East Peripheral Road and Route 120 during rain events. No visible outfalls or other conveyance features to the ditch from the Radio Tower Site were observed. In addition, the ditch has no obvious means of draining. Thus, it appears that surface water entering the ditch from the offsite roadways is detained without a means of surface water drainage. No surface input was observed from the Radio Tower Site, thereby reinforcing the isolated nature of Wetland X and Wetland Y.

Photographs of several of the delineated wetland areas on the Radio Tower Site are provided as Figures 4-5 through 4-9.

Figure 4-5
Photograph Looking South at Wetland A From Radio Transmission Line Access Road



Figure 4-6
Photograph Looking East At Wetland B From Upland Area Near Easternmost Radio Tower



Figure 4-7
Photograph Looking Northeast At Isolated Wetland Y From Site Entrance Road



Figure 4-8
Photograph Looking Northwest At Isolated Wetland X From Site Access Road



Figure 4-9
Photograph Looking Southwest at Wetland E From Entrance Road To Radio Transmission Building



New Jersey Turnpike Right-of-Way

In addition to the wetlands delineated on the Radio Tower Site, approximately one acre of tidal emergent wetlands is located within or immediately adjacent to the drainage improvement area within the New Jersey Turnpike right-of-way. The approximate boundaries of these wetlands have been estimated at elevation 5.5. The wetlands are identified on Figure 4-4 and listed on the Table 4-1 as Wetland TE and Wetland TW, and are described below. The jurisdictional boundaries of these wetlands have not yet been delineated and surveyed, nor confirmed by the USACE.

Wetland TW

Wetland TW is situated west of the Turnpike and immediately adjacent to Wetland A delineated on the Radio Tower Site. Wetland TW and Wetland A form a single wetland complex. The eastern boundary of Wetland TW is formed by the fill associated with the southbound Turnpike roadway embankment. This tidal emergent wetland is comprised almost entirely of common reed, and based on the Cowardin system it would be classified as E2EM5P6d (Estuarine Intertidal, Emergent Phragmites Irregularly Flooded Oligohaline Partly Drained/Ditched). Like the onsite Wetland A, it is associated with the unnamed tributary to the Hackensack River. The wetland is drained by the tributary which is culverted beneath the Turnpike by the 96-inch CMP. The culvert carries the drainage to the east, beneath the Turnpike where it discharges/daylights to the downstream end of the unnamed tributary and Wetland TE.

Wetland TE

Wetland TE is east of and adjacent to the fill forming the northbound Turnpike roadway embankment, and at the downstream outlet of the 96-inch culvert. The wetland is dominated by common reed. Using the Cowardin System, the wetland would be classified as E2EM5P6d (Estuarine Intertidal Emergent Phragmites Irregularly Flooded Oligohaline Partly Drained/Ditched). Extending from the end of the culvert is a channelized tributary that meanders in a southerly direction for approximately 1,000 feet where it passes beneath a bridge carrying the Transco pipeline. From this point the tributary flows in an easterly direction for approximately 700 feet where it empties into to the Hackensack River.

4.3.2 Impacts

The wetlands and waterways proposed to be impacted on the Radio Tower Site and within the Turnpike right-of-way are characterized as: 1) being fragmented from major wetland features in the region (i.e., surrounded by development and roadways); 2) exhibiting contamination levels above applicable criteria (see Section 4.11.1); and 3) having been heavily disturbed by previous human activities and operation of the radio towers and Turnpike. Impacts to wetlands from the

Amusement Park and Water Park Project, including the drainage area improvements, are presented below according to permanent and temporary impacts. A discussion of impacts on wetland functions and values is also presented.

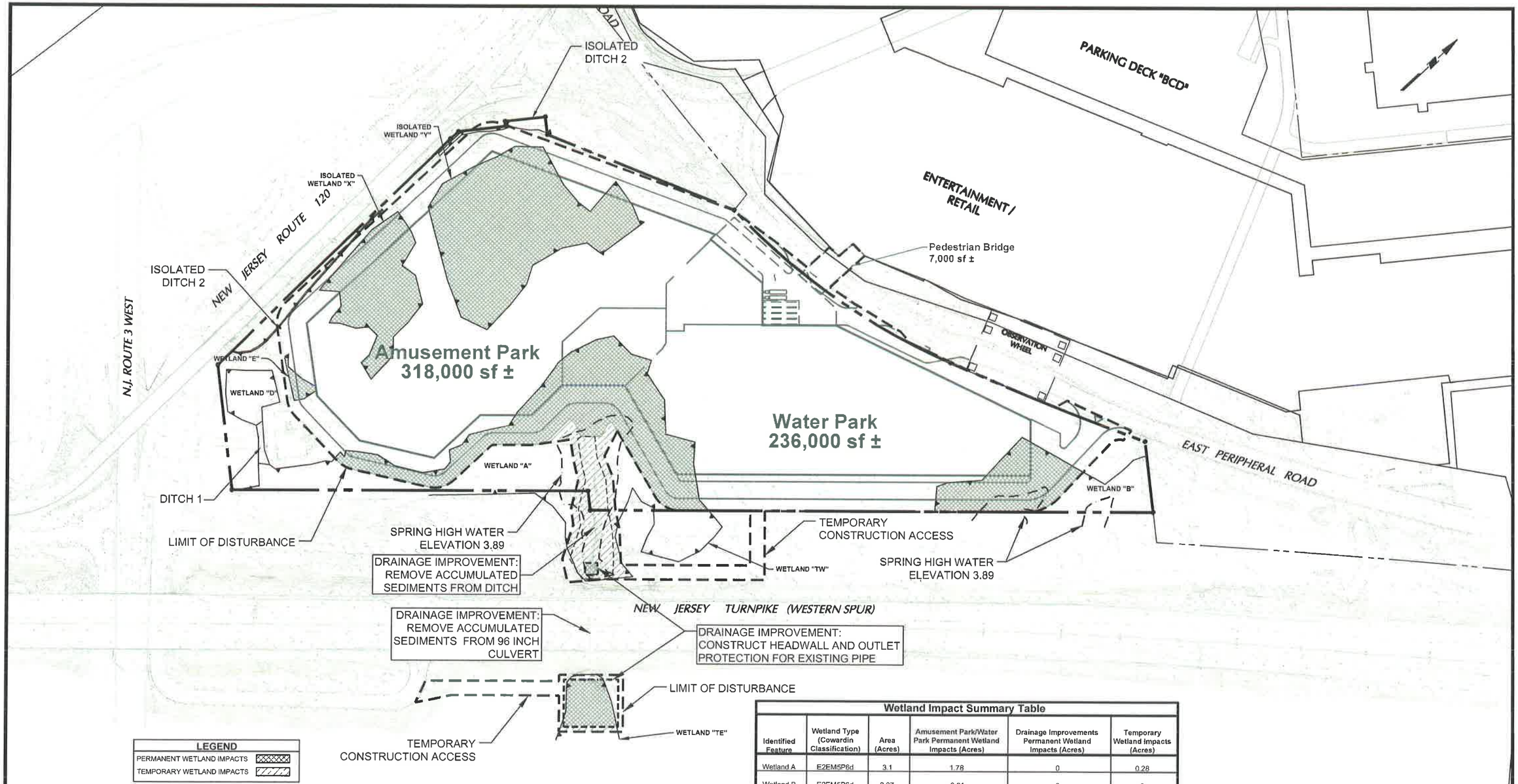
An application for a Department of the Army permit was submitted to the USACE on October 11, 2011 for the wetland impacts described below. A permit application to request a Water Quality Certificate (WQC) from the New Jersey Department of Environmental Protection (NJDEP) Division of Land Use Regulation will be submitted in the near future (see Section 5.0) (Langan 2011b).

4.3.2.1 Permanent Impacts

The construction of the Amusement Park and Water Park and associated drainage improvements within the New Jersey Turnpike right-of-way will require the filling of a total of approximately 5.47 acres of tidal and non-tidal emergent wetlands (Figure 4-10 and Table 4-2) (Langan 2011b). Direct wetland impacts from the construction of the Amusement Park and Water Park building and associated perimeter access road on the Radio Tower Site include approximately 2.34 acres of tidal emergent wetlands (Portions of Wetlands A and B); approximately 0.05 acres of non-tidal emergent wetlands (Wetland E); and 2.8 acres of non-tidal, isolated emergent wetlands (Wetlands X and Y). Additionally, approximately 0.05 acres of Wetland A will be impacted from the construction of stormwater outfalls that will discharge stormwater from the Amusement Park and Water Park to the drainage easement. An additional 0.23 acres of tidal emergent wetlands will be impacted as a result of the proposed drainage improvements to the existing 96-inch culvert (i.e., construction of headwalls and outlet protection), which include 0.21 acres of impacts to Wetland TE and 0.02 acres of impacts to Wetland TW.

4.3.2.2 Temporary Impacts

The Amusement Park and Water Park Project will require temporary impacts to approximately 0.66 acres of wetlands associated with the drainage improvements in the drainage easement located within the Radio Tower Site (see Figure 4-3) and in the Turnpike right-of-way (Figure 4-10 and Table 4-2). These drainage improvements will include the removal of accumulated sediment in the drainage feature (unnamed tributary to the Hackensack River) and removal of accumulated sediment in the 96-inch pipe. Temporary impacts to wetlands and waters in the vicinity of the Project Area may occur during the construction phase of the Project as a result of soil movement and disturbance. The disturbance and movement of soil during construction could allow the movement of soil into these adjacent wetlands and waters during rain events.



Wetland Impact Summary Table

Identified Feature	Wetland Type (Cowardin Classification)	Area (Acres)	Amusement Park/Water Park Permanent Wetland Impacts (Acres)	Drainage Improvements Permanent Wetland Impacts (Acres)	Temporary Wetland Impacts (Acres)
Wetland A	E2EM5P6d	3.1	1.78	0	0.28
Wetland B	E2EM5P6d	0.97	0.61	0	0
Wetland D	PEM5A0d	0.22	0	0	0
Wetland E	PEM5A0d	0.06	0.05	0	0
Ditch 1	PEM6J0d	0.03	0	0	0
Wetland X	PEM5A0d	0.81	0.81	0	0
Wetland Y	PEM5C0d	1.99	1.99	0	0
Ditch 2	POW	0.18	0	0	0
Wetland TE	E1UBLx	0.3	0	0.21	0.03
Wetland TW	E1UBLx	0.76	0	0.02	0.35
TOTAL		8.42	5.24	0.23	0.66

NEW JERSEY SPORTS & EXPOSITION AUTHORITY

Amusement Park and Water Park American Dream Meadowlands

Proposed Wetland Impact Map

LANGAN

Figure 4-10

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TABLE 4-2

WETLAND IMPACT SUMMARY

Identified Feature	Wetland Type (Cowardin Classification)	Area (Acres)	Amusement Park/Water Park Permanent Wetland Impacts (Acres)	Drainage Improvements Permanent Wetland Impacts (Acres)	Temporary Wetland Impacts (Acres)
Wetland A	E2EM5P6d	3.1	1.78	0	0.28
Wetland B	E2EM5P6d	0.97	0.61	0	0
Wetland D	PEM5A0d	0.22	0	0	0
Wetland E	PEM5A0d	0.06	0.05	0	0
Ditch 1	PEM5J0d	0.03	0	0	0
Wetland X	PEM5A0d	0.81	0.81	0	0
Wetland Y	PEM5C0d	1.99	1.99	0	0
Ditch 2	POW	0.18	0	0	0
Wetland TE	E1UBLx	0.3	0	0.21	0.03
Wetland TW	E1UBLx	0.76	0	0.02	0.35
TOTAL		8.42	5.24	0.23	0.66

Source: Langan 2011b

4.3.2.3 Impacts on Wetland Functions and Values

The Amusement Park and Water Park Project will impact tidal and non-tidal wetlands on the Radio Tower Site and within the Turnpike right-of-way. The proposed filling of a portion of the tidal wetlands on the site will lead to a decrease in the tidal wetland's overall nutrient and sediment trapping functions, food chain support, wildlife habitat and flood storage. However, these tidal wetlands are currently fragmented from the Hackensack River by the Turnpike and already have limited functions and values based on their current conditions. The non-tidal wetlands are hydrologically isolated from Hackensack River since they do not have a surface water connection. Although the non-tidal wetlands do provide limited functions and values, the isolated nature of the wetlands limits their overall value to the Hackensack River ecosystem.

4.3.3 Mitigation

A wetland mitigation plan will be established in accordance with the Federal Section 404(b)1 Guidelines and Compensatory Mitigation for Losses of Aquatic Resources Rule. These guidelines set forth the standards for evaluating impacts associated with discharges of dredged or fill material and establish requirements for mitigating permittable impacts to waters of the United States. The Guidelines require applicants to follow the mitigation hierarchy of avoidance, minimization and ultimately, compensation for unavoidable impacts.

As discussed in Section 3.0, avoidance of wetland impacts is not practicable given the project purpose. Not building the Amusement Park and Water Park would cause the American Dream Meadowlands Project to be economically unviable. No viable offsite alternatives exist that would avoid impacts to wetlands/waters of the United States. Based on the configuration of the onsite wetlands, it is not possible to avoid impacting them.

The Amusement Park and Water Park Project results in approximately 5.24 acres of permanent impacts for the construction of Amusement Park and Water Park building and associated infrastructure, and approximately 0.23 acres of permanent impacts for certain off-site drainage improvements.

Through the evaluation of onsite alternative designs for the Amusement Park and Water Park, impacts to wetlands have been minimized from a total of approximately 6.7 acres under Alternative 1 to approximately 5.24 acres under Alternative 3, which is the selected alternative and the least environmentally damaging alternative. The Amusement Park and Water Park Project proposes no onsite parking. Instead, patrons will park at the existing parking lots/parking garages already constructed at the ERC, or arrive by rail or other mass transit. This shared parking approach results in a significant reduction in potential wetland impacts by reducing the

overall footprint of the Amusement Park and Water Park Project. Thus, impacts to wetlands/waters of the United States have been minimized to the extent practicable.

These design considerations notwithstanding, the Amusement Park and Water Park Project, including the drainage improvements adjacent to the Turnpike culvert, will result in approximately 5.47 acres of unavoidable impacts to wetlands/waters of the United States. These permanent impacts will be compensated for at offsite locations within the same watershed including the purchase of wetland mitigation from the Secaucus High School Wetland Mitigation Site constructed by the New Jersey Meadowlands Commission (NJMC); through the purchase of available credits from any approved wetland mitigation banks; through the preservation of wetlands; and/or, compensation through in-lieu fee payment. The final compensatory mitigation program for the Amusement Park and Water Park Project will be consistent with the March 2008 USACE and U.S. Environmental Protection Agency (USEPA) Compensatory Mitigation for Losses of Aquatic Resources Rule.

4.4 Water Resources

4.4.1 Existing Conditions

4.4.1.1 Surface Drainage Characteristics

The Radio Tower Site is located in the Hackensack River (Route 3 to Bellmans Creek) HUC-14 Watershed (Figure 4-11). Three major waterways (Hackensack River, Berry's Creek, and Berry's Creek Canal) and three smaller waterways (unnamed tributary to the Hackensack River, an unnamed tributary to Cedar Creek, and Cedar Creek) are the closest waterways to the Radio Tower Site. Of these, the only waterway that is actually located within the boundaries of the Radio Tower Site is the unnamed tributary to the Hackensack River. The unnamed tributary to Cedar Creek and Cedar Creek are located to the northeast of the Radio Tower Site.

Field studies in August 2011 confirmed the location and extent of the current unnamed tributary to the Hackensack River and unnamed tributary to Cedar Creek (Figure 4-12). The top of bank and width of these tributaries were surveyed during low tide periods in August 2011. These unnamed tributaries are both influenced by the tides. The spring high water elevation is 3.89 (NGVD 29 datum).

The Radio Tower Site has two basic watersheds that discharges to two existing culverts (a 96-inch culvert and a 108-inch culvert) that go under the New Jersey Turnpike and allow stormwater to eventually flow to the Hackensack River (Figure 4-13). The existing 96-inch culvert located within the Turnpike right-of-way, which drains the majority of the Radio Tower Site (see Watersheds Ex-1A through Ex-1D on Figure 4-13), is silted up with approximately six feet of sediment and has significantly reduced the current capacity of the pipe. The existing 108-inch culvert, which was cleaned out and partially rebuilt in 2006 as part of the previously approved and constructed ERC project, drains the northeastern portion of the site (see Watershed Ex-2 on Figure 4-13). A portion of Route 120 and the American Dream Meadowlands Entertainment Retail Center (ERC) drains to the Radio Tower Site via two 36-inch culverts at the northwest corner of the site and via a 60-inch culvert near the southeast corner of the site. Stormwater runoff from the western portion of the Radio Tower Site, portions of Route 120, and portions of the ERC pond in ditches and low-lying areas of the site adjacent to Route 120 where it evaporates and/or infiltrates. There appears to be no surface water conveyance of this runoff. Under extreme storm events, ponded stormwater on the western portion of the site likely overflows onto the eastern portion of the site.



Map Reference: Promaps Inc., Moorestown, NJ - Flyover Aerial Photography (6-2011); NJDEP Surface Water Quality Standards GIS Data (2011); NJDEP HUC-14 Watershed Boundaries (2010)

NEW JERSEY SPORTS & EXPOSITION AUTHORITY

Amusement Park and Water Park
American Dream Meadowlands

NJDEP Surface Waters Map

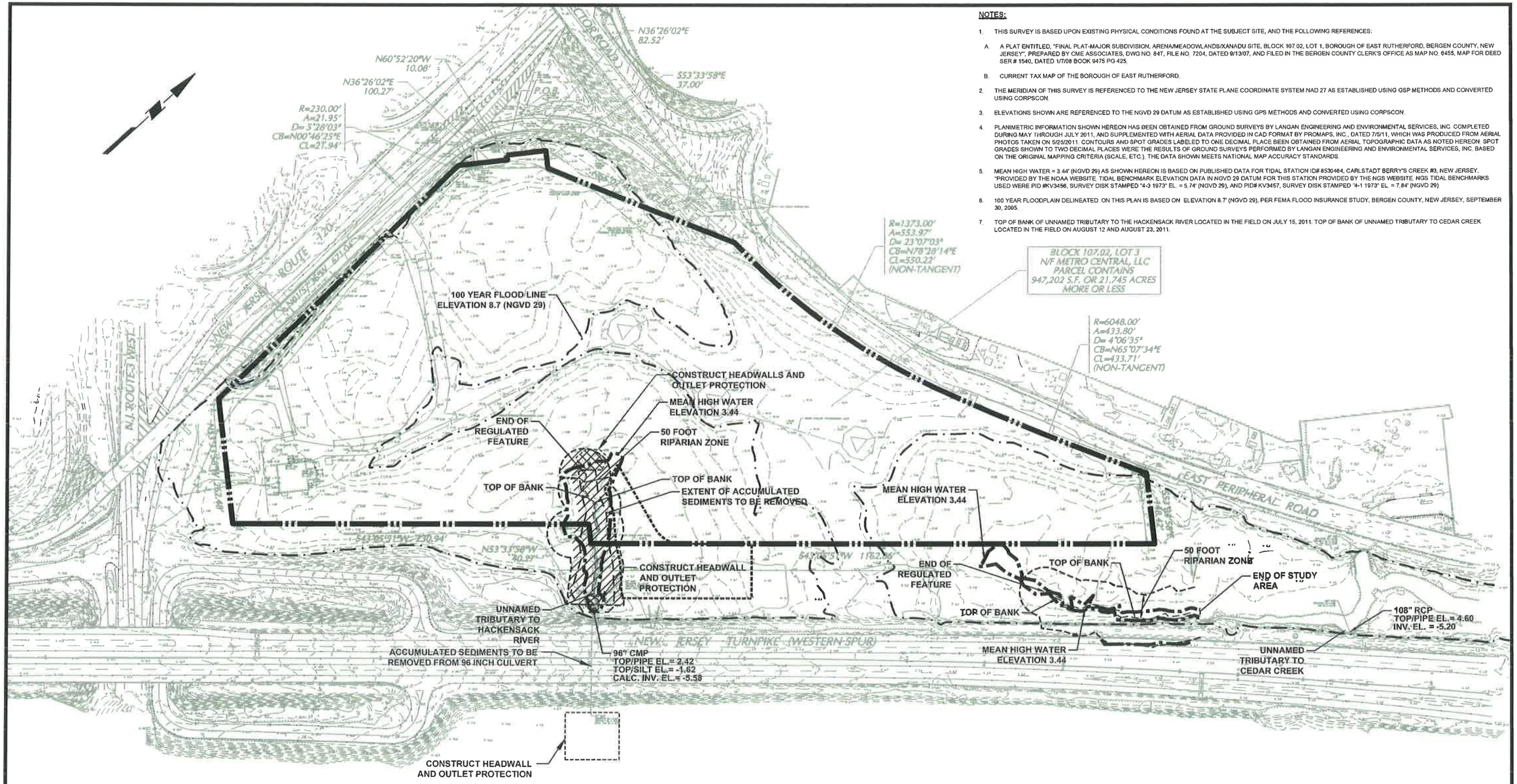
LANGAN ENGINEERING & ENVIRONMENTAL SERVICES

Figure 4-11

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NOTES:

1. THIS SURVEY IS BASED UPON EXISTING PHYSICAL CONDITIONS FOUND AT THE SUBJECT SITE, AND THE FOLLOWING REFERENCES:
   - A. A PLAT ENTITLED, "FINAL PLAT-MAJOR SUBDIVISION, ARENA/MEADOWLANDS/XANADU SITE, BLOCK 107.02, LOT 1, BOROUGH OF EAST RUTHERFORD, BERGEN COUNTY, NEW JERSEY", PREPARED BY CME ASSOCIATES, DWG NO. 84T, FILE NO. 7204, DATED 9/13/07, AND FILED IN THE BERGEN COUNTY CLERK'S OFFICE AS MAP NO. 6455, MAP FOR DEED SER # 1540, DATED 1/7/08 BOOK 9475 PG 425.
   - B. CURRENT TAX MAP OF THE BOROUGH OF EAST RUTHERFORD.
2. THE MERIDIAN OF THIS SURVEY IS REFERENCED TO THE NEW JERSEY STATE PLANE COORDINATE SYSTEM NAD 27 AS ESTABLISHED USING GSP METHODS AND CONVERTED USING CORPSCON.
3. ELEVATIONS SHOWN ARE REFERENCED TO THE NGVD 29 DATUM AS ESTABLISHED USING GPS METHODS AND CONVERTED USING CORPSCON.
4. PLANIMETRIC INFORMATION SHOWN HEREON HAS BEEN OBTAINED FROM GROUND SURVEYS BY LANGAN ENGINEERING AND ENVIRONMENTAL SERVICES, INC. COMPLETED DURING MAY THROUGH JULY 2011, AND SUPPLEMENTED WITH AERIAL DATA PROVIDED IN CAD FORMAT BY PROMAPS, INC., DATED 7/5/11, WHICH WAS PRODUCED FROM AERIAL PHOTOS TAKEN ON 5/25/2011. CONTOURS AND SPOT GRADES LABELED TO ONE DECIMAL PLACE BEEN OBTAINED FROM AERIAL TOPOGRAPHIC DATA AS NOTED HEREON. SPOT GRADES SHOWN TO TWO DECIMAL PLACES WERE THE RESULTS OF GROUND SURVEYS PERFORMED BY LANGAN ENGINEERING AND ENVIRONMENTAL SERVICES, INC. BASED ON THE ORIGINAL MAPPING CRITERIA (SCALE, ETC.). THE DATA SHOWN MEETS NATIONAL MAP ACCURACY STANDARDS.
5. MEAN HIGH WATER = 3.44' (NGVD 29) AS SHOWN HEREON IS BASED ON PUBLISHED DATA FOR TIDAL STATION ID# 8530464, CARLSTADT BERRY'S CREEK #3, NEW JERSEY, "PROVIDED BY THE NOAA WEBSITE. TIDAL BENCHMARK ELEVATION DATA IN NGVD 29 DATUM FOR THIS STATION PROVIDED BY THE NGS WEBSITE. NGS TIDAL BENCHMARKS USED WERE PID #KV3456, SURVEY DISK STAMPED "4-3 1973" EL. = 5.74' (NGVD 29), AND PID# KV3457, SURVEY DISK STAMPED "4-1 1973" EL. = 7.84' (NGVD 29).
6. 100 YEAR FLOODPLAIN DELINEATED ON THIS PLAN IS BASED ON ELEVATION 8.7' (NGVD 29), PER FEMA FLOOD INSURANCE STUDY, BERGEN COUNTY, NEW JERSEY, SEPTEMBER 30, 2005.
7. TOP OF BANK OF UNNAMED TRIBUTARY TO THE HACKENSACK RIVER LOCATED IN THE FIELD ON JULY 15, 2011. TOP OF BANK OF UNNAMED TRIBUTARY TO CEDAR CREEK LOCATED IN THE FIELD ON AUGUST 12 AND AUGUST 23, 2011.



LEGEND

- TOP OF BANK
- EXISTING INTERVAL CONTOUR
- EXISTING INDEX CONTOUR
- 50 FOOT RIPARIAN ZONE
- MEAN HIGH WATER (SEE NOTES)
- 100 YEAR FLOOD PLAIN (SEE NOTES)

200 0 100 200
SCALE IN FEET

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NEW JERSEY SPORTS & EXPOSITION AUTHORITY

Amusement Park and Water Park American Dream Meadowlands

Surface Waters Within Project Area and Drainage Improvements Area

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Figure 4-12

Existing incoming flow from Route 120 and ERC via 36-inch pipes. Offsite A and C Watersheds (27.5 AC±)

EXISTING WATERSHED EX-1D (±0.9 AC)

EXISTING WATERSHED EX-1B (±7.1 AC)

EXISTING WATERSHED EX-1C (±2.1 AC)

EXISTING WATERSHED EX-1A (±19.5 AC)

EXISTING WATERSHED EX-2 (±9.2 AC)

EXISTING 96-INCH CULVERT

EXISTING 108-INCH CULVERT

Watershed 1A discharges under NJ Turnpike via 96-inch culvert to Hackensack River

Watershed 2 and ERC discharge under NJ Turnpike via 108-inch culvert to Hackensack River

Incoming flows from ERC site via 60-inch pipes. Offsite ERC Watershed (83.8 AC±)

ENTERTAINMENT / RETAIL

PARKING DECK "BCD"

ENTERTAINMENT / RETAIL

OBSERVATION WHEEL

SOUTH CONNECTOR ROAD

NEW JERSEY ROUTE 120

N.J. ROUTE 3 WEST

EAST PERIPHERAL ROAD

NEW JERSEY TURNPIKE (WESTERN SPUR)

WETLANDS

Breakdown of Existing Drainage Areas

Drainage Areas*	Total Area (Ac.)	Pervious (Ac.)	Impervious (Ac.)	Composite CN*
EX-1A (to 96-inch)	19.5	18.1	1.4	85
EX-1B (to EX-1A)	7.1	6.9	0.2	88
EX-1C (to EX-1A)	2.1	2.1	0	88
EX-1D (to EX-1B)	0.9	0.9	0	88
EX-2 (to 108-inch)	9.2	9.2	0	88

*Drainage Area discharge location and CN values for this analysis reflect a 10-yr tidal storm surge event

DISCHARGE TO 96-INCH CULVERT
Q10yr = 105 cfs
Q50yr = 153 cfs
Q100yr = 174 cfs

LEGEND:

- FLOW TO 96-INCH CULVERT
- FLOW TO 108-INCH CULVERT

DISCHARGE TO 108-INCH CULVERT
Q10yr = 196 cfs
Q50yr = 269 cfs
Q100yr = 302 cfs

NOTES:
1. ALL ELEVATIONS REFERENCE THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD29).
2. THE TAILWATER CONDITION USED FOR THIS ANALYSIS WAS A 10-YEAR TIDAL STORM SURGE EVENT IN THE HACKENSACK RIVER EQUAL TO ELEVATION 6.6 (NGVD29).
3. ERC= AMERICAN DREAM ENTERTAINMENT RETAIL COMPLEX (FORMERLY KNOWN AS XANADU).

250 0 125 250

SCALE IN FEET

NEW JERSEY SPORTS & EXPOSITION AUTHORITY

Amusement Park and Water Park American Dream Meadowlands

Existing Drainage Area Map

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Figure 4-13

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4.4.1.2 Surface Water Quality

The NJDEP Surface Water Quality Standards (N.J.A.C. 7:9B) classify the reach of the Hackensack River closest to the Radio Tower Site as an SE-2 water body. SE waters are estuarine, with salinities greater than 3.5 parts per thousand (ppt) at mean high tide. According to the 2010 *State Water Quality Inventory Report*, the Hackensack River in the vicinity of the Radio Tower Site is an impaired waterbody (NJDEP 2010). The biennial List of Water Quality Limited Waters or "303(d) List" identifies waters that are not attaining designated uses because they do not meet surface water quality standards despite the implementation of technology-based effluent limits. This report identified that the Hackensack River (from Route 3 to Bellmans Creek) as not being in attainment for the following: Ammonia (Un-ionized), Benzo(a)pyrene (PAHs), Cadmium, Chlordane, Dieldrin, DDD, DDE, DDT, Dioxin, Heptachlor epoxide, Mercury in fish tissue, Mercury in the water column, Dissolved Oxygen, PCB in fish tissue and turbidity.

No additional surface water sampling was completed for the Amusement Park and Water Park Project. Water quality data for the region was provided in the August 2004 EIS (NJSEA 2004). Because of the tidal nature of unnamed tributary to the Hackensack River on the eastern portion of the Radio Tower Site, it can be expected that the water quality of this onsite water feature is similar in nature to that of the nearby Hackensack River.

4.4.1.3 Groundwater Quality

Under the NJDEP Ground Water Quality Standards (N.J.A.C. 7:9-6) classification system, the groundwater formation within the Radio Tower Site would be classified as "Class III – Ground Water with Uses other than Potable Water Supply". Class III groundwaters are not suitable for potable water use, due to natural hydrogeologic characteristics or natural water quality (i.e., saline ground water). Class III groundwaters do not meet the special ecological significance criteria of Class I groundwater formations, such as those that contribute to a freshwater Level 1 watershed or those located on State park lands. Shallow groundwater in and around the Project Area is not used for potable water and is most likely saline due to the close proximity of the tidally influenced Hackensack River and Berry's Creek.

4.4.2 Impacts

4.4.2.1 Surface Drainage Impacts

The construction of the Amusement Park and Water Park will not require the filling of any surface waters on the Radio Tower Site. The upper reach of the unnamed tributary to the Hackensack River, which is located in the Radio Tower Site drainage easement and Turnpike right-of-way, is proposed to be dredged to remove sediment that has accumulated within this drainage feature (Figure 4-10). The tributary drains to the 96-inch culvert, which will be cleaned out to remove sediment that has accumulated in the pipe. These drainage improvements will provide positive drainage of the surface water conveyance system and will have a positive impact on the drainage of the Radio Tower Site. Proposed changes to the stormwater management system on and around the Radio Tower Site and their associated impacts are further discussed in Section 4.13.2.

The Amusement Park and Water Park Project will result in an increase in impervious area associated with the proposed buildings and perimeter access road. The Project will increase stormwater flows, primarily comprised of clean roof runoff, from the Radio Tower Site. Pursuant to the State Stormwater Management Rules at N.J.A.C. 7:8-5.4(a)3.iv, water quantity control is not required because the Radio Tower Site drains to the Hackensack River, a tidal waterbody. A downstream quantity analysis is only required if there is an increase in the volume of stormwater runoff that could increase flood damages below the point of discharge (i.e., downstream). Based on discussions with the NJDEP Division of Land Use Regulation, they have confirmed that a downstream analysis of the channels downstream of the Turnpike is not required since there are no buildings or developed properties downstream that might be impacted by increased flooding.

The preliminary engineering stormwater analysis performed for the Amusement Park and Water Park Project concluded that the overall impacts on the existing watershed will be minimal (Triple Five Development 2011). The drainage area to the 96-inch culvert will be increased slightly by approximately 3 acres, while alternatively the drainage area to the 108-inch culvert will be decreased by approximately 3 acres (Figure 4-14; also see Table 4-11 in Section 4.13.2). The rise in water surface elevations will be minimal for both the 96-inch and 108-inch culverts will be minimal (See Table 4-12 in Section 4.13.2). The peak surface water elevations are lower than the lowest elevation to satisfy the New Jersey Turnpike Authority's requirement to maintain at least one foot of freeboard between their roadway and peak backwater elevation for the 100-year storm event. During the FEMA peak 100-year tidal storm surge event (el. 8.7 NGVD) the peak water surface on either side of the culvert is determined by the Hackensack River and not by runoff from the Radio Tower Site.

Existing incoming flow from Route 120 and ERC via 36-inch pipes. Offsite A and C Watersheds (27.5 AC±)

PROPOSED WATERSHED PR-1D (±0.6 AC)

PROPOSED WATERSHED PR-1C (±1.2 AC)

PROPOSED WATERSHED PR-1A (±16.7 AC)

PROPOSED WATERSHED PR-2 (±6.2 AC)

Incoming flows from ERC site via 60-inch pipes. Offsite ERC Watershed (83.8 AC±)

SOUTH CONNECTOR ROAD

NEW JERSEY ROUTE 120

N.J. ROUTE 3 WEST

EAST PERIPHERAL ROAD

ENTERTAINMENT / RETAIL

PARKING DECK "BCD"

ENTERTAINMENT / RETAIL

MALL ENTRY (7,000 SF ±)

OBSERVATION WHEEL

MEZZANINE (49,000 SF ±)

MEZZANINE (29,000 SF ±)

AMUSEMENT PARK (318,000 SF ±)

WATERPARK (236,000 SF ±)

Anticipated Riparian Zone Buffer

EXISTING 96-INCH CULVERT

EXISTING 108-INCH CULVERT

NEW JERSEY TURNPIKE (WESTERN SPUR)

Watershed 1A discharges under NJ Turnpike via 96-inch culvert to Hackensack River

PROP
PR-1B (±11.0 AC)

Watershed 2 and ERC discharge under NJ Turnpike via 108-inch culvert to Hackensack River

Breakdown of Proposed Drainage Areas

Drainage Areas*	Total Area (Ac.)	Pervious (Ac.)	Impervious (Ac.)	Composite CN*
PR-1A (to PR-1B)	16.7	0.8	15.9	97
PR-1B (to 96-inch)	11	10.05	0.95	89
PR-1C (to PR-1D)	1.2	0.8	0.4	88
PR-1D (to PR-1B)	0.6	0.6	0	77
PR-2 (to 108-inch)	6.2	6.2	0	88

*Drainage Area discharge location and CN values for this analysis reflect a 10-y r tidal storm surge event

DISCHARGE TO 96-INCH CULVERT
Q_{10yr} = 140 cfs
Q_{50yr} = 195 cfs
Q_{100yr} = 219 cfs

LEGEND:
- FLOW TO 96-INCH CULVERT
- FLOW TO 108-INCH CULVERT

DISCHARGE TO 108-INCH CULVERT
Q_{10yr} = 198 cfs
Q_{50yr} = 273 cfs
Q_{100yr} = 308 cfs

NOTES:
1. ALL ELEVATIONS REFERENCE THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD29).
2. THE TAILWATER CONDITION USED FOR THIS ANALYSIS WAS A 10-YEAR TIDAL STORM SURGE EVENT IN THE HACKENSACK RIVER EQUAL TO ELEVATION 6.6 (NGVD29).
3. ERC= AMERICAN DREAM ENTERTAINMENT RETAIL COMPLEX (FORMERLY KNOWN AS XANADU).

250 0 125 250
SCALE IN FEET

NEW JERSEY SPORTS & EXPOSITION AUTHORITY

Amusement Park and Water Park American Dream Meadowlands

Proposed Drainage Area Map

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Figure 4-14

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An initial water quantity analysis for the 10-, 50-, and 100-year storm during a 10-year tidal surge with a combined tailwater elevation of 6.6 (NGVD 1929) under post-development conditions was performed (Triple Five Development 2011). The 96-inch culvert, which is currently filled with sediment, has the capacity to handle the runoff from the Radio Tower Site if it is cleaned out. For the purposes of this analysis, it was assumed that the maximum allowable headwater at the 96-inch culvert will be the low point of the natural berm (el. 8.9), which splits flow between the 96-inch culvert watershed (Watersheds PR-1A to PR-1D on Figure 4-14) and the 108-inch culvert watershed (Watershed PR-2 on Figure 4-14. The analysis indicates there will be a 3 inch increase in the backwater peak elevation for the 100-year storm on the upstream (site) side of the 96-inch culvert to elevation 7.26, which is well below the assumed maximum elevation of 8.9. The New Jersey Turnpike Authority's requirement to maintain at least one foot of freeboard between their roadway and peak backwater elevation for the 100-year storm event is met.

Based on an initial water quantity analysis for the water flowing to the 108-inch culvert, there will be a negligible (0.36 inch) increase in the backwater peak elevation on the upstream (site) side of the culvert for the 100-year storm. This peak elevation (el. 7.4) is approximately 1.7 feet lower than the lowest elevation of the adjacent Turnpike, which satisfies the New Jersey Turnpike Authority's requirement to maintain at least one foot of freeboard between their roadway and peak backwater elevation for the 100-year storm event.

4.4.2.2 Water Quality Impacts

The proposed stormwater management system for the Amusement Park and Water Project will increase stormwater runoff to the existing drainage system (i.e., unnamed tributary to the Hackensack River) by directing proposed rooftop runoff to this drainage feature within the drainage easement on the Radio Tower Site (see Section 4.13.2). As part of the rooftop runoff design that is proposed for the Amusement Park and Water Park Project, drainage from building rooftops will be discharged to the head of the drainage easement on the Radio Tower Site that discharges to the unnamed tributary to the Hackensack River. Since the rooftop runoff will be free of vehicular contaminants, impacts on water quality as a result of the rooftop runoff designs are not anticipated. For the perimeter access road around the buildings, NJDEP-approved manufactured water-quality devices will be utilized to treat stormwater prior to discharge into the drainage easement to meet the applicable Total Suspended Solid (TSS) removal rate. This water quality concept has been discussed with the NJDEP and will be reviewed by the NJDEP as part of the multi-permit application process, which includes a Flood Hazard Area Permit and Water Quality Certification.

Construction Related Impacts

Impacts to the existing water quality of regional water bodies (i.e., Hackensack River) may result from construction activities associated with the Amusement Park and Water Park Project. Although the water quality in the receiving waters is categorized as "impaired," any impacts as a result of potential increased siltation generated from construction-related activities will be of concern; however, these impacts can be minimized through the use of appropriate mitigation measures (see Section 4.4.3).

Wastewater Related Impacts

As discussed in Section 4.13.2.2, a new force main for sanitary sewerage will be constructed from the Amusement Park and Water Park facility to the existing sanitary system pump station north of ERC Building A (Triple Five Development 2011). From that point, the sewerage will be carried along with other sanitary waste from the Arena Site redevelopment project to the East Rutherford pump station on the north side of the Racetrack in a system built as part of the Meadowlands Xanadu Redevelopment Project. The additional wastewater flow that will be generated by the Amusement Park and Water Park Project has been estimated at 122,000 gallons per day (gpd) based upon NJDEP regulations (N.J.A.C. 7:14A-23) (Table 4-3). An application for a Treatment Works Approval (TWA) for the proposed wastewater collection and conveyance system for the Amusement Park and Water Park Project will be submitted to the NJDEP Division of Water Quality for the Project (see Section 5.3.8).

4.4.2.3 Groundwater Impacts

Potential impacts to groundwater are expected to be minimal as a result of the construction and operation of the Amusement Park and Water Park Project. The filling of wetlands onsite may eliminate some of the potential water quality functions they currently provide, which include filtration of stormwater before infiltration to local groundwater resources. Considering that the local groundwater is not used for potable sources, is primarily fed by tidal watercourses, and does not appear to support any substantial natural resources, this loss of groundwater recharge is not anticipated to be significant.

TABLE 4-3

SANITARY SEWER DESIGN FLOW COMPUTATION

Prior Meadowlands Xanadu Redevelopment Projecct Sewer Flows[1]

Building	Establishment Name	Selected Type of Establishment Based on NJDEP Categories	Proposed Gross Area		Proposed Unit of Measurement		NJDEP Unit Flow[2]		Anticipated Design Flow	
Entertainment Retail Center	Leasable Specialty Entertainment	Stores and Shopping Centers	2,000,000	SF	2,000,000	SF	0.1	GPD/SF	200,000	GPD
	Restaurants[3]	Average Restaurant	200,000	SF	8,696	Seats	35	GPD/Seat	304,348	GPD
	Common Area[4]		500,000	SF	500,000	SF	0.1	GPD/SF	50,000	GPD
		SUBTOTAL	**2,700,000**	**SF**					**554,348**	**GPD**
Office Complex	4 Office Buildings	Office Building	**1,760,000**	**SF**	1,760,000	SF	0.1	GPD/SF	**176,000**	**GPD**
Hotel	Hotels[5]	Hotels			520	Bedrooms	75	GPD/Bedroom	39,000	GPD
	Restaurant[6]	Average Restaurant			250	Seats	35	GPD/Seat	8,750	GPD
	Conference Facility[7]	Catering/Banquet Hall			750	Persons	20	GPD/Person	15,000	GPD
		SUBTOTAL	**500,000**	**SF**					**62,750**	**GPD**
Baseball Field	Minor League Baseball Field[8]	Sports Stadium			8,000	Seats	3	GPD/Seat	**24,000**	**GPD**
		Total Prior Meadowlands Xanadu Project Sewer Flows (Rounded up)							**820,000**	**GPD**
Proposed Sewer Design Flows for New Project Component										
Amusement Park / Water Park	Water Park-Operations[9]	—							25,000	GPD
	Restaurant[10]	Average Restaurant			200	Seats	35	GPD/Seat	7,000	GPD
	Restrooms (Amusement Park)[11]	Fairgrounds			6,000	Persons	5	GPD/Person	30,000	GPD
	Restrooms/Showers (Water Park)[12]	Bathhouse with Shower			6,000	Persons	25	GPD/Person	60,000	GPD
		Total New Project Component Sewer Design Flows (Rounded up)							**122,000**	**GPD**
		Total Rdevelopment Project Sanitary Sewer Design Flows (Rounded up)							**942,000**	**GPD**

Notes:

1. Sewer Design Data taken from August 2004 EIS
2. Unit flow based on NJDEP Technical Requirements For Treatment Works Approval Applications, N.J.A.C. 7:14A-23.3 Projected flow criteria.
3. Restaurant seats estimated based on 23 SF/Seat (200,000/23 = 8,696 seats).
4. Common Area measurement unit assumed to be same as stores and shopping center measurement unit (0.1 GPD/SF).
5. Hotel measurement based on number of bedrooms (assume 520 bedrooms).
6. Restaurant measurement based on number of seats (250 seats), inclusive of washrooms and turnover.
7. Conference Facility measurement based on number of people (assume 1 person/seat x 750 seats).
8. Baseball Field measurement based on Sports Stadium (3 GPD/seat x 8000 seats).
9. Water Park Operations sewer flows estimated to be equal to water demand for water make-up during normal operations and maintenance of water rides and pools.
10. Amusement/Water Park Restaurant estimated at 200 seats.
11. Amusement Park Restroom estimated at 5 GPD per person (Fairgrounds) x 6,000 estimated occupancy capacity.
12. Water Park Restrooms/Showers estimated at 25 GPD per visitor (Bathhouse with Shower) x 6,000 estimated occupancy capacity.

4.4.3 Mitigation

4.4.3.1 Surface Water Quality

Stormwater Management Mitigation

One primary objective of the proposed stormwater management plan is to reduce potential impacts on receiving water bodies from stormwater pollutant loadings in comparison to current conditions in and around the Radio Tower Site, and thereby reduce potential long-term cumulative impacts to the Hackensack River from site-generated stormwater pollutant loadings. The majority of the new impervious surfaces being proposed on the Radio Tower Site will consist of building rooftop areas, thereby minimizing the introduction of potential petroleum hydrocarbons and other vehicular pollutants into nearby waterways.

The project design includes several types of long-term best management practices (BMPs) to minimize potential adverse water quality impacts generated during operation of the Amusement Park and Water Park Project. Long-term stormwater quality controls include the use of catch basin traps to capture floating debris to limit the amount of incidental oil and petroleum products in stormwater that enters the drainage system from the perimeter access road. Maintenance of these catch basins will contribute to the removal of pollutants prior to entering adjacent waters. Street sweeping will also be performed on a regular basis to remove sediments and pollutants from the perimeter access road.

Considering the relatively small increase in impervious paved surface area (approximately 2.5 acres) resulting from the construction of the Amusement Park and Water Park, and that these areas will be treated prior to discharge in accordance with NJDEP regulations with manufactured devices, no impacts on water quality are anticipated from the operation of the Project. No patron parking areas are proposed on the Radio Tower Site which would increase the volume of salt needed for deicing of parking areas. Food waste storage areas will be properly managed in order to discourage flocks of roosting birds from gathering on rooftop areas and to minimize the accumulation of animal wastes on rooftops.

The proposed minimization and mitigative measures described above are being coordinated with NJDEP in their review for compliance with the NJDEP Stormwater Management Regulations as part of the multi-permit application process for the Project (see Section 5).

Construction Related Mitigation

Temporary impacts to the water quality of both on-site and off-site water bodies as a result of siltation associated with earth movement and vegetative removal activities will be monitored during the construction of the Amusement Park and Water Park Project. A construction related Stormwater Pollution Prevention Plan (SWPP) and soil erosion and sediment control plan will be implemented prior to the start of construction and will be maintained throughout the construction period.

The site-specific soil erosion and sediment control plan will be prepared in accordance with the Standards for Soil Erosion and Sediment Control in New Jersey, certified by the Soil Conservation District (SCD), and will be implemented as part of the Project's BMPs for construction. Details of the measures to be incorporated into the soil erosion and sediment control plan for construction of the Amusement Park and Water Park Project are provided in Section 4.1.3.

Wastewater Management

Wastewater from the Amusement Park and Water Park Project will be treated at the wastewater treatment plant operated by the BCUA in Little Ferry (see Section 4.13.2). The additional flows to the plant from the Project will increase discharges into the Hackensack River from this plant; however, proper treatment of the wastewater from the Project at the BCUA plant will minimize the potential for impacts on the water quality of the Hackensack River resulting from this discharge.

4.4.3.2 Groundwater Quality

Measures that will be implemented to reduce potential impacts to groundwater during construction and operation of the Amusement Park and Water Park Project include storage of construction equipment on paved parking areas or areas where surface material is compacted so as to be relatively impermeable; proper storage and disposal of all liquid products; storage of fuel, oil, and cleansing agents on paved areas; and, immediate cleanup of any spills or leaks.

4.5 Floodplains

4.5.1 Existing Conditions

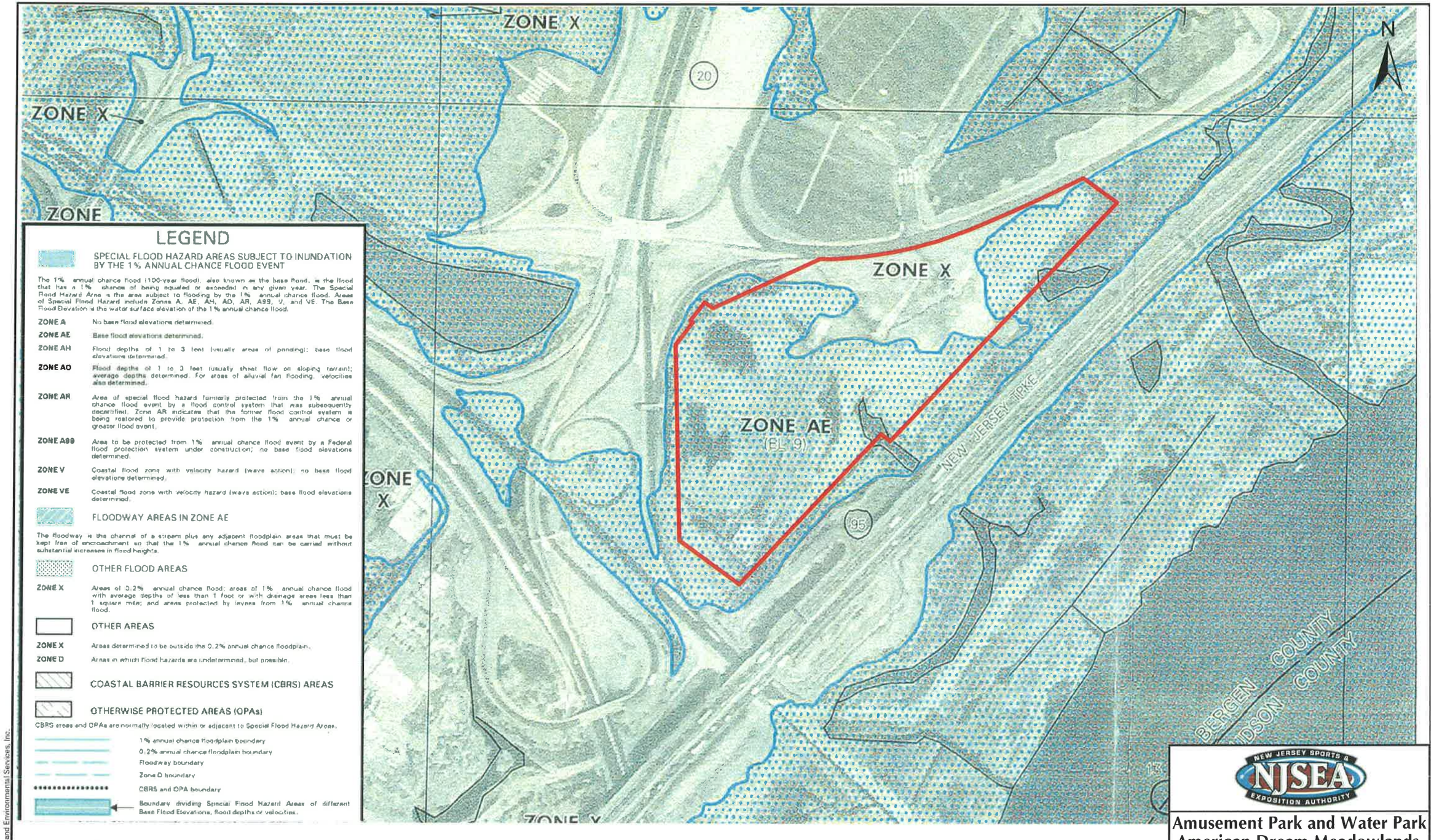
The majority of the Radio Tower Site is located within the FEMA-mapped 100-year tidal floodplain of the Hackensack River (el. 9 NGVD 29 datum) (Figures 4-12 and 4-15). In addition to the tidal floodplain of the Hackensack River, the unnamed tributary to the Hackensack River on the Radio Tower Site has a contributory drainage area greater than 50 acres, and as such, pursuant to the Flood Hazard Area Control Act Rules (N.J.A.C. 7:13), has its own regulatory fluvial flood hazard area associated with it. As discussed with the NJDEP Land Use Regulation Program, a fluvial flood study of this tributary will be performed to identify the extent of the fluvial flood hazard area associated with this surface water feature. Regulated riparian zones are present adjacent to the unnamed tributaries (Figure 4-12). A request for a Flood Hazard Area Verification will be submitted to the NJDEP Division of Land Use Regulation to confirm the regulatory extent of NJDEP's jurisdiction of the flood hazard areas (see Section 5.3.6).

4.5.2 Impacts

To construct the Amusement Park and Water Park Project, approximately 13 acres of low-lying area currently found within the 100-year tidal floodplain on Radio Tower Site will be filled to a base elevation of approximately 12 feet NGVD (Figure 4-16). Because the 100-year floodplain on the Radio Tower Site is governed by tidal flooding, proposed filling of low-lying sections in the flood hazard area will have a negligible effect on current regional flooding conditions within the overall Hackensack River floodplain. This is due to the fact that reductions in flood storage volume resulting from development within the 100-year tidal floodplain are minor in comparison to the magnitude and extent of the 100-year tidal flood from the tidal waterbody.

An initial water quantity analysis for the 10-, 50-, and 100-year storm during a 10-year tidal surge with a combined tailwater elevation of 6.6 (NGVD 1929) under post-development conditions was performed (Triple Five Development 2011). Based on this analysis, the surface water elevation increase of stormwater flowing to the 96-inch and 108-inch culverts will be a negligible. During the FEMA peak 100-yr tidal storm surge event (el. 8.7 NGVD), the peak water surface on either side of the culvert is determined by the Hackensack River and not by runoff from the Radio Tower Site.

The results of the existing and proposed hydrologic and hydraulic analyses have concluded that no flooding impacts will occur upstream or downstream of the Amusement Park and Water Park Project. A formal stormwater management report confirming this initial water quantity analysis will be prepared and submitted to the NJDEP Division of Land Use Regulation.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD EVENT

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water surface elevation of the 1% annual chance flood.

ZONE A No base flood elevations determined.

ZONE AE Base flood elevations determined.

ZONE AH Flood depths of 1 to 3 feet (usually areas of ponding); base flood elevations determined.

ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

ZONE AR Area of special flood hazard formerly protected from the 1% annual chance flood event by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood event.

ZONE A99 Area to be protected from 1% annual chance flood event by a Federal flood protection system under construction; no base flood elevations determined.

ZONE V Coastal flood zone with velocity hazard (wave action); no base flood elevations determined.

ZONE VE Coastal flood zone with velocity hazard (wave action); base flood elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% annual chance floodplain boundary

0.2% annual chance floodplain boundary

Floodway boundary

Zone D boundary

CBRS and OPA boundary

Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or velocities.

300 150 0 300

Scale in Feet

Map Reference: FEMA Flood Insurance Rate Map, Hackensack Meadowlands Commission, NJ (Panel 262) (9-2005)

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Amusement Park and Water Park
American Dream Meadowlands

FEMA Flood Insurance Rate Map

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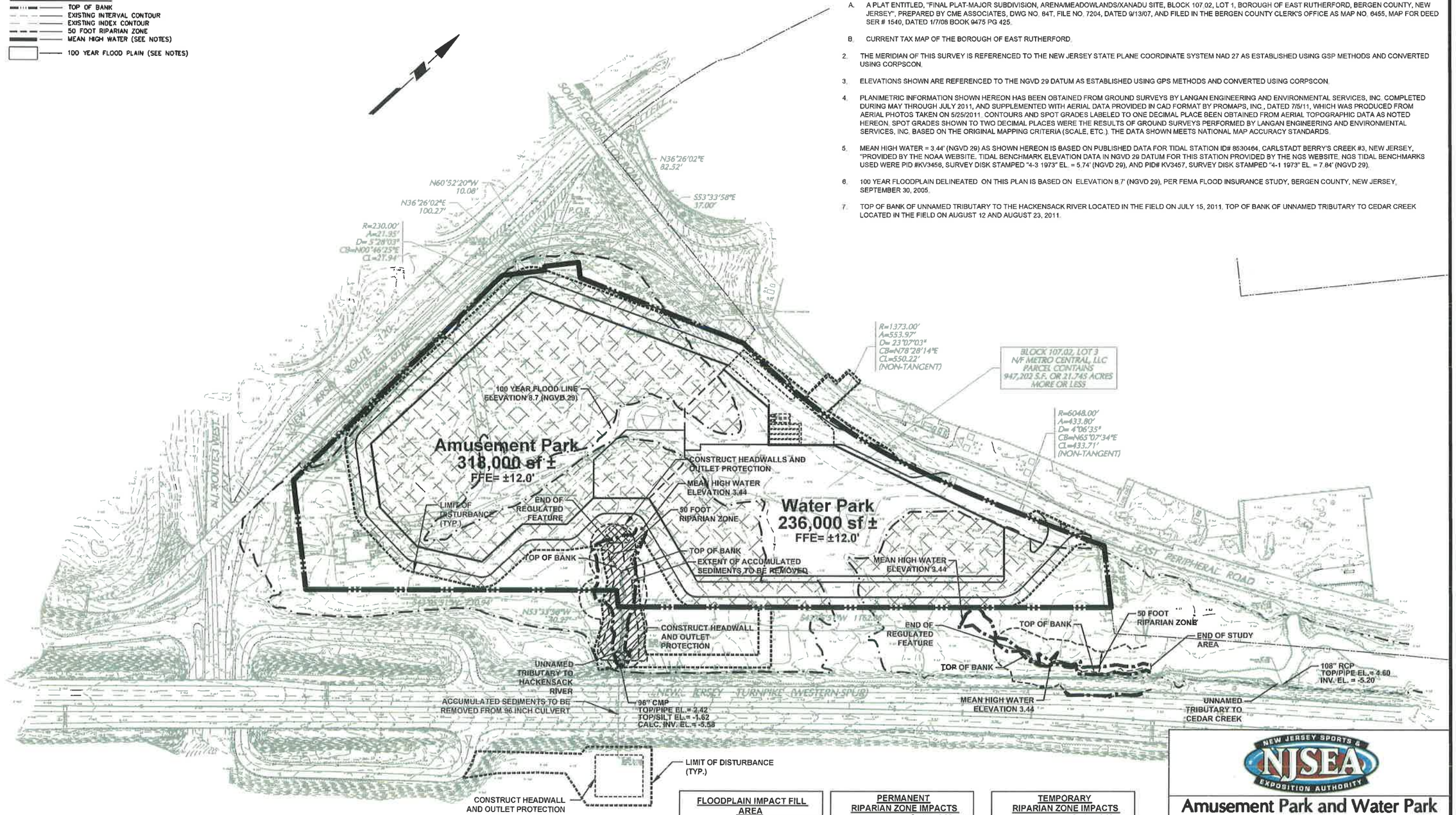
Figure 4-15

LEGEND

- TOP OF BANK
- EXISTING INTERVAL CONTOUR
- EXISTING INDEX CONTOUR
- 50 FOOT RIPARIAN ZONE
- MEAN HIGH WATER (SEE NOTES)
- 100 YEAR FLOOD PLAIN (SEE NOTES)

NOTES:

1. THIS SURVEY IS BASED UPON EXISTING PHYSICAL CONDITIONS FOUND AT THE SUBJECT SITE, AND THE FOLLOWING REFERENCES:
   - A. A PLAT ENTITLED, "FINAL PLAT-MAJOR SUBDIVISION, ARENA/MEADOWLANDS/XANADU SITE, BLOCK 107.02, LOT 1, BOROUGH OF EAST RUTHERFORD, BERGEN COUNTY, NEW JERSEY", PREPARED BY CME ASSOCIATES, DWG NO. 84T, FILE NO. 7204, DATED 9/13/07, AND FILED IN THE BERGEN COUNTY CLERK'S OFFICE AS MAP NO. 6455, MAP FOR DEED SER # 1540, DATED 1/7/08 BOOK 9475 PG 425.
   - B. CURRENT TAX MAP OF THE BOROUGH OF EAST RUTHERFORD.
2. THE MERIDIAN OF THIS SURVEY IS REFERENCED TO THE NEW JERSEY STATE PLANE COORDINATE SYSTEM NAD 27 AS ESTABLISHED USING GSP METHODS AND CONVERTED USING CORPSCON.
3. ELEVATIONS SHOWN ARE REFERENCED TO THE NGVD 29 DATUM AS ESTABLISHED USING GPS METHODS AND CONVERTED USING CORPSCON.
4. PLANIMETRIC INFORMATION SHOWN HEREON HAS BEEN OBTAINED FROM GROUND SURVEYS BY LANGAN ENGINEERING AND ENVIRONMENTAL SERVICES, INC. COMPLETED DURING MAY THROUGH JULY 2011, AND SUPPLEMENTED WITH AERIAL DATA PROVIDED IN CAD FORMAT BY PROMAPS, INC., DATED 7/5/11, WHICH WAS PRODUCED FROM AERIAL PHOTOS TAKEN ON 5/25/2011. CONTOURS AND SPOT GRADES LABELED TO ONE DECIMAL PLACE BEEN OBTAINED FROM AERIAL TOPOGRAPHIC DATA AS NOTED HEREON. SPOT GRADES SHOWN TO TWO DECIMAL PLACES WERE THE RESULTS OF GROUND SURVEYS PERFORMED BY LANGAN ENGINEERING AND ENVIRONMENTAL SERVICES, INC. BASED ON THE ORIGINAL MAPPING CRITERIA (SCALE, ETC.). THE DATA SHOWN MEETS NATIONAL MAP ACCURACY STANDARDS.
5. MEAN HIGH WATER = 3.44' (NGVD 29) AS SHOWN HEREON IS BASED ON PUBLISHED DATA FOR TIDAL STATION ID# 8530464, CARLSTADT BERRY'S CREEK #3, NEW JERSEY, "PROVIDED BY THE NOAA WEBSITE. TIDAL BENCHMARK ELEVATION DATA IN NGVD 29 DATUM FOR THIS STATION PROVIDED BY THE NGS WEBSITE. NGS TIDAL BENCHMARKS USED WERE PID #KV3456, SURVEY DISK STAMPED "4-3 1973" EL. = 5.74' (NGVD 29), AND PID# KV3457, SURVEY DISK STAMPED "4-1 1973" EL. = 7.84' (NGVD 29).
6. 100 YEAR FLOODPLAIN DELINEATED ON THIS PLAN IS BASED ON ELEVATION 8.7' (NGVD 29), PER FEMA FLOOD INSURANCE STUDY, BERGEN COUNTY, NEW JERSEY, SEPTEMBER 30, 2005.
7. TOP OF BANK OF UNNAMED TRIBUTARY TO THE HACKENSACK RIVER LOCATED IN THE FIELD ON JULY 15, 2011. TOP OF BANK OF UNNAMED TRIBUTARY TO CEDAR CREEK LOCATED IN THE FIELD ON AUGUST 12 AND AUGUST 23, 2011.



FLOODPLAIN IMPACT FILL AREA	PERMANENT RIPARIAN ZONE IMPACTS	TEMPORARY RIPARIAN ZONE IMPACTS
Onsite = 12.97 acres	Onsite = 0.05 acres	Onsite = 0.32 acres
Floodplain Impacts = 12.97 acres	Offsite = 0.01 acres	Offsite = 0.28 acres
	Riparian Zone Impacts = 0.06 acres	Riparian Zone Impacts = 0.60 acres

200 0 100 200
SCALE IN FEET

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Proposed Floodplain Impacts Map

LANGAN

Figure 4-16

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4.5.3 Mitigation

To mitigate for any potential flooding from tidal events, the elevations of the first floor of the Amusement Park and Water Park buildings will be set at elevation 12 (NGVD 29 datum), which is more than the minimum one foot above the 100-year tidal flood elevation of 9 feet NGVD required by FEMA and the NJDEP Division of Land Use Regulation. The perimeter access road will be constructed 1 foot above the 100-year tidal floodplain elevation. Any utility areas in the building below el. 9 will be dry flood-proofed in accordance with the Flood Hazard Area Control Act Rules (N.J.A.C. 7:13) requirements.

The Amusement Park and Water Park's stormwater management system will be designed to provide adequate collection and conveyance of site stormwater runoff for localized fluvial storm events. Further details of the proposed stormwater management system for the Amusement Park and Water Park are provided in Section 4.13.2.1.

4.6 Riparian Lands

4.6.1 Existing Conditions

Riparian lands, or tidelands, are those lands now or formerly flowed by the mean high water tide, which are held in trust by the State unless released by a riparian instrument such as a tidelands grant (N.J.A.C. 7:7E-1.1 et seq.). Lands formerly flowed by the mean high water tide as well as tideland conveyances are shown on a series of tideland maps prepared by the State of New Jersey. Riparian lands in and around the Radio Tower Site, including the adjacent roadways, are shown on NJDEP Tideland map 714-2160. The tidelands map information for the areas in and around the Radio Tower Site is shown on Figure 4-17.

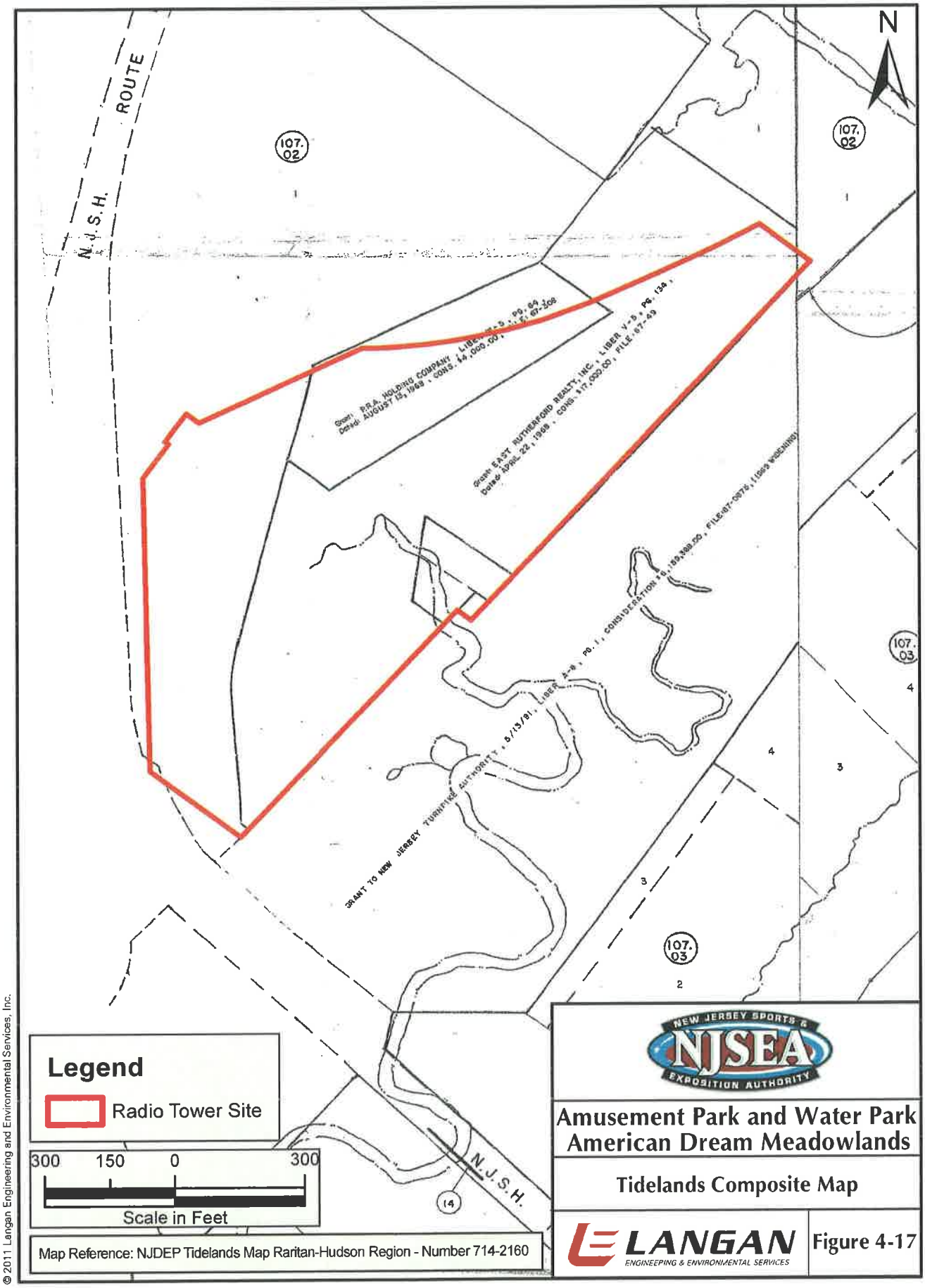
The Amusement Park and Water Park Project Area is covered by three riparian grants. A tidelands grant was issued for portions of the Arena Site and the northwest portion of the Radio Tower Site on January 19, 1982 by the State of New Jersey. The NJSEA executed an amendment to the 1973 Contract of Sale between the State of New Jersey and the NJSEA (Liber S-6, Pages 21-25), wherein the State conveyed its interests in all presently and formerly flowed tidelands on the Arena Site. Whereas the tideland maps show the tidelands instrument applying only to the portions of the Meadowlands Sports Complex located to the west of N.J. Route 120, the amendment specifically references and describes "Site 2" as being the Arena Site. The NJDEP Tideland Map No. 714-2160 shows the Arena Site grant area extending into and covering the northwest portion of the Radio Tower Site. With regards to the remainder of the Radio Tower Site, two tidelands grants were previously issued by the State of New Jersey. One was issued to the P.R.A. Holding Company on August 13, 1968 (Liber W-5, Page 84). Another was issued to East Rutherford Realty, Inc. on April 22, 1968 (Liber V-5, Page 134).

4.6.2 Impacts

With the issuance of a tidelands grant to the NJSEA by the State for the entire Meadowlands Sports Complex property in 1982 the State relinquished any tidelands interest in that property, including the Arena Site. With the issuance of tidelands grants to the P.R.A. Holding Company and East Rutherford Realty, Inc. the State relinquished any tidelands interest in the remainder of the Radio Tower Site. Therefore, no tideland instruments are necessary for the proposed filling or work within mapped formerly flowed tidelands or existing tidal waters by the Project.

4.6.3 Mitigation

No mitigation is necessary with regard to riparian lands, and no mitigation is proposed.



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4.7 Vegetation

4.7.1 Existing Conditions

An assessment of the vegetation present on the Radio Tower Site was completed by Langan in May, June, August and September 2011. A vegetative cover map was prepared showing the major vegetative communities on the Radio Tower Site (Figure 4-18). Vegetated portions of the Radio Tower Site were divided into different cover types including old field uplands, upland *Phragmites*, upland tree line, tidally influenced wetlands, non-tidal wetlands, isolated non-tidal wetlands, and isolated non-tidal wetland ditches. Approximately 96% (20.92 acres) of the site is vegetated while the remaining 4% (0.83 acres) is comprised of buildings, access drives, and radio towers (Figure 4-18).

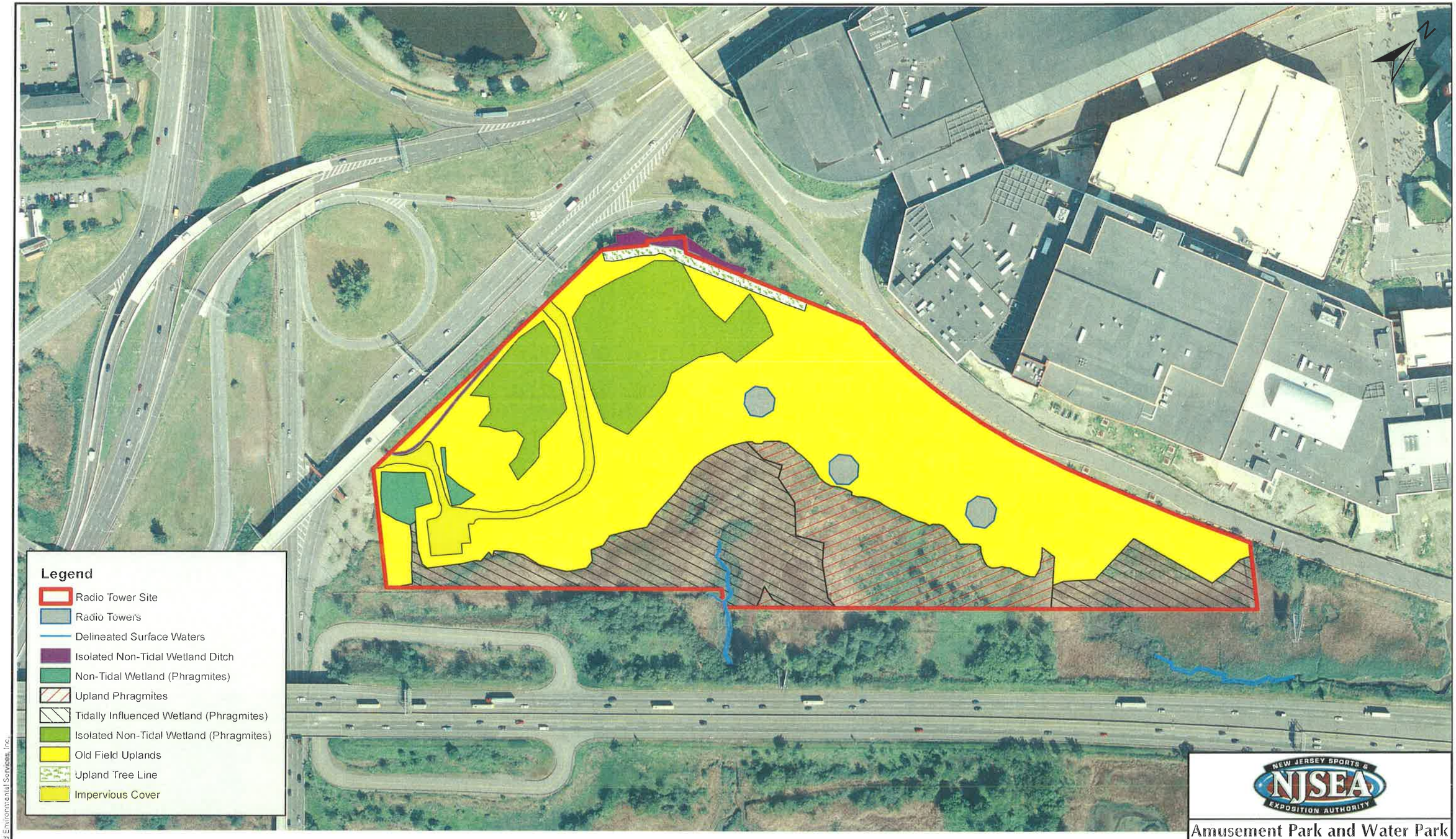
Table 4-4 provides a list of vegetation species observed during the 2011 field investigations. The dominant species of vegetative communities identified onsite have been divided into wetland and upland assemblages. The vegetation onsite is typical for the region, that is, opportunistic species which reproduce quickly and in large quantities to rapidly colonize disturbed areas.

4.7.1.1 Wetland Vegetation

Wetland vegetation covers approximately 7.28 acres (33%) of the Radio Tower Site. Wetland areas include tidally influenced emergent wetlands and non-tidal emergent wetlands. Tidally influenced wetlands comprise approximately 4.09 acres and are dominated by monotypic stands of common reed (*Phragmites australis*). Non-tidal wetland areas onsite total approximately 3.19 acres. The majority of the non-tidal wetland areas including isolated non-tidal wetlands, non-tidal wetlands, and isolated non-tidal wetland ditches are also dominated by common reed (*Phragmites australis*). In the non-tidal wetland areas where common reed is not dominant, common three square (*Scirpus pungens*), purple loosestrife (*Lythrum salicaria*), broadleaf cattail (*Typha latifolia*), and yellow nutsedge (*Cyperus esculentus*) are dominant.

4.7.1.2 Upland Vegetation

Vegetated upland areas onsite are identified on the Vegetative Cover Map as 'old field uplands', 'upland *Phragmites*', and 'upland tree line' (Figure 4-18). Vegetated upland areas onsite total approximately 13.64 acres (or 63% of the site). Old field uplands are generally dominated by mugwort (*Artemisia vulgaris*), foxtail (*setaria sp.*), common reed (*Phragmites australis*), crown vetch (*Coronilla varia*), and goldenrod (*Solidago spp.*). Upland *Phragmites* areas are dominated by common reed (*Phragmites australis*) and mile-a-minute weed (*Persicaria perfoliata*) with



Map Reference: Promaps Inc., Moorestown, NJ - Flyover Aerial Photography (6-2011);
Langan Engineering & Environmental Services Wetland Delineation Plan (8-31-2011);
Langan Engineering & Environmental Services NJDEP Division of Land Use Regulation Jurisdictional Area Map (9-08-2011)

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Vegetative Cover Map

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Figure 4-18

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Table 4-4
Vegetative Species Observed On The Radio Tower Site During 2011 Field Studies

Scientific Name	Common Name
Acer negundo	box elder
Ageratina altissima	white snakeroot
Ailanthus altissima	tree-of-heaven
Ambrosia artemisifolia	common ragweed
Artemesia vulgaris	mugwort
Asclepias syriaca	common milkweed
Celastrus orbiculatus	Oriental bittersweet
Cirsium vulgare	bull thistle
Coronilla varia	crown vetch
Cuscuta sp.	dodder
Cyperus esculentus	yellow nutsedge
Daucus carota	Queen Anne's lace
Elaeagnus augustifolia	Russian olive
Heterotheca subaxillaris	camphorweed
Juncus effusus	soft rush
Lonicera tatarica	tatarian honeysuckle
Lythrum saclicaria	purple loosestrife
Oenothera biennis	common evening primrose
Parthenocissus quinquefolia	Virginia creeper
Persicaria perfoliata	mile-a-minute vine
Phragmites australis	common reed
Phytolacca americana	common pokeweed
Plantago major	common plantain
Pluchea odorata	saltmarsh fleabane
Polygonum sp.	smartweed
Polygonum cuspidatum	Japanese knotweed
Populus deltoides	eastern cottonwood
Rhus copallina	dwarf sumac
Rhus typhina	staghorn sumac
Rubus sp.	blackberry
Setaria sp.	foxtail
Scirpus americanus	common three-square
Silene noctiflora	night flowering catchfly
Solanum carolinense	horse nettle
Solanum nigrum	black nightshade
Solidago spp.	goldenrod
Toxicodendron radicans	poison ivy
Vicia angustifolia	narrow leaved vetch

several tree of heaven (*Ailanthus altissima*) individuals scattered throughout. The upland tree line is dominated by tree of heaven (*Ailanthus altissima*) and box elder (*Acer negundo*) in the overstory with mugwort (*Artemisia vulgaris*), pokeweed (*Phytolacca americana*), oriental bittersweet (*Celastrus orbiculatus*), Virginia creeper (*Parthenocissus quinquefolia*), and white snakeroot (*Ageratina altissima*) in the understory. Various other species were noted in the upland areas and are listed in Table 4-4.

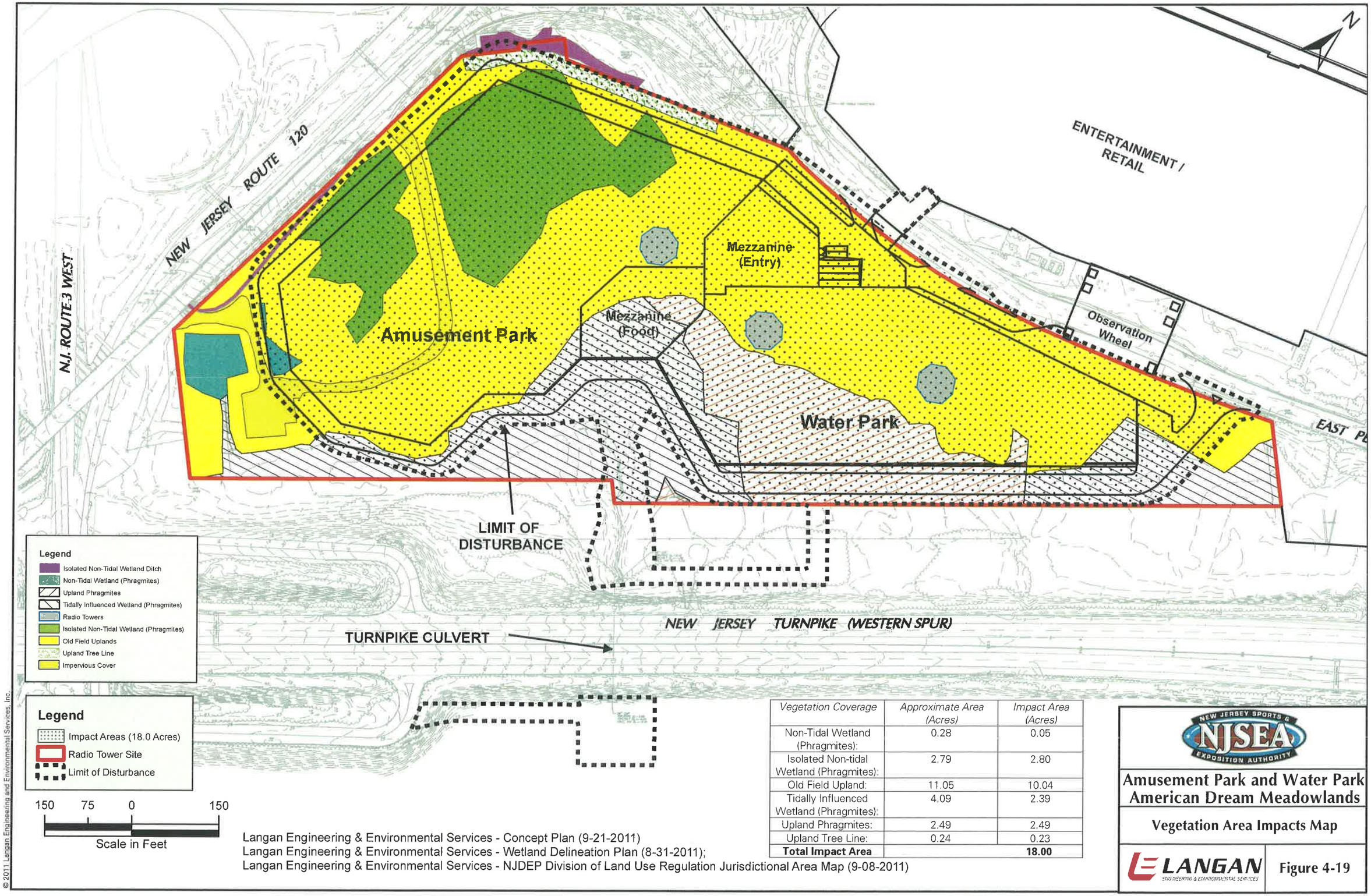
4.7.2 Impacts

Approximately 18 acres of vegetated area will be impacted from the construction of the Amusement Park and Water Park, perimeter access road and drainage improvement on the Radio Tower Site (Figure 4-19). Permanent impacts include approximately 2.39 acres of tidal wetland, 2.85 acres of non-tidal wetland, and 12.76 acres of upland. In addition to the 18 acres of vegetation impacts on the Radio Tower Site, approximately 0.23 acres of vegetated wetlands will be permanently impacted from the construction of the drainage improvements (i.e. rip-rap and headwall construction) within the Turnpike right-of-way. Approximately 0.38 acres of vegetated wetlands in the Turnpike right-of-way will be temporarily impacted from the dredging of the unnamed tributary to the Hackensack River as part of the drainage improvements. The temporarily disturbed areas are anticipated to revegetate after completion of the drainage improvements.

As mentioned previously, the common reed dominated vegetation onsite is typical for the region and known to colonize disturbed area. Therefore, no unique vegetative areas will be impacted as a result of the Amusement Park and Water Park Project. Wetlands to be impacted by the Amusement Park and Water Park Project have been disturbed in the past, are dominated by common reed, and are generally categorized as low wetland value.

4.7.3 Mitigation

Impacts to adjacent vegetated areas that will not be directly eliminated as a result of the Amusement Park and Water Park Project will be avoided during construction through the implementation of best management practices that would include the staging of equipment or temporary stockpile areas in already disturbed areas or areas that will eventually consist of impervious surfaces so as to not disturb any vegetation that will remain after completion of the Amusement Park and Water Park Project. The implementation of soil erosion and sediment control measures discussed in Section 4.1.3 of this Draft Supplemental EIS will ensure that impacts to downstream vegetation are minimized.



Vegetation Coverage	*Approximate Area (Acres)*	*Impact Area (Acres)*
Non-Tidal Wetland (Phragmites):	0.28	0.05
Isolated Non-tidal Wetland (Phragmites):	2.79	2.80
Old Field Upland:	11.05	10.04
Tidally Influenced Wetland (Phragmites):	4.09	2.39
Upland Phragmites:	2.49	2.49
Upland Tree Line:	0.24	0.23
Total Impact Area		**18.00**

Langan Engineering & Environmental Services - Concept Plan (9-21-2011)
Langan Engineering & Environmental Services - Wetland Delineation Plan (8-31-2011);
Langan Engineering & Environmental Services - NJDEP Division of Land Use Regulation Jurisdictional Area Map (9-08-2011)

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Vegetation Area Impacts Map

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Figure 4-19

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4.8 Wildlife Habitat

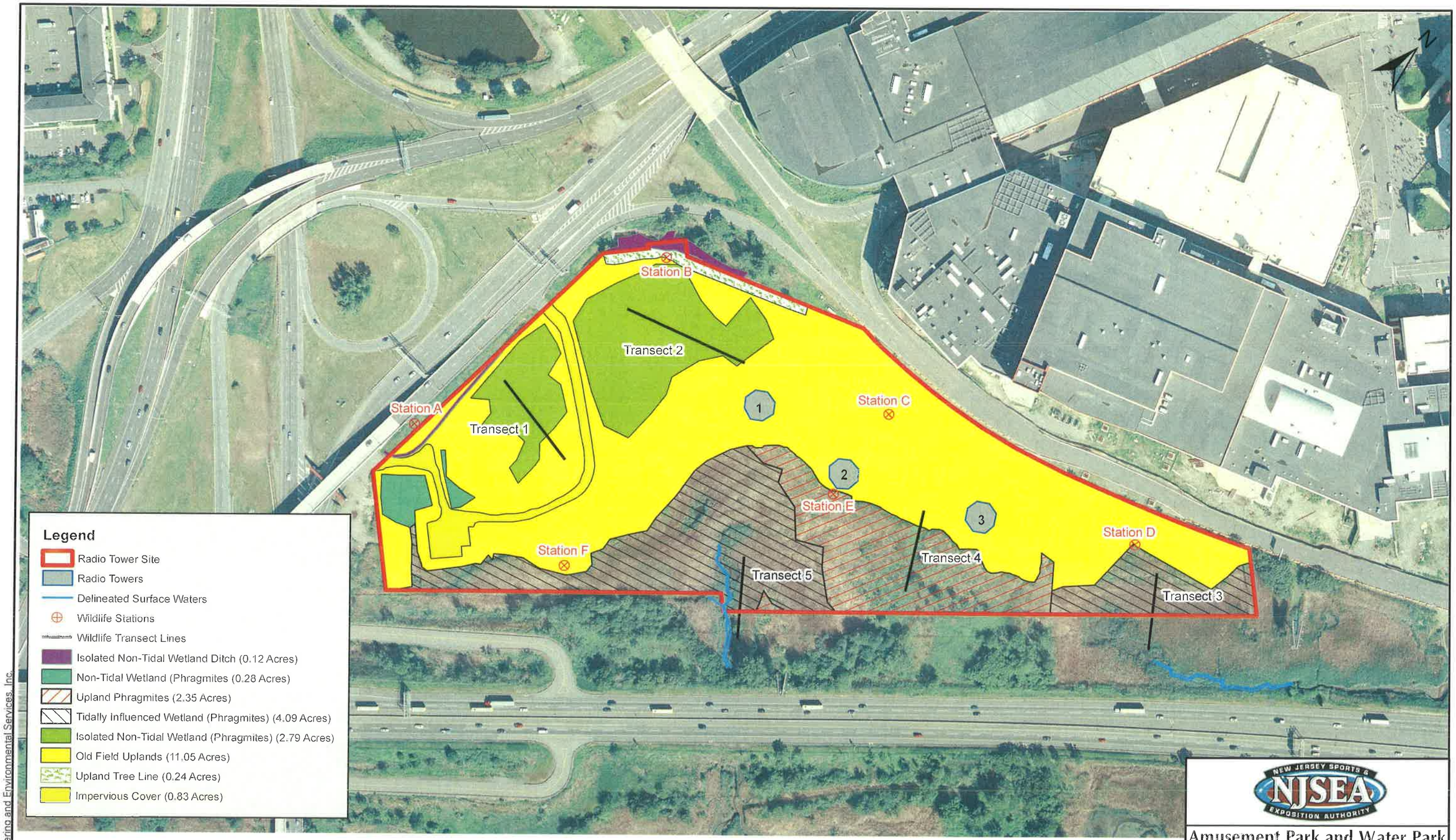
4.8.1 Existing Conditions

A wildlife survey of the Radio Tower Site was conducted in August and September 2011 by Langan to define and map the wildlife habitats and observe wildlife utilization of the habitats (Langan 2011f) (Appendix D). The wildlife survey was conducted over five separate visits during this time period. A total of six observation stations were located in representative habitat types and were repeatedly and randomly visited during each of the separate site visits. In general, surveys were conducted in the early morning hours (6:00 a.m. to 8:00 a.m.) and early evening hours (5:00 p.m. to 7:00 p.m.) when no precipitation was forecast for the day. The presence of wildlife was recorded at each station for approximately 15 to 20 minutes. Data on the presence of wildlife were collected in the field based on visual or auditory identification. Secondary indicators of wildlife presence such as tracks or scat were also recorded. The Habitat Suitability Study documenting the wildlife survey is provided in Appendix D.

A Wildlife Habitat Survey Plan was prepared to identify the seven general wildlife habitats identified on the Radio Tower Site (Figure 4-20). The seven general wildlife habitats include:

- Isolated Emergent Non-Tidal Wetlands (*Phragmites*)
- Tidally-Influenced Emergent Wetlands (*Phragmites*)
- Non-tidal palustrine emergent wetlands
- Isolated non-tidal wetland ditches
- *Phragmites*-dominated uplands
- Old field uplands
- Upland tree line

The results of the wildlife survey are summarized below. The location of the wildlife survey stations (Stations A thru F and Transects 1 thru 5) are shown on Figure 4-20. Data logs of observed wildlife are provided in the Habitat Suitability Report provided in Appendix D.



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Map Reference: Promaps Inc., Moorestown, NJ - Flyover Aerial Photography (6-2011);
Langan Engineering & Environmental Services Wetland Delineation Plan (8-31-2011);
Langan Engineering & Environmental Services NJDEP Division of Land Use Regulation Jurisdictional Area Map (9-08-2011)

NEW JERSEY SPORTS & EXPOSITION AUTHORITY NJSEA

Amusement Park and Water Park
American Dream Meadowlands

Wildlife Habitat Survey Plan

LANGAN ENGINEERING & ENVIRONMENTAL SERVICES

Figure 4-20

Six species of songbirds were observed during the site investigations. These birds are likely involved in a southward migration along the Atlantic Flyway, utilizing the habitats of the Meadowlands for feeding and resting during their long journey. Some may be year round residents. The largest number of avian species was observed from Station E. Many of these species utilized the radio towers as resting areas. The next highest number of avian species observed within the site were from Stations A and C. The lowest overall diversity of wildlife species observed occurred from Station D. None of the species identified onsite during the wildlife field survey visits are identified by NJDEP as threatened or endangered species, with the exception of a transient osprey (*Pandion haliaetus*) which was observed from Station C flying over the ERC building located to the north of the Radio Tower Site.

No nests were observed during the site visits. Avian species that were documented at almost every monitoring event include grey catbird (*Dumetella carolinensis*), redwing blackbird (*Agelaius phoeniceus*), mourning dove (*Zenaida macroura*), and unidentified gull species. Less frequent avian species identified include American robin (*Turdus migratorius*), osprey (*Pandion haliaetus*), American kestrel (*Falco sparverius*), blue-winged warbler (*Vermivora pinus*), rock dove (*Columba livia*), field sparrow (*Spizella pusilla*), song sparrow (*Melospiza melodia*), house sparrow (*Passer domesticus*) and yellowthroat (*Geothlypis trichas*).

Evidence of mammalian species were found in less abundance and included meadow vole (*Microtus pennsylvanicus*) and groundhog (*Marmota monax*) burrows located in the upland areas near Stations B, C, and D. Raccoon (*Pryocyon lotor*) tracks were also observed between Stations A and B adjacent to the access road. The species documented are abundant in the region and are common to urban and developed areas. No amphibians were observed during the field visits.

The drainage improvement area within the Turnpike right-of-way property was not included in the habitat field assessment. These offsite areas contain tidal emergent wetland habitats dominated by *Phragmites,* a narrow open water channel of the unnamed tributary to the Hackensack River, and upland areas comprised of *Phragmites* and a few mature trees. It is expected that the same wildlife species that utilize the Radio Tower Site utilize the Turnpike right-of-way property given its immediate proximity to the Radio Tower Site.

Additionally, as identified in the September 18, 2011 letter from the National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS), the Hackensack River and its tributaries are identified as migratory pathways and nursery and forage areas for various anadromous fish and are considered Essential Fish Habitat (EFH) pursuant to the Magnusson-Stevens Fishery Conservation and Management Act (Appendix A). Fisheries resources and associated habitat are discussed in Section 4.10.

4.8.2 Impacts

Approximately 18 acres of wildlife habitat area will be impacted from the construction of the Amusement Park and Water Park and perimeter access road and drainage improvements on the Radio Tower Site (Figure 4-19). Permanent impacts include approximately 2.39 acres of tidal emergent wetlands dominated by *Phragmites,* 2.85 acres of non-tidal wetland dominated by *Phragmites,* and 12.76 acres of upland. In addition to the 18 acres of wildlife habitat impact on the Radio Tower Site, approximately 0.23 acres of wetlands will be permanently impacted from the construction of the drainage improvements (i.e. rip-rap and headwall construction) within the Turnpike right-of-way. Approximately 0.38 acres of tidal emergent wetlands in the Turnpike right-of-way will be temporarily impacted from the dredging of the unnamed tributary to the Hackensack River as part of the drainage improvements. The temporarily disturbed area is anticipated to revegetate after completion of the drainage improvements.

The potential value of the wildlife habitat associated with these areas is limited due to past activities which have resulted in habitat fragmentation of the Radio Tower Site (Langan 2011f). The construction of Route 3, the Turnpike and Meadowlands Sports Complex has isolated the Radio Tower Site from the Hackensack River and any major wetland complexes. The wetlands on the Radio Tower Site are only connected to the river through two culverts under the Turnpike. Therefore, the loss of wildlife habitat resulting from the Amusement Park and Water Park Project is considered to be relatively minor in significance.

Short-term impacts would include mortality to non-mobile or less mobile species including nesting birds, reptiles, and amphibians that may be using the existing wildlife habitat on or adjacent to the Radio Tower Site. It is anticipated that mobile species would relocate to other nearby wildlife habitat during construction.

Avian Species

It is anticipated that the construction of the Amusement Park and Water Park will not directly impact regional populations of migratory birds. The wildlife habitat existing on and around the Radio Tower Site is typical for disturbed areas in the region and, therefore, the loss of this wildlife habitat from the construction of the Amusement Park and Water Park Project should not have any significant impacts to regional wildlife populations.

There is minimal open water habitat present onsite. Disturbance to the unnamed tributary of the Hackensack River from the proposed drainage improvement, including dredging of the tributary, will result in a marginal disruption of suitable staging area habitat for migratory

waterfowl. However, these impacts will be temporary in nature since the open water areas will remain after the dredging is completed.

The impact to migratory birds resulting from the loss of tidal wetland habitat dominated by common reed and old field upland areas is expected to be minor, given that these habitat types are common in the region.

Reptiles and Amphibians

Salinity data of the water bodies of the nearby Hackensack River and Cedar Creek, as presented in the August 2004 EIS, indicates that the waters have salinity levels ranging from one to 10 parts per thousand (ppt) (NJSEA 2004). These salinity levels are difficult for amphibians to tolerate and, therefore, the Radio Tower Site does not appear to provide suitable habitat for amphibians. Common reptiles such as the Snapping turtle, Painted turtle, Eastern garter snake and Northern brown snake are expected to be present. Impacts to these species, if present, would be direct and possibly permanent given their limited mobility.

Mammals

The construction of the Amusement Park and Water Park is expected to have minimal impact on local and regional mammal populations. Construction impacts, specifically from filling and clearing activities, would result in the elimination and/or relocation of some common mammalian species including muskrat, Norway rat, and eastern cottontail. The filling of common reed emergent wetlands is not anticipated to have a regional effect because of the large expanse of common reed wetlands throughout the Hackensack Meadowlands.

Fisheries and Benthic Communities

The dredging of the unnamed tributary to the Hackensack River will result in temporary impacts to fisheries and benthic communities of this watercourse. These impacts are discussed in Section 4.10.

4.8.3 Mitigation

The off-site wetland mitigation plan that is currently being developed for the Amusement Park and Water Park Project is expected to provide beneficial habitat improvements for wildlife in the region.

4.9 Threatened and Endangered Species

4.9.1 Existing Conditions

The existing conditions of the Radio Tower Site for threatened and endangered species were documented through mapped information review, agency correspondence, and field observations. In order to identify potential habitat for threatened and endangered species on the Radio Tower Site, the following was completed:

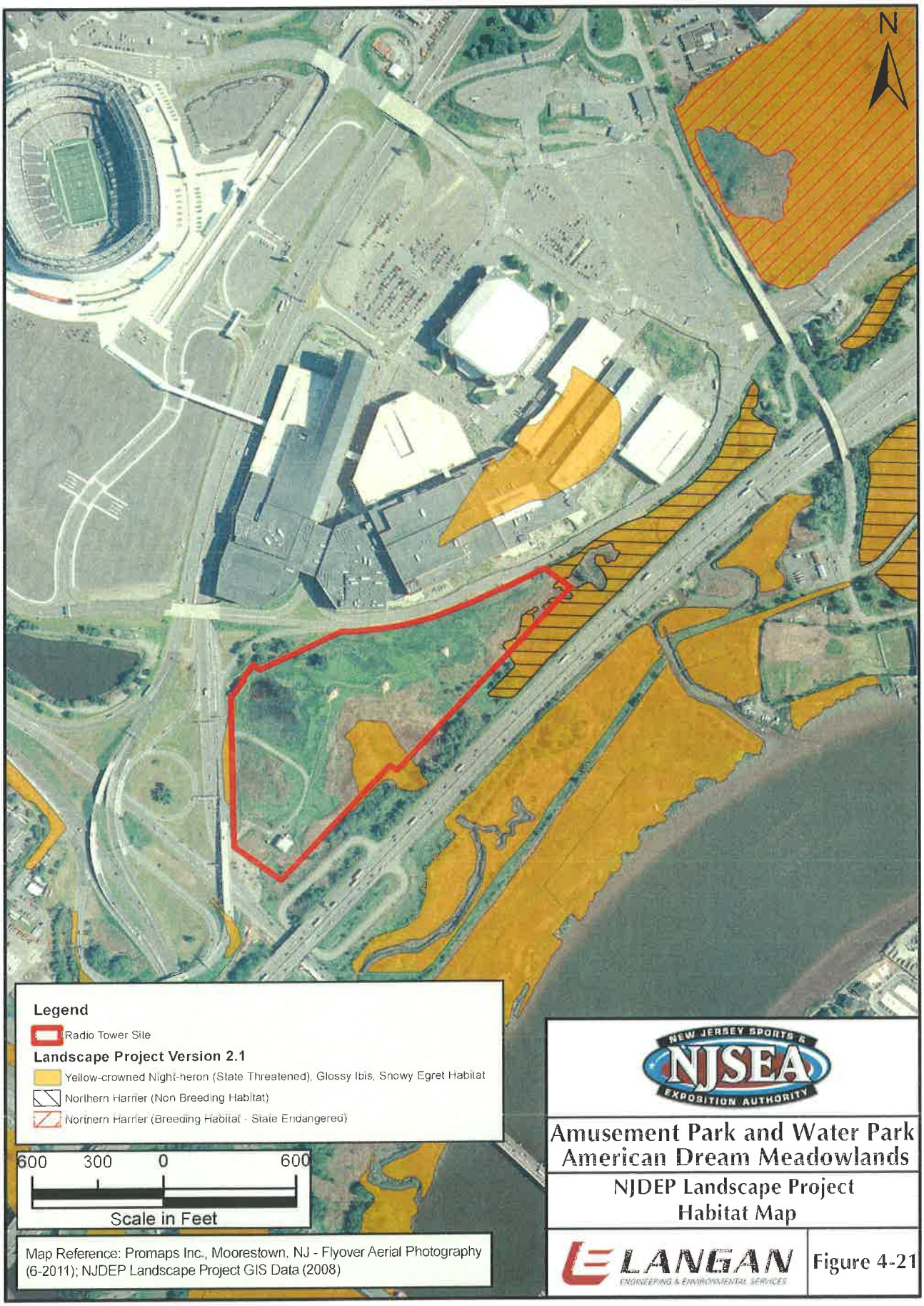
- Submitted written correspondence to the New Jersey Natural Heritage Program (NJNHP);
- Reviewed NJDEP Landscape Project GIS mapping;
- Reviewed comments provided by staff of NJDEP's Division of Fish and Wildlife Program concerning threatened and endangered species on the Radio Tower Site; and
- Submitted written correspondence to the National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS).

Written correspondence was submitted to the NJNHP on August 16, 2011 to obtain a list of specific threatened and endangered species known to occur on or within the vicinity of the site (Appendix A). In their response dated August 29, 2011, the NJNHP indicates that a mapping and database search identified potential habitat for the following:

- State threatened yellow-crowned night-heron *(Nyctanassa violacea)*;
- Two State Species of Special Concern: glossy ibis (*Plegadis falcinellus*) and snowy egret (*Egretta thula)*;
- Northern harrier (*Circus cyaneus*), which is a state endangered bird species for breeding populations, and a Species of Special Concern for non-breeding populations.

No additional potential habitat for any rare wildlife was identified by NJNHP within ¼ mile of the site. Subsequently, a Habitat Suitability Assessment study was performed to further evaluate the potential habitat on the Radio Tower Site for species identified by the regulatory agencies processes (Appendix D) (Langan 2011f).

The New Jersey Landscape Project Habitat Mapping identifies potential habitat on specific portions of the Radio Tower Site for the above referenced species (Figure 4-21). Potential habitat for the yellow-crowned night-heron, glossy ibis and snowy egret is mapped within the isolated ditch system located along the Route 120/East Peripheral Road ramps and in the tidal wetland (Wetland A) in the southeastern portion of the site extending to the Turnpike 96-inch culvert.



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NJDEP Landscape Project
Habitat Map

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Figure 4-21

Potential habitat for "non-breeding" northern harrier is also mapped within the tidal wetland area (Wetland B) in the northeastern portion of the Radio Tower Site and extends towards the Turnpike's 104-inch culvert associated with Cedar Creek. This area is not mapped as habitat for any breeding populations of northern harrier and thus, is not considered habitat for a state endangered species. This conclusion is further supported by a review of the NJDEP Landscape Project GIS mapping data for the tidal wetland feature (Wetland B) in question.

NJDEP's Landscape Project data identifies habitat with a ranking of "3" for state threatened species and a ranking of "4" for state endangered species. The landscape project ranking assigned to the onsite tidal wetland area in question (Wetland B) is "3", which does not indicate the presence of breeding populations of northern harrier. This conclusion was confirmed by phone conference with Mr. Patrick Warner of the NJDEP Fish and Wildlife Department on September 15, 2011, who indicated that on the Radio Tower Site the northern harrier was ranked for foraging/sighting (non-breeding) and thus was given the rank of "3" for this wetland area (the ranking of "3" is associated with the yellow-crowned night-heron); whereas the property located to the north Paterson Plank Road (offsite) was ranked as "4" - state endangered because it was considered an area used for foraging for breeding populations of northern harrier.

Written correspondence was received from Ms. Kelly Davis of NJDEP's Division of Fish and Wildlife, dated July 25, 2011, as part of the overall response from the NJDEP's Permit Readiness Checklist process (Appendix A). Ms. Davis identified habitat onsite for yellow-crowned night-heron, glossy ibis, snowy egret, and the great blue heron (*Ardea herodias*), another Species of Special Concern. The great blue heron was not identified by either the NJNHP correspondence or by NJDEP's Landscape Project mapping. However, a discussion of the great blue heron is provided based on Ms. Davis' correspondence.

The NMFS did not identify any threatened or endangered species within the Amusement Park and Water Park Project area (Appendix A).

Table 4-5 below provides a summary of the different threatened and endangered species habitat and species of special concern habitat identified on the Radio Tower Site and the sources of the identification.

Table 4-5

List of Threatened and Endangered Species Habitat and Species of Special Concern Habitat Identified On the Radio Tower Site

Common Name	Latin Name	Ranking	Source
Yellow-Crowned Night-Heron	*Nyctanassa violacea*	State Threatened	NJNHP; NJDEP Landscape Project GIS Mapping; NJDEP emailed comments
Glossy Ibis	*Plegadis falcinellus*	Species of Special Concern for breeding populations; Regional Priority for non-breeding populations	NJNHP; NJDEP Landscape Project GIS Mapping; NJDEP emailed comments
Snowy Egret	*Egretta thula*	Species of Special Concern for breeding populations; Regional Priority for non-breeding populations	NJNHP; NJDEP Landscape Project GIS Mapping; NJDEP emailed comments
Northern Harrier	*Circus cyaneus*	State Endangered for breeding populations Species of Special Concern for non-breeding populations	NJNHP; NJDEP Landscape Project GIS Mapping
Great Blue Heron	*Ardea herodias*	Species of Special Concern for breeding populations	NJDEP comment

Source: Langan 2011f

As discussed in Section 4.8.1, a wildlife habitat survey was conducted in August and September 2011 as part of the Amusement Park and Water Park Project. None of the species listed in Table 4-5 were observed during these field investigations.

In addition to the wildlife field surveys conducted, a Habitat Suitability Assessment was completed to determine if habitat is present onsite for the above referenced species (Appendix D) (Langan 2011f). The study was prepared in accordance with the section of the NJDEP Water Quality Management Planning Rules that lists the requirements of a Habitat Suitability Determination (N.J.A.C. 7:15-5.26), and specifically addresses whether the Radio Tower Site contains suitable habitat for the threatened and endangered species identified by the NJDEP. The assessment concluded that there is only potential habitat for one state listed threatened or endangered species on the Radio Tower Site: the yellow-crowned night-heron, a state threatened bird species.

Research was conducted in accordance with the "Standards for Conducting Endangered or Threatened Wildlife or Plant Species Habitat Impact Assessment" pursuant to the Coastal Zone Management Rules (N.J.A.C. 7:7E-3C.2). Specific attention was given to potential foraging habitat for the yellow-crowned night-heron, glossy ibis, northern harrier, snowy egret, and great blue heron. In preparation for the field assessment, information regarding the nesting, foraging, and perching behavior for these species as well as habitat requirements from a variety of sources was collected. These sources included information from the websites of the NJDEP Division of Fish and Wildlife, The National Audubon Society, Cornell Lab of Ornithology, New World Encyclopedia, and the U.S. Fish and Wildlife Service.

Based upon the field assessment, mapped information and characteristics of the species of interest, on-site vegetative communities consisting of wetlands and open grasslands could potentially provide marginal forging habitat for northern harrier, snowy egret, glossy ibis, and great blue heron. Wooded swamps or scrub/shrub thickets typical of yellow-crowned night-heron habitat and barrier islands typical of nesting habitat for yellow-crowned night heron were not identified on the Radio Tower Site (see Table 4-6).

Table 4-6

Summary of Selected Species Habitat Evaluation for the Radio Tower Site

Common Name	Latin Name	Ranking	Source	Observed Onsite During Wildlife Survey	Presence of Suitable Habitat Onsite for Species
Yellow-Crowned Night-Heron	*Nyctanassa violacea*	State Threatened	NJNHP NJDEP Landscape Project GIS Mapping NJDEP emailed comments	No	No habitat for nesting or roosting; no significant foraging habitat
Glossy Ibis	*Plegadis falcinellus*	Species of Special Concern for breeding populations; Regional Priority for non-breeding populations	NJNHP NJDEP Landscape Project GIS Mapping NJDEP emailed comments	No	No habitat for nesting or roosting; no significant suitable foraging habitat
Snowy Egret	*Egretta thula*	Species of Special Concern for breeding populations; Regional Priority for non-breeding populations	NJNHP NJDEP Landscape Project GIS Mapping NJDEP emailed comments	No	No habitat for nesting or roosting; limited foraging habitat
Northern Harrier	*Circus cyaneus*	State Endangered for breeding populations Species of Special Concern for non-breeding populations	NJNHP NJDEP Landscape Project GIS Mapping	No	No habitat for nesting or roosting; marginal foraging habitat
Great Blue Heron	*Ardea herodias*	Species of Special Concern for breeding populations	NJDEP Landscape Project GIS Mapping	No	Marginal habitat for nesting or roosting; marginal foraging habitat

Source: Langan 2011f

4.9.2 Impacts

It is anticipated that there would be no impacts associated with any threatened or endangered species from the construction of the Amusement Park and Water Park and the proposed drainage area improvements. Threatened or endangered species often have very specific niches and are usually found in less developed areas with minimal human use and larger expanses of habitat than are present on and around the Radio Tower Site.

4.9.3 Mitigation

No mitigation is necessary with regard to potential impacts to threatened and endangered species. Therefore, no mitigation is proposed.

4.10 Aquatic and Benthos Habitat

4.10.1 Existing Conditions

As documented in the August 2004 EIS prepared for the Meadowlands Xanadu Redevelopment Project, numerous studies have been conducted by the USEPA and USACE and as part of the Meadowlands Xanadu Redevelopment Project to document aquatic and benthic species communities within Cedar Creek and the adjacent Hackensack River (NJSEA 2004). Similar to the Hackensack River and other water bodies within the Hackensack Meadowlands, water features and their associated habitats located in and around the Radio Tower Site are stressed due to low dissolved oxygen concentrations and exceedances of other water quality parameters.

The aquatic and benthos habitat of the Radio Tower Site and adjacent Turnpike right-of-way is limited to the unnamed tributary of the Hackensack River in the southeast portion of the site that drains through the existing 96-inch culvert (Figure 4-11). This unnamed tributary is a narrow water feature, approximately 2 to 4 feet in width, located within dense stands of common reed wetlands.

4.10.2 Impacts

As part of the Amusement Park and Water Park Project, the area extending from the Radio Tower Site drainage easement easterly to the existing 96-inch culvert is proposed to be improved for drainage. The impacts proposed to the aquatic and benthos habitats within the small, tidal tributary associated with this culvert are expected to be minor due to the limited size of the aquatic habitat associated with the unnamed tributary and temporary nature of the proposed work. The tidal tributary associated with the 96-inch culvert extends approximately 100 feet onto the Radio Tower site within the designed drainage easement from the southern property boundary along the New Jersey Turnpike (Figures 4-3 and 4-12). This tributary is tidally influenced and has a Spring High Water elevation of 3.69 feet.

The existing unnamed tributary will not be directly impacted from the construction of the Amusement Park and Water Park building and associated perimeter access road on the Radio Tower Site. The proposed stormwater outfalls from the Amusement Park and Water Park Project will discharge immediately adjacent to the western end of the unnamed tributary. The construction activities on the Radio Tower Site will result in short term, indirect impacts to aquatic and benthic resources. These impacts will include turbidity and siltation of waters from earthwork activities. The unnamed tributary will be impacted from the proposed drainage improvements. The construction of new headwalls and outlet protection at both ends of the

Turnpike culvert will permanently impact approximately 0.02 acres of aquatic habitat. The removal of accumulated sediment in the drainage improvement area will temporarily impact approximately 0.05 acres of aquatic habitat. The drainage improvements will result in the temporary displacement of fish, shellfish, and invertebrate communities currently utilizing this habitat.

The USACE has performed a review of the proposed Amusement Park and Water Park Project activities that might adversely affect Essential Fish Habitat (EFH) (See USACE Public Notice in Appendix A). The proposed work could cause the disruption of habitat for various lifestages of some EFH-designated species as a result of a temporary increase in turbidity during construction. The USACE made a preliminary determination that the site-specific adverse effects are not likely to be substantial because it is expected that fish populations would avoid the small area of disturbance. Further consultation with NOAA was recommended by the USACE.

4.10.3 Mitigation

Short-term impacts to aquatic and benthos habitat will be mitigated through the implementation of soil erosion and sediment controls, which will be in place prior to the commencement of any earthwork onsite to minimize impacts to water quality. A discussion of soil erosion and sediment control measures proposed for the Amusement Park and Water Park Project are provided in Sections 4.13 and 4.22. After completion of the improvements to the drainage area in and around the Turnpike culvert and within the Radio Tower Site drainage easement, voluntary recolonization of the aquatic habitat will likely occur.

4.11 Resource Contamination

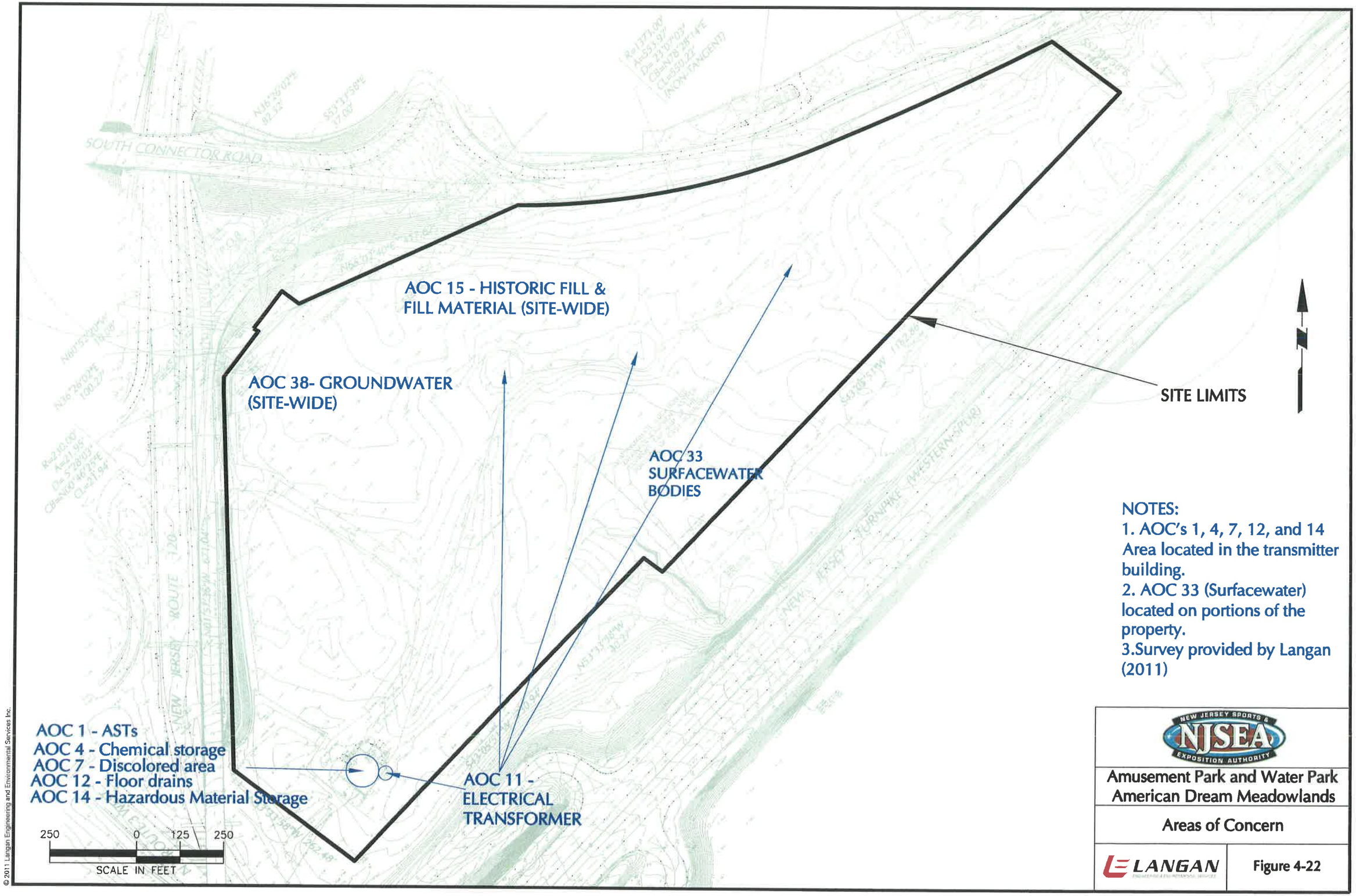
4.11.1 Existing Conditions

A Preliminary Assessment Report (PAR) for the Radio Tower Site was prepared to evaluate potential contaminants and remedial areas on the property (Appendix B; Langan 2011c). The PAR identified a total of nine Areas of Concern (AOCs), five of which are located within the existing radio transmission building (Figure 4-22). A summary of the nine AOCs identified on the Radio Tower Site and recommendations for further evaluation and remedial steps are listed in Table 4-7. A Site Investigation Report (SIR) was also prepared for the Radio Tower Site that present and interpreted the investigative results for the Areas of Concern (AOCs) identified on the Radio Tower Site in the PAR (Appendix C, Langan 2011d).

The nine AOCs identified in the PAR, with the exception of AOC 12 – Floor drain collection system, were investigated and the results presented in the SIR. Floor drains (AOC 12) are not expected to exist within the radio transmission building. The other eight AOCs were evaluated through the implementation of a surface and subsurface investigation. The investigation included the collection and laboratory analysis of soil, groundwater and concrete samples. These samples were collected in February 2008, July 2011 and August 201.

The soil samples obtained during these investigations identified semi-volatile organic compounds (SVOCs), poly-chlorinated biphenyls (PCBs), one pesticide compound (chlordane), extractable petroleum hydrocarbons (EPH) and metals above their NJDEP Non-Residential Soil Remediation Standards (SRS). These soil sample results confirm that there are historic fill type compounds on the property consistent with the historic fill classification as defined by the NJDEP in the Technical Requirements for Site Remediation (N.J.A.C. 7:26E-1.8 and 4.6) (Table 4-8).

The soil sample results also identified the presence of non-historic fill type compounds (antimony, EPH, PCBs and chlordane) (Figure 4-23). The occurrences of antimony and EPH have been delineated within the fill material through the Radio Tower Site. Antimony will be proposed to remain onsite except for concentrations of antimony in excess of its NJDEP Non-Residential SRS. EPH concentrations in excess of 1,000 mg/kg will be evaluated for possible excavation and offsite disposal. PCBs were found throughout the property with some soil samples having concentrations above its NJDEP Non-Residential SRS of 1.0 mg/kg. Further investigations will be performed for PCB concentrations above the NJDEP Non-Residential SRS and will be performed in accordance with the USEPA Toxic Substances Control Act (TSCA) including coordination with USEPA. Concentrations of PCBs between 1 and 10 mg/kg



NOTES:
1. AOC's 1, 4, 7, 12, and 14 Area located in the transmitter building.
2. AOC 33 (Surfacewater) located on portions of the property.
3.Survey provided by Langan (2011)

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Amusement Park and Water Park
American Dream Meadowlands

Areas of Concern

LANGAN

Figure 4-22

Table 4-7
Summary of Areas of Concerns Identified on the Radio Tower Site

Area of Concern	Designation	Description	Recommendation
Aboveground Storage Tanks	AOC 1	Two aboveground storage tanks (ASTs) located in basement of transmitter building	Properly decommission ASTs
Chemical Storage / Hazardous material storage	AOC 4 & AOC 14	Various sized containers located in garage, basement and boiler room of transmitter building	Containers should be removed and properly disposed. After removal a floor inspection is recommended
Discolored Spill Area	AOC 7	Discolored/stained concrete observed beneath emergency generator	Concrete sampling recommended
Transformers	AOC 11	Former electric transformers located in rear of transmitter building. Transformers and capacitors located in radio tower sheds	Soil and concrete sampling conducted and no further investigation is recommended. No investigation required for sheds
Floor Drains	AOC 12	No floor drains observed; portions of building slab covered with debris and/or containers	Inspect slabs for floor drains following debris removal
Historic Fill	AOC 15	Historic Fill located site wide	No further soil investigation
Surface Water Bodies	AOC 33	Tidal and non-tidal wetlands on the eastern and western portions of the property	Conduct SI and Ecological Evaluation (EE)
Groundwater	AOC 38	Site-Wide groundwater	Determine if groundwater quality has been impacted by historic fill

Source: Langan 2011c

ROUTE 120

TRANSMITTER BUILDING

PROPERTY LINE

CONCRETE SAMPLES

NEW JERSEY TURNPIKE (WESTERN SPUR)

MORE OR LESS

N65°28'40"E 1162.82'

S43°05'51"W 1162.82'

N53°33'58"W 40.27'

S43°05'51"W 770.94'

Sample Loca on:	NJDEP Class IIA GW Quality Standards (ug/L)	TMW-1 8/25/2011 ug/L
Date:		
Sample Units:		
Analyte		
Vola le Organics		
Methylene chloride	3	6.8
Metals		
Aluminum	200	3610
Lead	5	241
Manganese	50	455
Sodium	50000	380000

Sample Loca on:	NJDEP Class IIA GW Quality Standards (ug/L)	TMW-2 8/25/2011 ug/L
Date:		
Sample Units:		
Analyte		
Vola le Organics		
Methylene chloride	3	11
Metals		
Aluminum	200	1360
Lead	5	946
Manganese	50	970

Sample Loca on:	NJDEP Class IIA GW Quality Standards (ug/L)	TMW-3 8/25/2011 ug/L
Date:		
Sample Units:		
Analyte		
Vola le Organics		
Methylene chloride	3	7.4
Semi-Vola les		
Bis(2-ethylhexyl)phthalate	3	11
Metals		
Aluminum	200	8130
Antimony	6	10
Barium	6000	6020
Cadmium	4	11
Chromium	70	129
Lead	5	2630
Manganese	50	1990
Selenium	40	47
Sodium	50000	686000
Zinc	2000	3970
Mercury	2	3.3

Sample Loca on:	NJDEP Class IIA GW Quality Standards (ug/L)	TMW-4 8/25/2011 ug/L
Date:		
Sample Units:		
Analyte		
Vola le Organics		
Methylene chloride	3	6.3
Semi-Vola les		
Bis(2-ethylhexyl)phthalate	3	9.38
Metals		
Aluminum	200	9230
Lead	5	78
Manganese	50	3150
Nickel	100	306
Selenium	40	58
Sodium	50000	228000
Zinc	2000	2130

LEGEND:

- 2008 LANGAN SOIL SAMPLE LOCATIONS
- 2011 LANGAN SOIL SAMPLE LOCATIONS
- PIEZOMETER LOCATIONS
- 2011 LANGAN TEMPORARY WELL SAMPLING LOCATIONS
- 2011 LANGAN SOIL BORING LOCATIONS
- EXCEEDANCE OF NJDEP IMPACT TO GROUNDWATER SOIL REMEDIATION STANDARDS
- EXCEEDANCE OF NJDEP RESIDENTIAL OR NON-RESIDENTIAL SOIL REMEDIATION STANDARDS
- EXCEEDANCE OF NJDEP CLASS IIA GROUNDWATER QUALITY STANDARD

NOTES:

BASEMAP PROVIDED BY 2011 LANGAN SURVEY.

SAMPLE LOCATIONS WITHOUT CHEM BOXES DID NOT CONTAIN SAMPLE RESULTS EXCEEDING APPLICABLE NJDEP STANDARDS.

60 0 30 60
SCALE IN FEET

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American Dream Meadowlands
Site Investigation Soil and Groundwater Analytical Results

LANGAN

Figure 4-23

Table 4-8

Site Wide Historic Fill Concentrations

Historic Fill Parameters	Number of Samples Collected	Site Investigation Concentrations Max./Avg. (mg/kg)	NJDEP Historic Fill Criteria Max./Avg. (mg/kg)
Benzo(a) anthracene	21	3.2/0.36	160/1.37
Benzo(a)pyrene	21	2.8/0.28	120/1.89
Benzo(b)fluoranthene	21	3.3/0.40	110/1.91
Benzo(k)fluroanthene	21	1.2/0.07	93/1.79
Indeno(1,2,3-cd)pyrene	21	1.4/0.14	67/1.41
Dibenzo(a,h)anthracene	21	0.52/0.02	25/1.24
Arsenic	23	24/10.21	1098/13.15
Beryllium	22	0.99/0.08	80/1.23
Cadmium	22	31/4.84	510/11.15
Lead	26	6300/840	10700/574
Zinc	24	3300/594	10900/575

will be proposed to remain onsite in accordance with the TSCA self-implementing criteria in defined high occupancy areas. PCBs in excess of 10 mg/kg will be proposed for excavation and offsite disposal. Chlordane was found in the northernmost portion of the property and will be further investigated to delineate its extent. Chlordane will be proposed to remain onsite.

The groundwater samples collected during these investigations identified SVOCs and metals above their Groundwater Quality Standards (GWQS). The groundwater results indicate that the historic fill has influenced groundwater quality. The appropriate groundwater remedial action would be the establishment of a Classification Exception Area (CEA). A CEA is for natural groundwater quality that does not and will not meet the GWQS.

A Remedial Action Workplan (RAW) including a Soil Reuse Proposal (SRP) will be developed and submitted to NJDEP. The RAW will propose engineering and institutional controls as the remedial action for historic fill and non-historic fill compounds. The concrete from the demolition of the existing structures will be crushed and used on the property as fill. Any imported fill material to be place beneath the proposed "cap" (i.e. concrete, structures) will be similar in contaminant type and concentration to the existing historic fill and non-historic fill.

4.11.2 Impacts

The result of the 2008 and 2011 site investigations indicate that semi-volatile organic compounds (SVOCs), metals, EPH, antimony, chlordane and PCBs above the NJDEP Non-Residential SRS exist within the fill material on the Radio Tower Site at 18 of the 30 sampling locations and in the native soils at 3 of the 4 sampling locations (Appendices B and C) (Langan 2011c and Langan 2011d). These samples were collected throughout the Radio Tower Site including the uplands and wetlands. The NJDEP Non-Residential SRS is being used as the remediation standard since the proposed redevelopment would consist of an indoor amusement park and water park. The exceedances of the NJDEP Impact to Groundwater (IGW) SRS have been addressed through groundwater sampling.

A majority of the types and concentrations of the compounds detected at the Radio Tower Site (i.e. PAHs, arsenic, beryllium, cadmium, lead and zinc) are in accordance with the NJDEP's definition of typical historic fill material as set forth in Table 4-2 of the Technical Requirements for Site Remediation (Table 4-8). The remaining compounds detected at the property, which are not listed on NJDEP's Historic Fill Database, consist of EPH, antimony, chlordane and PCBs. However, these compounds have been detected in the fill material throughout the Radio Tower Site and are attributed to the fill material on the property.

The results of the groundwater investigation reported that volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs) and metals were found above their respective NJDEP GWQS. The VOCs have been determined to be related to a laboratory contaminant and are not a concern. The SVOCs and metal compounds were also detected in the soil related to the fill material.

4.11.3 Mitigation

The site remediation process is being overseen by a Licensed Site Remediation Professional (LSRP) who will prepare and approve a Remedial Action Workplan, Soil Reuse Plan, and Health and Safety Plan. These documents will provide direction and guidance on minimizing potential impacts to humans and the environment during construction and operation of the Amusement Park and Water Park Project due to the presence of contaminated resources on the Radio Tower Site. The Remedial Action Workplan, Soil Reuse Plan, and Health and Safety Plan will be prepared in accordance with the New Jersey Technical Requirements for Site Remediation.

4.12 Solid Waste and Recycling

4.12.1 Existing Conditions

Several types of waste disposal facilities operate in New Jersey (NJDEP 2006). There are no solid waste disposal facilities located in Bergen County that are currently accepting solid waste. The majority of solid waste generated within the county is either recycled or disposed of at out-of-state facilities through transfer stations. Table 4-9 lists the transfer stations located in Bergen County and identifies the types of waste that each can handle as well as statistics from the January 2006 New Jersey *Solid Waste Management & Sludge Management State Plan Update* about capacity. Table 4-9 identifies facilities located in Bergen County that are permitted to handle various recyclable materials.

In addition to solid wastes, electronic and computer waste can be disposed of at the BCUA Computer and Electronics Recycling Depot at their Moonachie, New Jersey facility (BCUA 2003). Equipment including computer monitors, laptop computers, printers, keyboards, fax machines, hard drives, modems, speakers, and electrical wiring can be recycled or reclaimed at the BCUA facility.

A Recycling Plan for the ERC was provided in the January 2008 Quarterly Progress Report submitted to the Hearing Officers (NJSEA and Meadowlands Management 2008). The Recycling Plan was developed with guidance from the New Jersey Mandatory Source Separation and Recycling Act and the Bergen County Recycling Plan. The plan identifies potential waste streams to be recycled (i.e., metal, glass, plastic, paper, corrugated cardboard); how recycling can occur in different areas within the ERC (i.e., common areas, tenants, employee offices); and how recyclable materials will be separated and stored onsite until vendor pickup. Non-mandatory recycling items such as computers and electronics, household batteries, fluorescent lights, and food wastes are also discussed. The plan discusses the potential use of products that have recycled content and biodegradable properties including paper products (i.e., bathroom tissue, paper towels and paper napkins), utensils and trash bags.

Table 4-9

Solid Waste Facilities Currently Permitted in Bergen County

Facility Type	Facility Name	Authorized Waste[1]	Capacity	Utilized 2001[2]	Percent Utilized
Transfer Station	NJMC - Erie	13, 13C, 23, 27	1,143,144 cy	Not Open	-------
	Englewood City	10, 13, 13C	99 tpd	17,931 tons	60.40%
	BFI - Fairview	10, 13, 13C, 23, 25, 27	800 tpd	225,452 tons	93.90%
	Garofalo Recycle/Transfer	10, 13, 13C, 23, 27	600 tpd	139,240 tons	77.40%
	WMTNJI - Hillsdale	10, 13, 13C, 23, 27	900 tpd	154,357 tons	57.20%
	National Transfer	10, 13, 13C, 23, 27	80 tpd	28,954 tons	120.60%
	S&L Zeppetelli	13, 13C, 27	20 tpd	4,234 tons	70.60%
	BCUA	10, 13, 13C, 23, 25, 27	Closed	506,646 tons	33.80%
	WMTNJI - North Arlington	10, 13, 13C, 23, 27	2,000 tpd	102,492 tons	17.10%
	WMTNJI - Perry Street	10, 13, 13C, 23, 27	500 tpd	111,457 tons	74.30%
	Miele Sanitation	10, 13, 13C	90 tpd	19,477 tons	72.10%
Class B	PJR Industries	A, B&B, C	1,500 tpd	NA	-------
	Red Rock Land Devt	C, A, B&B	250 tpd	Not Open	-------
	Miele Sanitation	A, C, B&B, W, TP, L	75 tpd	3,248 tons	14.40%
Class C	Abma & Son Farm Compost	L	10,000 cy/yr	7,140 cy	71.40%
	Allendale Borough	L	10,000 cy/yr	8,915 cy	89.20%
	Alpine Borough	L	10,000 cy/yr	10,000 cy	100.00%
	NJMC Kingsland Park LF	L, G, B, WC	50,000 cy/yr	NA	-------
	Closter Borough	L, G	10,000 cy/yr	9,980 cy	99.80%
	Demarest Borough	L	10,000 cy/yr	8,979 cy	89.80%
	Fair Lawn Borough	L	10,000 cy/yr	10,000 cy	100.00%
	Franklin Lakes Borough	L	10,000 cy/yr	2,050 cy	20.50%
	Glen Rock Borough	L	10,000 cy/yr	29,435 cy	294.40%
	Harrington Park Borough	L	10,000 cy/yr	4,666 cy	46.70%
	Haworth Borough	L	10,000 cy/yr	13,895 cy	139.00%
	Leonia Borough	L	10,000 cy/yr	11,920 cy	119.20%
	Mahwah Township	L	14,000 cy/yr	11,311 cy	80.80%
	Northvale Township	L	10,000 cy/yr	NA	-------
	Norwood Borough	L	10,000 cy/yr	5,505 cy	55.10%
	Oakland Borough	L, B	10,000 cy/yr	3,804 cy	38.00%
	Old Tappan Borough	L	10,000 cy/yr	10,740 cy	107.40%

Table 4-9

Solid Waste Facilities Currently Permitted in Bergen County

Facility Type	Facility Name	Authorized Waste[1]	Capacity	Utilized 2001[2]	Percent Utilized
	Paramus Borough	L	10,000 cy/yr	3,065 cy	30.70%
	Ridgewood Borough	L, B	30,000 cy/yr	46,463 cy	155.00%
	River Edge Borough	L	10,000 cy/yr	6,055 cy	60.60%
	Riverside Cemetery	L	10,000 cy/yr	319 cy	3.20%
	Tenafly Borough	L, G	10,000 cy/yr	10,973 cy	109.70%
	Wyckoff Township	L	20,000 cy/yr	40,702 cy	203.50%

1. Transfer Station Authorized Waste Abbreviations

10 = Municipal (household, commercial, institutional) Waste
13 = Bulky Waste
13C = Construction and Demolition Waste
23 = Vegetative Waste
25 = Animal and Food Processing Waste
27 = Dry Industrial Waste

1. Class B and Class C Recyclable Materials:

A = Asphalt
B = Brush
B&B = Brick and Block
C = Concrete
G = Grass
L = Leaves
TP = Tree Parts
W = Wood (unpainted, not chemically-treated)
WC = Wood Chips

2. Capacity Units

cy = cubic yards
cy/yr = cubic yards/year
tpd = tons per day
tpy = tons per year

Source: NJDEP 2006

4.12.2 Impacts

Construction Phase

Solid waste typically generated during construction of developments includes concrete, asphalt, wood, drywall, glass, metals, and other composite materials. Based upon New Jersey regulations (N.J.A.C. 7:26A-1 et seq.) these types of construction debris are classified as Class B recyclables. Based upon a USEPA study that examined several case studies, including office and retail, it was determined that an average construction debris generation rate for nonresidential construction was 3.98 pounds per square foot (lbs./sq. ft.) or 0.00199 tons/sq. ft. (USEPA 1998).

To estimate the potential generation of construction debris during the construction phase of the Amusement Park and Water Project, the total square footage of the Project (639,000 square feet) was multiplied by the construction debris rate of 0.00199 tons per square foot, yielding an estimated total of 1,272 tons. Assuming a 20 month construction period with a five-day work week, the Amusement Park and Water Park Project will generate approximately 12.7 tons of construction debris per working day.

The solid waste generated during construction of the Amusement Park and Water Park Project must be either recycled or sent to a transfer facility. Facilities in Bergen County that are permitted by the NJDEP to recycle Class B recyclable materials are identified in Table 4-9. These facilities have adequate capacity to handle the volume of Class B recyclables that will be generated.

Operation Phase

An estimate of the solid waste that may be generated during operation of the Amusement Park and Water Park Project was determined by taking the average waste generation rate from available references for different building classifications (i.e., commercial retail, office, and hotel) and applying it to the project components (Table 4-10). The rate of solid wastes generated by different uses has been estimated by others in studies of solid waste production (CIWMB 2003).

Table 4-10

Projected Solid Waste Production During Operation Phase

Project Component	Proposed Size (SF)	Generation Rate (lb./sq. ft./day)	Generation Rate (tons/day)	Non-Recyclable and Recyclables		
				Non-Recyclable (tons/day)	Class A (tons/day)	Class B Class C (tons/day)
Amusement Park	318,000	0.017	2.70	0.08	1.39	1.23
Water Park	236,000	0.017	2.01	0.13	1.17	0.70
		Total	4.709	0.21	2.56	1.93

Source: CIWMB 2003

Based on the permits for the facilities located in Bergen County, these facilities have capacities that exceed the generation rate of the Amusement Park and Water Park Project. Therefore, the generation of waste and recyclables during operation of the Amusement Park and Water Park Project can be accommodated by Bergen County facilities.

The recycling policy for the Amusement Park and Water Park Project will require the recycling of paper, glass, and other Class A recyclables. The paper must be separated from the remainder of the waste. Not all solid wastes generated by the Project will be amenable to recycling. Computer and electronic equipment, including computer monitors, laptop computers, printers, keyboards, fax machines, hard drives, modems, speakers, and electrical wiring can be recycled or reclaimed at the BCUA facility in Moonachie. Solid wastes other than computer and electrical equipment that are not considered recyclables will be transported to a transfer station. Regardless of whether the solid waste will be recycled or sent to a transfer company for disposal, the facility will be contacted in advance so that scheduling and other details can be arranged.

Based on the estimated quantities of solid waste to be produced by the Amusement Park and Water Park Project and the limits of the Bergen County permitted solid waste and recycling facilities, these facilities should have sufficient capacity to accept all solid waste produced during operation of the Project.

4.12.3 Mitigation

A recycling program will be developed and implemented for the construction phase of the Amusement Park and Water Park Project. The 2008 Recycling Plan for the ERC will be updated to include the Amusement Park and Water Park Project.

4.13 Utilities and Infrastructure

4.13.1 Existing Conditions

As described in the August 2004 Final EIS, the Meadowlands Sports Complex contains a network of utilities and related infrastructure that supports its current facilities (i.e., MetLife Stadium, the Izod Center Arena, and the Meadowlands Racetrack) (NJSEA 2004). As part of the construction of the ERC structures, improvements were made to these existing utilities and infrastructure systems to accommodate additional development on the Arena Site. These improvements included the construction of a new sanitary sewer collection and conveyance system, improvements to and additions to the surface water collection system for stormwater management, and new connections and distribution systems for potable water.

4.13.1.1 Stormwater Management

The Radio Tower Site is flat, partially covered by wetlands, and partially located in the Hackensack River tidal floodplain (el 8.7 NGVD 29 datum). In addition to stormwater generated from rainfall on the site, a portion of Route 120 and the ERC drains to the Radio Tower Site via two 36-inch culverts at the northwest corner of the site and via a 60-inch culvert near the southeast corner of the site.

Stormwater runoff from the western portion of the Radio Tower Site, portions of Route 120, and the ERC to the Radio Tower Site ponds in ditches and low-lying areas of the site adjacent to Route 120 where it evaporates and/or infiltrates (Figure 4-13). There appears to be no surface water conveyance of this runoff. The eastern portion of the site discharges to two existing culverts (a 96-inch culvert and a 108-inch culvert) that run under the New Jersey Turnpike and allow stormwater to flow to the Hackensack River. Under extreme storm events, ponded stormwater on the western portion of the site likely overflows onto the eastern portion of the site.

The existing 96-inch culvert, which drains the majority of the Radio Tower Site (see Watersheds Ex-1A through Ex-1D on the Existing Drainage Area Map – Figure 4-13), is silted up with approximately six feet of sediment, which has significantly reduced the current capacity of the pipe. The existing 108-inch culvert, which was cleaned out and partially rebuilt in 2006 as part of the previously approved and constructed ERC project, drains the northeastern portion of the site (see Watershed Ex-2 on the Existing Drainage Area Map – Figure 4-13), and also accepts stormwater discharge from the ERC facility directly.

The existing drainage areas are provided on Table 4-11. Peak discharges under existing conditions for the drainage areas to both the 96-inch and 108-inch culverts are shown on Figure 4-13. A summary of the peak flow, percent of culvert capacity at maximum allowable headwater and maximum water surface elevation under existing conditions is listed in Table 4-12.

4.13.1.2 Sanitary Sewer Service

The Radio Tower Site is located within the sewer service area serviced by the Bergen County Utilities Authority (BCUA) Little Ferry wastewater treatment facility. The existing radio transmission building on the Radio Tower Site is connected to the local sanitary sewer system. There is an existing 15-inch diameter PVC sewer main located to the north of the Radio Tower Site, between Building A of the ERC and BCD Deck (Figure 4-24). The 15-inch diameter PVC flows to a 21-inch diameter PVC gravity sewer main that discharges into an existing pump station located on the north side of Building A, along the northbound side of Route 120. This existing pump station services the ERC buildings.

4.13.1.3 Potable Water Service

The water purveyor in the vicinity of the Radio Tower Site is United Water New Jersey, Inc. Water service is provided to the existing radio transmission building on the Radio Tower Site. There is an existing 16-inch diameter DIP water main, which services the ERC, located to the north of the Radio Tower Site within the East Peripheral Road (Figure 4-24). The existing ERC system is interconnected (looped) into two of United Water's water main systems located along Route 120 and Paterson Plank Road. Based upon historical pressure testing during the Xanadu development process (circa 2004) the local water pressure was operating at approximately 100 psi.

4.13.1.4 Natural Gas Service

A gas main is located beneath the East Peripheral Road, the size and pressure of which is unknown at this time. The ERC building tied into the existing 8-inch gas main, located immediately west of the Arena Site, beneath the N.J. Route 120 right-of-way.

TABLE 4-11

Summary of Radio Site Drainage Areas Under Existing and Proposed Conditions

Summary of Radio Tower Property Drainage Area to 96-inch Culvert

	Existing Drainage Area	Proposed Drainage Area	Net Change in Drainage Area	Water Quality Notes:
Pervious Area	25.0 Acres	12.3 Acres	-12.7 Acres	Proposed pervious areas sheet drain towards 96-inch culvert
Impervious Pavement Area[1]	1.5 Acres	4.0 Acres	2.5 Acres	Proposed impervious areas to be treated for TSS removal prior to discharge towards 96-inch culvert
Roofed Area[2]	0.1 Acres	13.2 Acres	13.1 Acres	Proposed roof areas to be directly discharged towards 96-inch culvert
Total Drainage Area[3]	26.6 Acres	29.5 Acres	2.9 Acres	

Summary of Radio Tower Property Drainage Area to 108-inch Culvert

	Existing Drainage Area	Proposed Drainage Area	Net Change in Drainage Area	Water Quality Notes:
Pervious Area	9.2 Acres	6.2 Acres	-3.0 Acres	Proposed pervious areas sheet drain towards 96-inch culvert
Impervious Pavement Area[1]	0.0 Acres	0.0 Acres	0.0 Acres	Proposed impervious areas to be treated for TSS removal prior to discharge towards 96-inch culvert
Roofed Area[2]	0.0 Acres	0.0 Acres	0.0 Acres	Proposed roof areas to be directly discharged towards 96-inch culvert
Total Drainage Area[3]	9.2 Acres	6.2 Acres	-3.0 Acres	

Notes:

1. Impervious area does not include roofed area.
2. Roof areas are considered clean per NJAC 7:8 and can be directly discharged without TSS removal treatment.
3. For purposes of this chart, Total Drainage Area is the area from the project site and from the area between the Turnpike and the Radio Tower Property. Total Drainage Area does not include portions of Route 120 and the ERC areas that drain through the Radio Tower Property.

Source: Triple Five Development 2011

TABLE 4-12

Summary of Radio Tower Site Discharges to the Turnpike Culverts Under Existing and Proposed Conditions

	Summary of Discharge to the 96-inch Culvert						
	Existing Conditions (With Approved ERC)			Proposed Conditions (With ERC and Radio Tower Site)			
24-hour SCS Type III Storm Event	Peak Flow (cfs)	Percent of culvert capacity at max allowable headwater	Max. Water Surface Elev.	Peak Flow (cfs)	Percent of culvert capacity at max allowable headwater	Max. Water Surface Elev.	Increase (inches)
10 Year	105	26%	6.75	140	34 %	6.87	1.44
50 Year	153	37%	6.92	195	48 %	7.12	2.4
100 Year	174	42%	7.01	219	53 %	7.26	3

	Summary of Discharge to the 108-inch Culvert						
	Existing Conditions (With Approved ERC)			Proposed Conditions (With ERC and Radio Tower Site)			
24-hour SCS Type III Storm Event	Peak Flow (cfs)	Percent of culvert capacity at max allowable headwater	Max. Water Surface Elev.	Peak Flow (cfs)	Percent of culvert capacity at max allowable headwater	Max. Water Surface Elev.	Increase (inches)
10 Year	196	50%	6.93	198	51 %	6.93	0
50 Year	269	69%	7.22	273	70 %	7.24	0.24
100 Year	302	77%	7.38	308	79 %	7.41	0.36

Notes:

1. All elevations reference the National Geodetic Vertical Datum of 1929 (NGVD29).
2. The tailwater condition used for this analysis was a 10-year tidal storm surge event in the Hackensack River equal to elevation 6.6.
3. These results are based on a preliminary study performed by Langan Engineering.
4. The lowest elevation of the New Jersey Turnpike adjacent to the natural basin immediately upstream of the 108-inch culvert is el. 9.1.
5. The lowest elevation of the New Jersey Turnpike adjacent to the natural basin upstream of the 96-inch culvert is approximately el. 20.
6. The maximum allowable headwater elevation adjacent to the New Jersey Turnpike is el 8.1 near the 108-inch pipe.
7. The lowest elevation which separates the overland flow between the 96-inch and 108-inch pipes is el.8.9.
8. The maximum 108-inch culvert capacity given a headwater elevation of 8.1 is approximately 390 cfs based on a submerged outlet and Mannings Eqn.
9. The maximum 96-inch culvert capacity given a headwater elevation of 8.9 is approximately 410 cfs based on a submerged outlet and the Mannings Eqn.
10. This analysis is based on the current (2004) NJ 24-hour rainfall data.

Source: Triple Five Development 2011

LEGEND

EXISTING GAS MAIN — G

PROPOSED SANITARY SEWER — S

PROPOSED WATER MAIN — W

REFERENCE:
UTILITY LOCATIONS SHOWN HEREON PROVIDED FROM MAPPING PROVIDED BY OTHERS AND MAY NOT REPRESENT AS-BUILT CONDITIONS. FIELD VERIFICATION IS RECOMMENDED.

EXISTING SANITARY SEWER PUMP STATION

FORCEMAIN TO EAST RUTHERFORD PUMP STATION

PROPOSED SANITARY FORCE MAIN

MAINTAIN EXISTING 16" DIP WATER MAIN

SOUTH CONNECTOR ROAD

ENTERTAINMENT / RETAIL

MAINTAIN EXISTING 15" PVC SANITARY SEWER MAIN

PARKING DECK "BCD"

MAINTAIN EXISTING 12" DIP WATER MAIN

CONNECT TO EXISTING SANITARY MANHOLE (INV. 2'±)

ENTERTAINMENT / RETAIL

PROPOSED SANITARY PUMP STATION

CONNECT TO EXISTING 16" DIP WATER MAIN

PROPOSED SANITARY LATERAL

Pedestrian Bridge
7,000 sf ±

MAINTAIN EXISTING 16" DIP WATER MAIN

Mezzanine
(Entry)
49,000 sf ±

Mezzanine
(Food)
29,000 sf ±

CONNECT TO EXISTING 16" DIP WATER MAIN

MAINTAIN EXISTING GAS MAIN (SIZE AND PRESSURE UNKNOWN)

Amusement Park
318,000 sf ±

Water Park
236,000 sf ±

NEW JERSEY - ROUTE 120

EAST CENTRAL ROAD

200 0 100 200
SCALE IN FEET

© 2011 Langan Engineering and Environmental Services Inc.

NEW JERSEY SPORTS & EXPOSITION AUTHORITY
NJSEA

Amusement Park and Water Park
American Dream Meadowlands

Preliminary Utilities Plan

LANGAN

Figure 4-24

4.13.1.5 Electric Service

The electricity provider in the vicinity of the Radio Tower Site is Public Service Electric & Gas Company (PSE&G). Electric lines in the vicinity of the Radio Tower Site include both overhead and underground lines. Aboveground lines run to the radio transmission building and three radio towers.

4.13.1.6 Telephone Service

Telephone service in the vicinity of the Radio Tower Site is provided by Verizon. Telephone lines in the vicinity of the site include both overhead and underground lines.

4.13.2 Impacts

The location and capacity of the existing utilities and infrastructure currently serving the Radio Tower Site will require modifications and improvements to adequately serve the Amusement Park and Water Park. Potential impacts on these existing utilities and the new services to be provided are described below.

4.13.2.1 Stormwater Management

The construction of the Amusement Park and Water Park Project will include the construction of a new stormwater management system on the Radio Tower Site. The proposed stormwater management system will comply with NJDEP's Flood Hazard Area Control Act Rules (NJAC 7:13) and Stormwater Management Rules (NJAC 7:8).

Water Quantity

The preliminary engineering stormwater analysis performed for the Amusement Park and Water Park Project concluded that the overall impacts on the existing watershed will be minimal (Triple Five Development 2011). The drainage area to the 96-inch culvert will be increased by approximately 3 acres, while alternatively the drainage area to the 108-inch culvert will be decreased by approximately 3 acres (Figure 4-14 and Table 4-11). The rise in water surface elevations for both the 96-inch and 108-inch culverts will be minimal (Table 4-12). The peak surface water elevations are lower than the lowest elevation to satisfy the New Jersey Turnpike Authority's requirement to maintain at least one foot of freeboard between their roadway and peak backwater elevation for the 100-year storm event. During the FEMA peak

100-year tidal storm surge event (el. 8.7 NGVD), the peak water surface on either side of the culvert is determined by the Hackensack River and not by runoff from the Radio Tower Site.

An initial water quantity analysis for the 10-, 50-, and 100-year storm during a 10-year tidal surge with a combined tailwater elevation of 6.6 (NGVD 1929) under post-development conditions was performed (Triple Five Development 2011). The 96-inch culvert, which is currently filled with sediment, has the capacity to handle the runoff from the Radio Tower Site if it is cleaned out. For the purposes of this analysis, it was assumed that the maximum allowable headwater at the 96-inch culvert will be the low point of the natural berm (el. 8.9) which splits flow between the 96-inch culvert watershed (see Watersheds PR-1A to PR-1D on the Proposed Drainage Area Map Figure 4-13) and the 108-inch culvert watershed (see Watershed PR-2 on the Proposed Drainage Area Map). The analysis indicates there will be a 3-inch increase in the backwater peak elevation for the 100-year storm on the upstream (site) side of the 96-inch culvert to elevation 7.26, which is well below the assumed maximum elevation of 8.9 (Table 4-12). The New Jersey Turnpike Authority's requirement to maintain at least one foot of freeboard between their roadway and peak backwater elevation for the 100-year storm event is met.

Based on an initial water quantity analysis for the water flowing to the 108-inch culvert, there will be a negligible (0.36 inch) increase in the backwater peak elevation on the upstream (site) side of the culvert for the 100-year storm (Table 4-12). This peak elevation (el. 7.4) is approximately 1.7 feet lower than the lowest elevation of the adjacent Turnpike, which satisfies the New Jersey Turnpike Authority's requirement to maintain at least one foot of freeboard between their roadway and peak backwater elevation for the 100-year storm event.

Based on discussions with NJDEP Land Use Regulation Program, they have confirmed that a downstream analysis of the channels downstream of the Turnpike is not required since there are no buildings or developed properties downstream that might be impacted by increased flooding. The stormwater management design will be reviewed by the NJDEP as part of the Land Use permit process.

Water Quality

The proposed stormwater management system for the Amusement Park and Water Project will increase stormwater runoff to the existing drainage system (i.e., unnamed tributary to the Hackensack River) by directing proposed rooftop runoff to the drainage easement on the Radio Tower Site (Triple Five Development 2011). As part of the rooftop runoff design that is proposed for the Amusement Park and Water Park Project, drainage from building rooftops will be discharged to the head of the drainage easement that discharges to the unnamed tributary

to the Hackensack River. Since the rooftop runoff will be free of vehicular contaminants, impacts on water quality as a result of the rooftop runoff designs are not anticipated. For the perimeter access road around the buildings, NJDEP-approved manufactured water-quality devices will be utilized to treat stormwater prior to discharge into the drainage easement to meet the applicable Total Suspended Solid (TSS) removal rate. This water quality concept has been discussed with the NJDEP and will be reviewed by the NJDEP as part of the multi-permit application process, which includes a Flood Hazard Area Permit and Water Quality Certificate.

4.13.2.2 Sanitary Sewer Service

As shown on Figure 4-24, a new force main from the Amusement Park and Water Park facility to the existing sanitary system pump station north of ERC Building A (constructed as part of the Meadowlands Xanadu Redevelopment Project) will be constructed. From that point, the sewerage will be carried along with other sanitary waste from the Arena Site to the East Rutherford pump station on the north side of the Racetrack. The additional wastewater flow that will be generated by the Amusement Park and Water Park Project has been estimated at 122,000 gallons per day (gpd) based upon NJDEP regulations (N.J.A.C. 7:14A-23) (Table 4-3).

An application for a Treatment Works Approval (TWA) for the proposed wastewater collection and conveyance system for the Amusement Park and Water Park Project will be submitted to the NJDEP Division of Water Quality for the Amusement Park and Water Park Project (see Section 5.3.8).

4.13.2.3 Potable Water Service

As shown on Figure 4-24, two new connections to the existing water main located within the East Peripheral Road will be constructed to serve the Amusement Park and Water Park. The new water line will be separate from the existing water line that currently serves the ERC.

A calculation for the project water demand is provided in Table 4-13. The construction of the Amusement Park and Water Park will resulting the increase in the average water demand flows by 121,600 gallons per day from what was initially approved for the Meadowlands Xanadu Project. Preliminary discussions with representatives of United Water indicated that the projected new demand of the Amusement Park and Water Park should be serviceable. Based upon historical pressure testing during the Xanadu development process (circa 2004) the local water pressure was operating at approximately 100 psi. A Water Main Extension Permit will likely be required for the Amusement Park and Water Park Project (see Section 5.3.9).

TABLE 4-13

Average Potable Water Demand Calculations

Prior Meadowlands Xanadu Redevelopment Project Demand Flows [1]

Building	Establishment Name	NJDEP Establishment Category	Proposed Gross Area	Proposed Unit of Measurement	NJDEP Unit Demand [2]	Average Water Demand
Entertainment Retail Complex	Leasable Specialty Entertainment	Store/Office Building	2,000,000 SF	2,000,000 SF	0.125 GPD/SF	250,000 GPD
	Restaurants[3]	Restaurant	200,000 SF	28,698 Persons	10 GPD/Person	286,980 GPD
	Common Area[4]		500,000 SF	500,000 SF	0.125 GPD/SF	62,500 GPD
		Subtotal	**2,700,000 SF**			**599,480 GPD**
Office Complex	4 Office Buildings	Store/Office Building	1,760,000 SF	1,760,000 SF	0.125 GPD/SF	**220,000 GPD**
Hotel	Hotel[5]	Hotel		1,090 Persons	75 GPD/Person	81,750 GPD
	Restaurant[6]	Restaurant		825 Persons	10 GPD/Person	8,250 GPD
	Conference Facility[7]	Restaurant		750 Persons	10 GPD/Person	7,500 GPD
		Subtotal	**500,000 SF**			**97,500 GPD**
Baseball Field	Minor League Baseball Stadium[8]			8,050 Persons	10 GPD/Person	**80,500 GPD**
			Total Prior Meadowlands Xanadu Project Demand Flows			**997,480 GPD**

Proposed Demand Flows For New Project Component

Amusement Park / Water Park	Water Park-Operations[9]	—				25,000 GPD
	Restaurant[10]	Restaurant		660 Persons	10 GPD/Seat	6,600 GPD
	Restrooms (Amusement Park)[11]	Restaurant (Sanitary Demand)		6,000 Persons	5 GPD/Person	30,000 GPD
	Restrooms/Showers (Water Park) [12]	Swimming Pool or Bathhouse		6,000 Persons	10 GPD/Person	60,000 GPD
			Total New Project Component Average Water Demand Flows			**121,600 GPD**
			Total Redevelopment Project Average Water Demand Flows			**1,119,080 GPD**

Notes:

1. Water design data based August 2004 EIS
2. Unit demand based on the NJDEP safe drinking water act regulations at N.J.A.C. 7:10-12.6, "Table 1: Average Daily Water Demand."
3. Restaurant measurement based on 1 person/seat (8,696 seats) plus 10% for employees/total seats (870 employees) multiplied by a factor of 3 for turnover rate for kitchen and sanitary demand.
4. Common Area measurement unit assumed to be same as store measurement unit (0.125 GPD/SF).
5. Hotel measurement based on people (assume 2 persons/room (520 rooms) plus 50 employees).
6. Restaurant measurement based on 1 person/seat (250 seats) plus 10% for employees/total seats (25 employees) multiplied by a factor of 3 for turnover rate for kitchen and sanitary demand.
7. Conference Facility measurement assumed to be same as restaurant measurement for sanitary and kitchen demand (assume 1 person/seat (750 seats)) multiplied by a factor of 1 for turnover rate.
8. Baseball Field measurement assumed to be same as restaurant for kitchen and sanitary demand (assume 1 person/seat (8000 seats) plus 50 employees) multiplied by a factor of 1 for turnover rate.
9. Water Park Operations water make-up demand during normal operations and maintenance of water rides and pools.
10. Amusement/Water Park Restaurant estimated at 200 seats plus 10% for employees multiplied by a factor of 3 for turnover rate for sanitary and kitchen demand.
11. Amusement Park Restroom Demand assumes 5 GPD per person (restaurant sanitary demand) x 6,000 estimated occupancy rate.
12. Water Park Restrooms/Showers Demand assumes 10 GPD per person (swimming pool or bathhouse) x 6,000 estimated occupancy rate.

4.13.2.4 Natural Gas Service

The Amusement Park and Water Park will tie into the existing gas main located beneath the East Peripheral Road. No other impacts are anticipated.

4.13.2.5 Electric Service

The Project will require the construction of new underground lines to the Amusement Park and Water Park buildings. No other impacts are anticipated.

4.13.2.6 Telephone Service

Area telephone service is provided by Verizon through a series of overhead and underground telephone lines. Existing overhead lines will be relocated underground and new telephone conduit and vault will be proposed onsite for the new buildings. No other impacts are anticipated.

4.13.3 Mitigation

No significant adverse impacts on utilities or infrastructure will occur as a result of construction or operation of Amusement Park and Water Park. As no significant impacts are anticipated, needs for mitigation measures will be minimized. Demand for services will be discussed with the respective utility providers in the near future.

4.14 Traffic and Transportation

4.14.1 Existing Conditions

The August 2004 EIS provided an extensive discussion on traffic and transportation concerning the Arena Site at the Meadowlands Sports Complex and a project-specific Traffic Impact Study (NJSEA 2004; TRC 2004a). As part of the 2004 Traffic Impact Study, key locations for study were identified and existing conditions documented. The 2004 Traffic Impact Study was approved by the NJDOT with the issuance of a Major Access Permit (With Planning) (New Jersey Department of Transportation (NJDOT) Permit No. A-120-N-N033-2004). In addition, existing conditions regarding parking, transit and air navigation were discussed in the August 2004 EIS.

Since the issuance of the August 2004 EIS, all of the roadway improvements and access points presented in the 2004 Traffic Impact Study for the redevelopment project at the Arena Site have been constructed and are operational. In addition, other regional roadway improvements have been completed in and around the Meadowlands Sports Complex. The completed roadway improvements include:

- Additional ramps and lanes on the Arena Site;
- New service road along Route 120 Northbound;
- New flyover ramp from Route 3 Eastbound to Route 120 Northbound Service Road;
- Additional lane on ramp from Route 120 Southbound to Route 3 Westbound;
- Additional lane on Route 120 Southbound adjacent to Meadowlands Sports Complex;
- Additional lanes on the New Jersey Turnpike Interchange 18W Sports Complex access ramps;
- Reconfiguration of the New Jersey Turnpike Interchange 16W with additional lanes and ramps;
- Additional lane on Route 3 Eastbound Sports Complex Access Ramp;
- New flyover from Route 120 Southbound to Route 3 Eastbound; and,
- Additional lanes, widening and shoulders on Paterson Plank Road to Route 17.

In addition to the above completed roadway improvements, several additional improvements are in progress and include:

- Replacement of Route 3 structure over the Passaic River;
- Additional lanes and shoulders at the Route 3 Passaic River crossing; and,
- Rehabilitation of both Eastbound and Westbound Route 3 structures over the Hackensack River.

Besides these completed roadway improvements, mass transit improvements completed in the past few years at the Meadowlands Sports Complex and ongoing development of a regional traffic signal management program by the NJMC will help traffic operating condition in the region. New Jersey Transit, in concert with the NJSEA, constructed a rail station and rail line adjacent to the Stadium connecting the Meadowlands Sports Complex to the regional NJ Transit rail system. The rail service became operational in 2010 for events at the Stadium and full service will be provided with the opening of American Dream Meadowlands. The NJMC is developing the Meadowlands Adaptive Signal System for Traffic Reduction (MASSTR), which is a traffic signal program to help traffic flow in the Meadowlands by immediately adapting to current traffic conditions (see Appendix F).

4.14.2 Impacts

The Amusement Park and Water Park will not require any additional public roadway improvements. The existing Meadowlands Sports Complex roadways (South Connector Road and East Peripheral Road) on the Arena Site will remain with this expansion of the entertainment component. The existing roadways are not part of the redevelopment footprint for the Amusement Park and Water Park, and will remain as main circulation roads for vehicular traffic and circulation at the Meadowlands Sports Complex. Vehicular access points to the Amusement Park and Water Park facility will be by two connections along the East Peripheral Road: the proposed loading dock and a maintenance/emergency access point just north of the support foundation for the observation wheel (see Figure 1-8 in Section 1.1.2.1). As discussed in Section 1.1.2.2, patrons of the Amusement Park and Water Park will arrive, by rail, other mass transit, or park underneath the adjacent ERC and related parking decks. No patron parking will be provided at the Amusement Park and Water Park site. Therefore, modifications or extensions of the existing roadway network are not required for the Amusement Park and Water Park Project.

A Traffic Impact Assessment was prepared in 2011 to determine the additional trips from the Amusement Park and Water Park Project and compare them with the original traffic permit presented in the 2004 Traffic Impact Study (Appendix F) (TRC Engineers 2011). The Traffic Impact Assessment concluded that the roadway improvements constructed over the past several years for the redevelopment project at the Arena Site combined with other regional road improvements, as well as the new rail line, have improved traffic conditions in the Meadowlands Sports Complex area. Based on criteria set forth in the New Jersey State Highway Access Management Code, the Amusement Park and Water Park Project results in a minimal increase in traffic compared to the original redevelopment project at the Arena Site since the overall 10 percent Daily Trip criteria is not exceeded. In addition, the Amusement Park and Water Park will generate less than 200 new Peak Hour trips on the State Highway

System. The additional traffic anticipated from the Amusement Park and Water Park would not substantially increase projected traffic volumes compared to the original redevelopment project at the Arena Site. These conclusions are based on a conservative approach that did not take into consideration potential trip reduction factors such as mass transit (rail and bus), internal trips, and pass-by trips (see Appendix F).

Based on recent discussions with the NJDOT and in accordance with the New Jersey State Highway Access Management Code (N.J.A.C 16:47), it was determined that a Major Access (Without Planning Review) Permit Application should be submitted to the NJDOT to allow for the review of the potential traffic increases associated with the Amusement Park and Water Park Project (See Section 5.3.14).

4.14.3 Mitigation

No additional offsite public roadway or roadway improvements are required for the Amusement Park and Water Park Project. The roadway improvements required under the 2004 NJDOT Major Access Permit have been completed and are operational, except for the new ramp from NJ Route 120 Northbound to the northern portion of the Arena Site which is constructed but not fully operational at this time. The NJDOT review of the 2011 Traffic Impact Assessment is expected to confirm that no additional traffic impact study or additional mitigation measures are required for the new Amusement Park and Water Park component to the redevelopment project at the Arena Site. In addition to the roadway work required under the 2004 Major Access Permit, the roadway improvements described above in 4.14.1 have been completed and the rail station at the Meadowlands Sports Complex is operational.

In addition, the Developer is preparing a transportation management plan, in concert with NJ Transit and others, to increase mass transit use by patrons coming to the American Dream Meadowlands Project. With the addition of a rail station at the Meadowlands Sports Complex in 2010, venues at the Sports Complex are now seeing the use of mass transit by patrons visiting the Sports Complex. Ridership for football events at the Stadium have been between 8,500 and 12,000 fans. With future daily rail service to the Meadowlands Sports Complex and improved bus service, the Developer anticipates a substantial increase in the use of mass transit by American Dream Meadowlands patrons and employees and a concomitant decrease in automobile traffic.

The Developer also envisions a wide range of programs to be explored and potentially implemented as part of the overall transportation management plan for the American Dream Meadowlands Project. Each program would help to increase the use of mass transit by patrons and employees. These programs include:

- Expanding Meadowlink service to the American Dream Meadowlands Project Site from existing mass transit hubs;
- Marketing promotions and packages encouraging the use of mass transit;
- Employee incentives to use mass transit;
- Marketing incentives for off peak visits; and,
- Preferred patron carpool parking and ride/car-sharing.

4.15 Air Quality

4.15.1 Existing Conditions

The existing conditions of the region around the Radio Tower Site were presented in the August 2004 EIS (NJSEA 2004). Air quality information including criteria and standards, regional sources of emissions, regional air quality, mobile source carbon monoxide and Clean Air Act Conformity were discussed.

The criteria pollutants relevant to the Amusement Park and Water Park Project construction and operation are CO, O_3 and its precursors – NO_2 and Volatile Organic Compounds (VOC). While the NO_2 and VOC are evaluated on a regional basis by the relevant Metropolitan Planning Organization (MPO), in this case the North Jersey Transportation Planning Authority (NJTPA), CO impacts from the Amusement Park and Water Park Project can be predicted by more focused microscale analysis.

CO is a site-specific pollutant which accumulates at a local level and causes lower local air quality. To determine existing conditions and potential CO impacts, a screening analysis was conducted as part of the August 2004 EIS to determine the necessity of a more refined air quality modeling analysis. A microscale "hot-spot" analysis was performed in 2004 on mobile sources of carbon monoxide based on the results of the Traffic Impact Study (TRC 2004b).

The Clean Air Act Amendments (CAA) of 1990 expanded the scope and content of the CAA's conformity provisions by providing a more specific definition of conformity. As stipulated in CAAA Section 176(c), conformity is defined as conformity to the State Implementation Plan (SIP) for the purpose of eliminating or reducing the severity and number of violations of the National Ambient Air Quality Standards (NAAQS) and achieving expeditious attainment of such standards.

Transportation Conformity

The USEPA published its final rules on transportation conformity that apply to the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) approved or funded highway and transit projects in areas designated as non-attainment or maintenance for any of the criteria pollutants under the CAA (40 CFR Parts 51 and 93). These USEPA rules require MPOs and the U.S. Department of Transportation (USDOT) to make a conformity determination on Metropolitan Transportation Improvement Programs (TIPs) before they are adopted, approved, or accepted. In addition, highway or transit projects that are funded or

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determination also is limited to wetlands fill and mitigation activities based on the regulations at *40 CFR Parts 6, 51, and 93: Determining Conformity of General Federal Actions to State or Federal Implementation Plans, Final Rule* (USEPA 1993). Only those emissions from the equipment and motor vehicles used in the filling operation, support equipment, and emissions from movement of the fill material itself need to be included in the analysis.

As presented in the August 2004 EIS, the conformity applicability for the Meadowlands Xanadu Redevelopment Project at the Arena Site was limited to those activities involving the filling of wetlands (totaling approximately 7.54 acres) which occurred during construction (NJSEA 2004). The projected emission levels for NOx, VOC, and CO were well below the *de minimus* levels for federal actions. For the redevelopment project at the Arena Site, NOx was projected to be approximately eight tons for the construction year while the *de minimus* level is 25 tons/year. For the redevelopment project at the Arena Site, VOC was projected to be approximately one ton for the construction year while the *de minimus* level is 25 tons/year. Finally, CO was approximately six tons for the first construction year, a level that is far below the *de minimus* level of 100 tons/year. Based on the projected emissions levels that are well below the *de minimus* levels, the federal action component of the Meadowlands Xanadu Redevelopment Project at the Arena Site was considered to conform for the pollutant under study.

4.15.2 Impacts

The 2011 Traffic Impact Assessment summarized in Section 4.14 and provided in Appendix F of this Draft Supplemental EIS examined the traffic volumes associated with the addition of the Amusement Park and Water Park Project to the redevelopment project at the Arena Site (TRC Engineers 2011). The Traffic Impact Assessment concluded that the Amusement Park and Water Park will only lead to a minimal increase in traffic volumes compared to the 2004 Traffic Impact Study. Therefore, the Amusement Park and Water Park, as part of the American Dream Meadowlands Project will not adversely impact air quality. There are no proposed major stationary sources that could emit significant quantities of pollutants. Only emissions of CO, NO_x, VOC, and Pb associated with automobiles traveling to and from the Amusement Park and Water Park Project are of concern. Emissions of NO_x and VOC are associated with regional mobile emission sources which are included in NJTPA's conformity analysis, whereas emissions of CO is a primary concern as a microscale mobile source.

Given the minimal increase in traffic, an air quality screening and microscale analysis was not performed for the Amusement Park and Water Park Project. The results of the screening and microscale analysis presented in the August 2004 EIS are still applicable to the redevelopment project at the Arena Site. The analysis presented in the August 2004 EIS concluded that the

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limited to those activities involving the filling of wetlands on the Radio Tower Site. Using the same projections developed for the redevelopment project at the Arena Site in 2004 which had a larger wetland fill requirement, the anticipated emission levels for NOx, VOC, and CO for the Amusement Park and Water Park Project are well below the *de minimus* levels for federal actions. Using the same calculations for the redevelopment project at the Arena Site from 2004, NOx was projected to be approximately eight tons for the construction year while the *de minimus* level is 25 tons/year; VOC was projected to be approximately one ton for the construction year while the *de minimus* level is 25 tons/year; and, CO was approximately six tons for the first construction year, a level that is far below the *de minimus* level of 100 tons/year. Based on the these projected emissions levels that are well below the *de minimus* levels, the federal action component of the Amusement Park and Water Park Project is considered to conform for the pollutant under study.

The results of the emission and impact analyses show that both mobile sources and stationary sources during Project operation, as well as the construction emissions relevant to federal activities, will all be in compliance with NAAQS or Federal Conformity Rules. Therefore, the Amusement Park and Water Park Project should be considered to be in conformance with the CAA requirements and TIP for this region.

4.15.3 Mitigation

Because the predicted future air quality associated with operation of the Amusement Park and Water Park Project will meet CO NAAQS standards, and the construction emissions related to the federal action would be below (within) the General Conformity emission thresholds, no mitigation is required.

During construction, all construction equipment utilizing combustible engines are proposed to be equipped with proper exhausts and screens limiting the amount of SO_2, PM, NOx, CO, and HC emissions into the atmosphere. For diesel equipment, a diesel particulate trap or filter will be required. This trap or filter typically reduces particulate emissions of up to 90 percent.

Fugitive dust from vehicles operating on unpaved areas during construction will be diminished or reduced to a great extent when on-site control measures including watering, storage piles covering, low on-site construction vehicle speeds, etc. are applied. The minimization of fugitive dust particles will be limited and controlled through implementation of soil erosion and control measures, which will be in accordance with county and state regulations. There will also be contractor specifications developed that will ensure that appropriate efforts are taken by the contractor during construction to exercise dust control.

4.16 Noise

4.16.1 Existing Conditions

The August 2004 EIS provides an extensive discussion on noise background, guidance and criteria (NJSEA 2004). As part of the preparation of the August 2004 EIS, an ambient noise monitoring program was conducted at selected traffic study related locations to the north and south of the Radio Tower Site (TRC 2004c). The noise environment was completely dominated by vehicular traffic noise from the extensive network of highways and roads, including the New Jersey Turnpike, N.J. Route 3, N.J. Route 120, and local roadways. Other ambient noise sources included aircraft (from Teterboro and Newark Liberty International Airports), a natural gas metering station, and some natural sounds (gulls). Measured hourly (L_{eq}) (equivalent sound level) noise levels were highest at the Sheraton Plaza Drive location to the southwest of the Radio Tower Site, ranging from 59 to 67 dBA (A-weighted decibel). Measured hourly (L_{eq}) noise levels at the Golf Range located to the north and on the east side of the Turnpike ranged from 50 to 61 dBA. Maximum ambient levels at all locations were in the range of 80 to 84 dBA due to aircraft and passing trucks.

Potential noise impacts from the Amusement Park and Water Park Project could be caused by increases in noise levels associated with vehicular traffic and, for the short-term, increases in noise during Amusement Park and Water Park Project construction. An updated noise assessment study was not undertaken to document existing noise levels at the Radio Tower Site because conditions at the Radio Tower site and surrounding area are anticipated to be similar to existing conditions as described in the August 2004 EIS.

4.16.2 Impacts

Operational Phase

The noise assessment results from the August 2004 EIS concluded that traffic noise increases would be less than 2dBA (NJSEA 2004; TRC 2004c). It was concluded that there would be no significant noise impacts from increased vehicular traffic. With the lack of any sensitive receptors in the area (i.e., residences, schools, hospitals), no noise impacts were expected.

The predominant noise source in the vicinity of the Radio Tower Site is the traffic on the Turnpike, as well as vehicles and trucks on Routes 3 and 120. In addition, planes taking off and landing at Teterboro Airport provide increased noise levels for short periods of time. The operation of the indoor Amusement Park and Water Park will not lead to an increase in noise compared to ambient levels. The 2011 Traffic Impact Assessment concluded that traffic

increases from the Amusement Park and Water Park will be minimal, so any noise increase from the increase in traffic levels will be nominal (Appendix F) (TRC Engineers 2011).

Other operation-related noise, including indoor activities and heating, ventilation and air conditioning (HVAC) systems may result from operation of the Amusement Park and Water Park Project. The noise from indoor activities will be contained within the individual buildings. Noise levels due to the HVAC systems are not expected to be a significant noise issue since there are no adjacent residential areas.

Construction Phase

The construction process for a project such as that proposed at the Radio Tower Site generally occurs in the following phases:

- Ground clearing
- Excavation
- Foundations and Pile Driving
- Building construction
- Exterior finishing and cleanup

Construction equipment utilized will differ during the construction phase period. In general, heavy equipment (e.g., bulldozers, dump trucks, concrete mixers) will be used during excavation and concrete placing activities. Noise is generated during construction primarily from diesel engines which power the equipment and from pile driving. Exhaust noise usually is the predominant source of diesel engine noise, which is the reason that maintaining functional mufflers on all equipment should be a mitigative recommendation for the Amusement Park and Water Park Project.

Noise levels of construction equipment typically utilized for this type of project are presented in Table 4-14 (BBN 1971; NYSDEC 1974; NYPA 1987). Site average sound levels for each phase of construction (BBN 1971) are presented in Table 4-15. The highest site average sound levels (88 dBA at 50 feet) are associated with excavation and finishing activities.

Table 4-14

Noise Levels of Major Construction Equipment

Equipment Type	Noise Level at 50 Feet (dBA)
Pile Drivers	105
Trucks	91
Front Loaders	79
Graders	85
Bulldozers	80
Pickup Trucks	60
Backhoes	85
Concrete Mixers	85
Source: BBN 1971,NYSDEC 1974 and NYPA 1986	

Table 4-15

Typical Site Average Noise Levels at 50 Feet by Construction Activity (dBA)

Construction Phase	Noise Level at 50 Feet (dBA)
Ground clearing	84
Excavation	89
Foundations	78
Building construction	85
Exterior finishing and cleanup	89
Source: BBN 1971	

Projected construction noise levels were calculated for the Meadowlands Xanadu Redevelopment Project and reported in the August 2004 EIS (NJSEA 2004 and TRC 2004c). The calculated construction noise levels ranged up to 60 dBA for the receptor locations (Sheraton Plaza Drive and Golf Range). Pile driving was the construction activity with the highest noise level at 67 to 76 dBA. Pile driving would be the loudest construction related activity, and could be higher than existing average ambient levels at the uninhabited monitoring locations, but would be below the maximum ambient levels measured (e.g., aircraft up to 80 dBA (L_{eq}).

The results of the August 2004 EIS construction noise assessment are applicable to the Amusement Park and Water Park Project since it is immediately adjacent to the Arena Site and lies between the receptor locations studied. Similar construction noise levels are anticipated for the construction phase of the Amusement Park and Water Park Project (i.e., 60 to 76 dBA). Considering the range of construction noise levels, the existing average and maximum ambient noise levels, and the lack of adjacent sensitive receptors, it is anticipated that no significant adverse long-term noise impacts would be anticipated during construction of the Amusement Park and Water Park Project. For pile driving, however, short-term impacts could occur.

4.16.3 Mitigation

Since no significant noise impacts are expected as a result of future traffic associated with the Amusement Park and Water Park Project, no mitigation measures are necessary. Also, no noticeable increase attributable to on-site noise (e.g., HVAC, indoor noise, etc.) will be experienced during operation of the Amusement Park and Water Park Project. Sensitive receptors including residences, hospitals and schools are not near the Radio Tower Site.

In addition, no noise impacts are expected as a result of construction noise associated with the Amusement Park and Water Park Project, except for pile driving. Pile driving is anticipated to occur over a period of about 4 to 5 months during the construction phase of the Amusement Park and Water Park Project. It is anticipated that pile driving will produce noise above average background ambient conditions, even at more distant residential locations in Secaucus and East Rutherford.

The construction noise levels, including pile driver noise, are those that would be experienced by people outdoors. A building (house) will provide significant attenuation for those who are indoors. Sound levels can be expected to be up to 27 dBA lower indoors with the windows closed. Even in homes with the windows open, indoor sound levels can be reduced by up to 17 dBA (USEPA 1978). In addition, as a general good construction practice to reduce construction noise, functional mufflers will be maintained on all construction equipment.

4.17 Socioeconomics

4.17.1 Existing Conditions

The economic and demographic characteristics of the HMD region and the area surrounding the proposed redevelopment of the Arena Site were presented in the August 2004 EIS (NJSEA 2004). The Amusement Park and Water Park Project is located in the HMD. The HMD comprises over 30 square miles encompassing parts of 14 municipalities within Bergen and Hudson Counties. These municipalities include Carlstadt, East Rutherford, Little Ferry, Lyndhurst, Moonachie, North Arlington, Ridgefield, Rutherford, South Hackensack, and Teterboro in Bergen County and Jersey City, Kearny, North Bergen, and Secaucus in Hudson County.

Since 2004, the economy has been though a recession leading to a substantial increase in the unemployment rate for the Bergen County area. The Bureau of Labor Statistics reported that in Bergen County the unemployment rate was estimates at 8.1% in 2010, up from a low of 3.5% in 2007 (BLS 2011). For the State of New Jersey and the United States, the unemployment rate for 2010 was an average of 9.5% and 9.6%, respectively. The jump in the unemployment rate in Bergen County, the State of New Jersey and United States mainly reflects the national recession brought on by the turmoil in the financial markets that surfaced in late 2008. The labor force count in Bergen County has remained steady in the 478,000 person range over the last several years, but up from a low of 463,000 in 2004.

4.17.2 Impacts

Potential socioeconomics impacts resulting from the construction and operation of the redevelopment project at the Arena Site were presented in the August 2004 EIS (NJSEA 2004). Those impact analyses were based on two studies that were conducted for the Meadowlands Xanadu Redevelopment Project. The first study analyzed the economic impacts that would be expected to result from the construction and operation of the redevelopment project at the Arena Site. The second study analyzed and evaluated the demographic, economic and real estate market indicators for mixed-use development at the Arena Site.

The Amusement Park and Water Park Project does not involve residential land uses and would; therefore, not result in direct impacts on the local residential populations or demographic conditions.

The construction phase of the Amusement Park and Water Park, like the redevelopment project at the Arena Site projected in the August 2004 EIS, will result in construction related

expenditures (i.e. buildings, tangible personal property, professional/legal fees all related to project development) and related positive economic impacts are expected to occur over a two year period.

The Amusement Park and Water Park will be operated concurrently with the ERC of the American Dream Meadowlands. The economic impact of the former Meadowlands Xanadu Redevelopment Project was projected in the August 2004 EIS. The Amusement Park and Water Park will provide additional entertainment to the overall ERC, providing a positive economic impact on the redevelopment project at the Arena Site including generation of jobs and State and local taxes.

Completing the former ERC and constructing the new Amusement Park and Water Park will have immediate benefits to the State. The Developer has projected that completion of the existing ERC building and construction of the new Amusement Park and Water Park facility will create up to 9,100 construction jobs onsite over a two-year period. Further, the expected $1.8 billion in American Dream Meadowlands Project costs will generate economic multiplier effects throughout the State economy, supporting an additional 10,600 jobs and $1.5 billion in indirect business and household spending until the American Dream Meadowlands opens. Once opened, the American Dream Meadowlands will employ nearly 11,500 people onsite and generate nearly $1 billion in annual spending. This annual spending, in turn, will generate significant multiplier effects statewide by supporting an additional 5,670 jobs and $0.85 billion in statewide economic activity.

The NJSEA will provide first responder services for fire and medical emergencies. The Amusement Park and Water Park Project will also be supported by the local communities through the Mutual Aid Agreement. The American Dream Meadowlands will incorporate a full-time 24/7 on-site security force that will coordinate with the NJSEA, State Police, and East Rutherford Police. The Developer will prepare, in consultation with the NJSEA and others, an Emergency Operations Plan to address the responsibilities of different parties during emergency situations. The Developer anticipates that the American Dream Meadowlands security staff will operate with a communications system that is linked to the NJSEA system.

Executive Order No. 96 regarding Environmental Justice, signed on February 18, 2004, directed state agencies to consider the health and environmental impacts of their decision-making on low income and minority communities. In the case of the Amusement Park and Water Park Project, there are no low income or minority populations located in close proximity to the Project Area. Therefore, there will be no impacts to such populations as a result of construction or operation of the Amusement Park and Water Park Project.

4.17.3 Mitigation

Given the unique nature of the Amusement Park and Water Park Project, it is not anticipated that existing entertainment areas within the region will be impacted as a result of the operation of the Project. The Amusement Park and Water Park Project will not result in any significant change to local population or county trends. Therefore, no mitigation is required. The Amusement Park and Water Park Project is not expected to generate any significant new demands on local schools or medical facilities that currently serve the HMD and surrounding area. Therefore, no mitigation is required. Since there will be no impact on low income or minority populations, no mitigation is required.

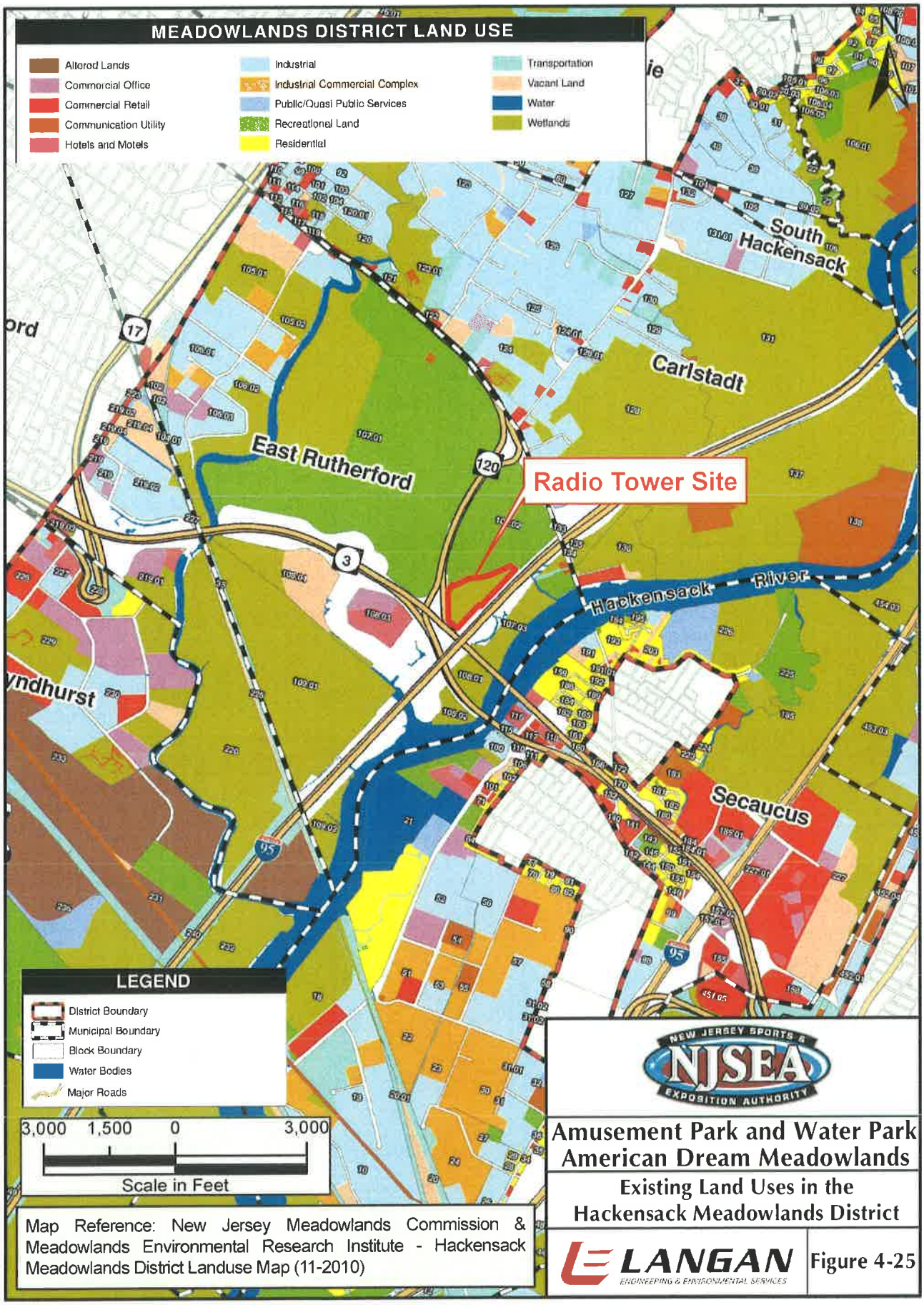
4.18 Land Use and Zoning

4.18.1 Existing Conditions

4.18.1.1 Land Use

The Radio Tower Site is located within the Hackensack Meadowlands District, where zoning and land use is overseen by the NJMC. The NJMC last updated the Hackensack Meadowlands District Master Plan in January 2004 (NJMC 2004a). The current NJMC Existing Land Use map indicates that the Radio Tower Site is "wetlands" (Figure 4-25). Existing land use of the Radio Tower Site should be considered "Communication Utility" based on the historic radio tower operations on the property. The land use map included as part of the August 2004 EIS mapped the Radio Tower Site correctly as "Communication & Utilities" (see Figure 4-44 in the August 2004 EIS). The current Land Use Plan of the Hackensack Meadowlands District maps the Radio Tower Site as "Sports and Entertainment" (Figure 4-26).

The existing land use patterns in the surrounding area have remained generally consistent with the land use patterns that existed at the time of the issuance of the August 2004 EIS. Three major development projects have been completed within the vicinity of the Radio Tower Site. The New Meadowlands Stadium Project was completed in 2010, replacing the former Giants Stadium, located to the northwest of the Radio Tower Site across Route 120, with a new stadium, now called MetLife Stadium (NJSEA 2007). The Arena Site was redeveloped with the ERC building and associated parking decks as part of Phase I and Phase II or the Meadowlands Xanadu Redevelopment Project. A Railroad Project was completed in 2010 within the parking lots of the New Meadowlands Stadium and provides rail access to the Meadowlands Sports Complex, providing a rail service connection from the Pascack Valley line to the Meadowlands Sports Complex (NJSEA 2005).



Map Reference: New Jersey Meadowlands Commission & Meadowlands Environmental Research Institute - Hackensack Meadowlands District Landuse Map (11-2010)

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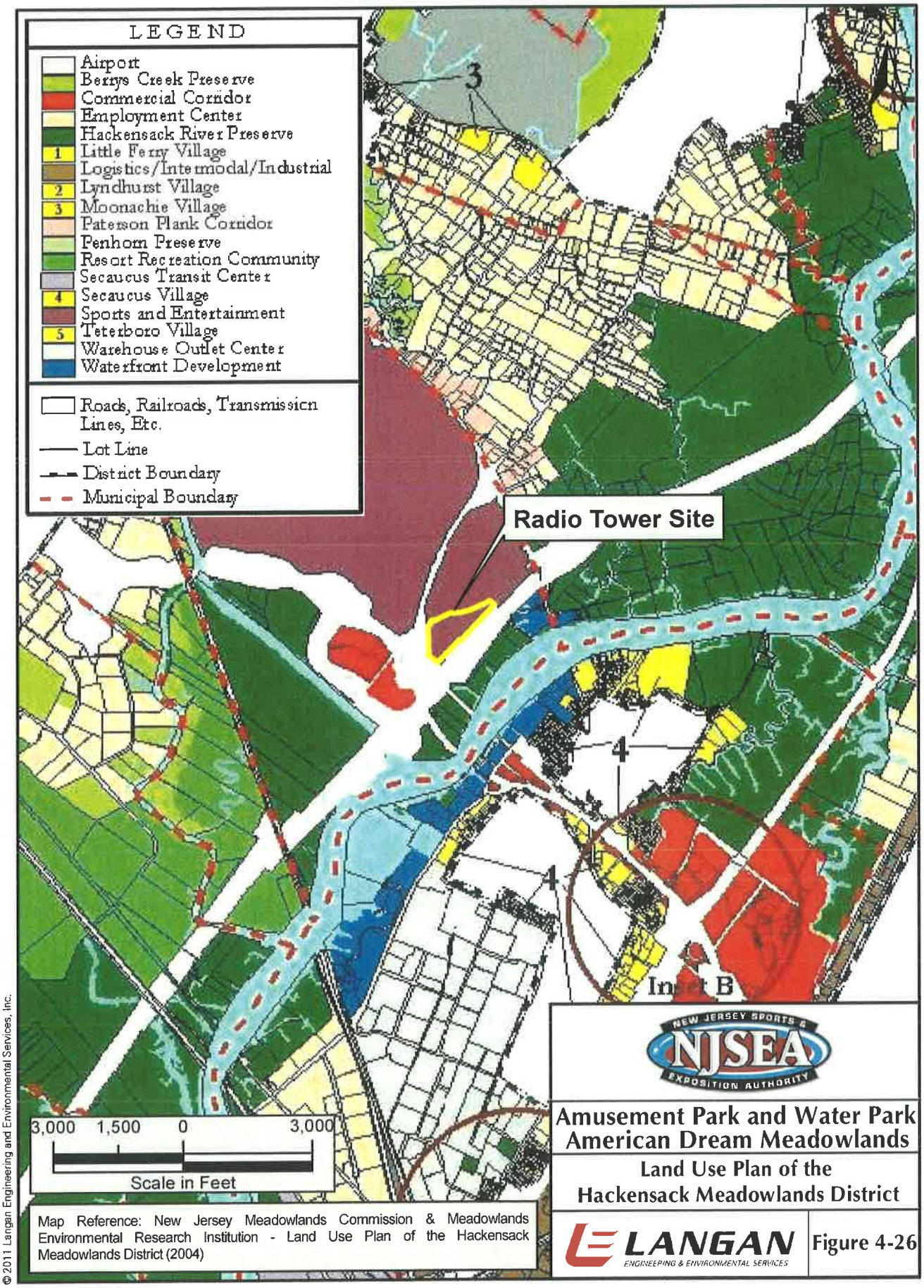
Amusement Park and Water Park
American Dream Meadowlands

Existing Land Uses in the Hackensack Meadowlands District

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Figure 4-25

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4.18.1.2 Zoning

The NJMC issued updated Zoning Regulations in April 2011 (NJMC 2011). The current NJMC zoning map designates the Radio Tower Site as a "Sports and Expositions (SEA)" zone (Figure 4-27). The Radio Tower Site is also zoned as an SEA Zone in the earlier NJMC zoning map presented in the August 2004 EIS. The current NJMC regulations define the "Sports and Exposition" zone as follows:

> "This zone is designed to accommodate major spectator sport uses and exposition and related uses built under the jurisdiction of the New Jersey Sports and Exposition Authority and to provide for the designation of land not acquired for such uses" (N.J.A.C. 19:4-5.114).

Figure 4-27 depicts the Zoning Map designations used throughout the HMD, including on and around the Radio Tower Site, while Figure 4-26 depicts the Land Use Plan designations. The zoning designation of the Radio Tower Site continues to maintain compatibility between the existing land use and proposed land use. In the NJMC's Land Use Plan portion of the Hackensack Meadowlands District's Master Plan, the Sports Complex is classified as a "Sports and Entertainment" area corresponding with the zoning designation as "Sports and Exposition" (NJMC 2004a).

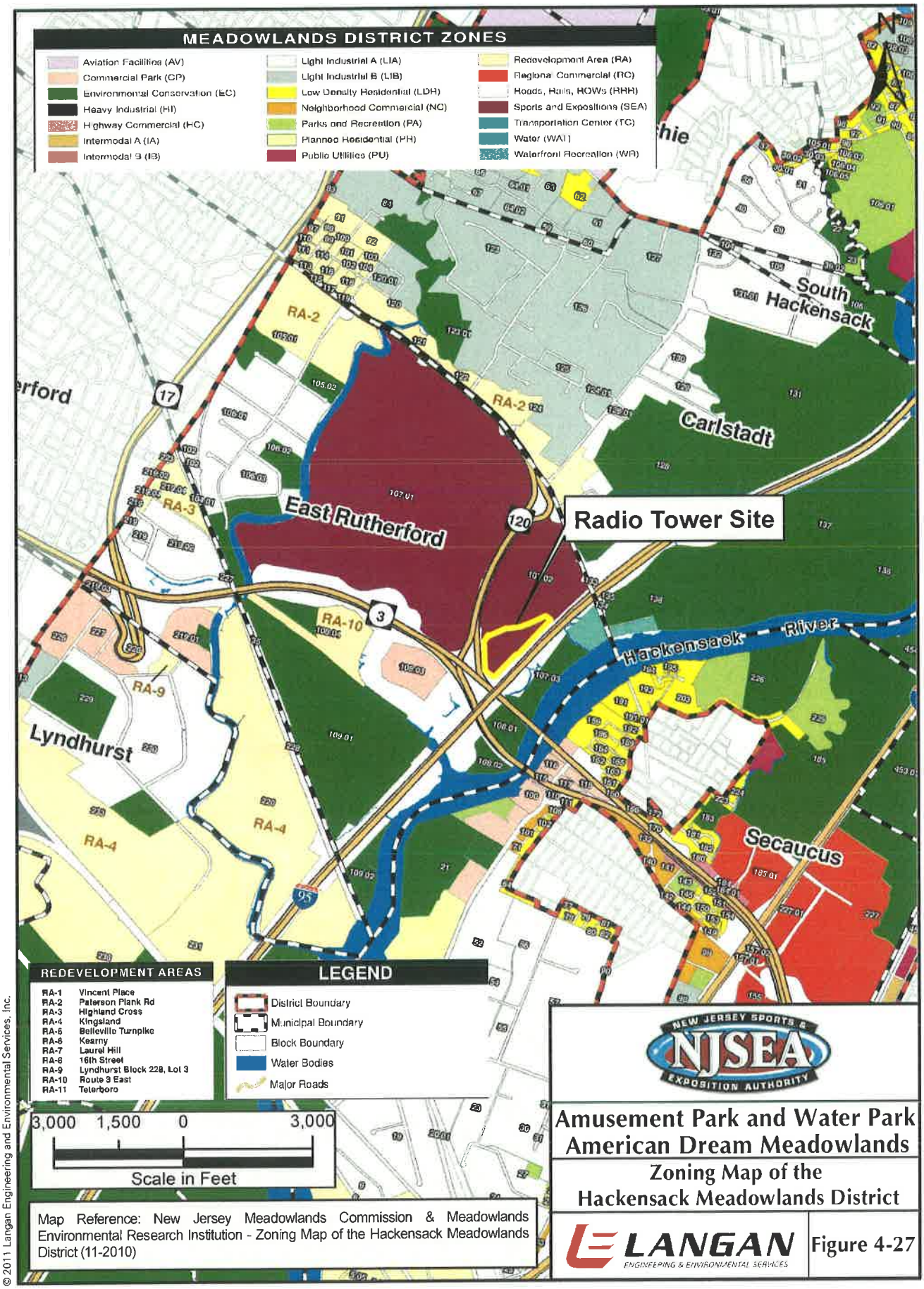
The NJMC Zoning Regulation defines the legislative exemption for lands owned by the NJSEA as follows:

> "Any land acquired by the NJSEA and subject to its jurisdiction under N.J.S.A. 5:10-1 to 5:10-26 shall be exempt from NJMC regulations." (N.J.A.C. 19:4-5.115)

Therefore, although the NJMC District Zone regulations provide a specific zoning designation for the Sports Complex, lands owned or acquired by the NJSEA are exempt from the NJMC site plan review process.

4.18.2 Impacts

The existing land use of the Radio Tower Site would be changed to an entertainment type land use with the construction and operation of the Amusement Park and Water Park. The radio towers that are currently located on the Radio Tower Site were taken out of operation in 2010. New radio towers were constructed on a site in North Bergen Township to replace these structures. The existing radio towers on the site will be razed as part of the Amusement Park and Water Park Project. The removal of the radio towers from the Radio Tower Site will resolve a land use conflict with the redevelopment of the Arena Site due to radio frequency radiation from operation of the towers.



Map Reference: New Jersey Meadowlands Commission & Meadowlands Environmental Research Institution - Zoning Map of the Hackensack Meadowlands District (11-2010)

NEW JERSEY SPORTS & EXPOSITION AUTHORITY

Amusement Park and Water Park
American Dream Meadowlands
Zoning Map of the Hackensack Meadowlands District

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Figure 4-27

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The Amusement Park and Water Park Project will provide complementary entertainment uses to the overall redevelopment of the Arena Site of the Meadowlands Sports Complex through the introduction of an additional entertainment feature: the Amusement Park and Water Park. This Amusement Park and Water Park Project will expand the land holdings of the NJSEA encompassing the Meadowlands Sports Complex, and allow for a greater utilization of a previously developed site towards the desired Sports and Entertainment land use associated with the Meadowlands Sports Complex.

Existing adjacent land uses around the Radio Tower Site include transportation, sports and entertainment (i.e., Arena Site) and open space. The Amusement Park and Water Park Project will have no significant impacts on these adjacent land uses since all of the proposed construction and operation activities are proposed within the boundaries of the Radio Tower Site. The addition of the Amusement Park and Water Park to the existing ERC will greatly enhance the redevelopment of the Arena Site.

The Amusement Park and Water Park Project will provide additional entertainment related activities at the Radio Tower Site as allowed for by the NJSEA and its implementing legislation. Therefore, the proposed Amusement Park and Water Park Project conforms to the designated "Sports and Expositions" zoning and "Sports and Entertainment" land use designations associated with the Meadowlands Sports Complex and is exempt from formal NJMC zoning review.

4.18.3 Mitigation

The Amusement Park and Water Park Project will expand the sports and entertainment land use of the Meadowlands Sports Complex. The land use is compatible with the NJMC Master Plan and zoning regulations for both the Meadowlands Sports Complex and Radio Tower Site. The Amusement Park and Water Park does not present any incompatible land uses with the adjoining areas or promote activities that are considered to be inconsistent with the intent of the "Sports and Expositions" zoning designation. Therefore, no mitigation is required.

4.19 Park Lands and Recreational Resources

4.19.1 Existing Conditions

The HMD offers a wide variety of recreational opportunities covering approximately 757 acres as shown on the HMD "Green Map" (Figure 4-28). Within the HMD, the Hackensack River functions as the focal point for education, leisure, and recreational activities. Existing waterways and wetlands add almost 7,700 acres to the recreational parklands and open space areas of the HMD. Although much of the open space in the Hackensack Meadowlands is privately owned and not publicly accessible, these open space areas do contribute to the various vistas and natural features within the HMD.

The Meadowlands Sports Complex itself is considered to be a complex of recreation facilities within the HMD and, in fact, is the largest such complex (approximately 684 acres) within the HMD. This complex includes MetLife Stadium, the Izod Center, the Meadowlands Racetrack, Meadowlands Rail Station, the Timex Performance Center, and the American Dream Meadowlands. The Sports Complex serves primarily the nearby New York/New Jersey metropolitan region, although these facilities draw many patrons from beyond the immediate metropolitan area.

No other park or recreational facility is situated in the immediate vicinity of the Radio Tower Site. The August 2004 EIS presents a discussion concerning park lands and recreational resources in general proximity to the Arena Site and Radio Tower Site (NJSEA 2004).

4.19.2 Impacts

Based on the site plan and proposed operations of the Amusement Park and Water Park Project, no direct or indirect impacts to any existing park or recreational facility will result from construction of the Project. The Amusement Park and Water Park will complement the existing recreational facilities within the HMD and to the Meadowlands Sports Complex by providing additional sports, entertainment and recreational facilities to the region.

4.19.3 Mitigation

Since the Amusement Park and Water Park Project will not result in any direct or indirect impacts to the existing or proposed parks and recreational areas within the HMD, and since the proposed entertainment parks are envisioned as supporting the recreational goals of the HMD and region as a whole, no mitigation is required.



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4.20 Historic, Archaeological and Architectural Resources

4.20.1 Existing Conditions

4.20.1.1 Background

The August 2004 EIS provides a background of the cultural, historic, and archaeological resources of the Hackensack Meadowlands and the Arena Site on the Meadowlands Sports Complex (NJSEA 2004). This regional background information is not repeated in this Draft Supplemental EIS. The reader is referenced to Section 4.20 of the August 2004 EIS for this information.

A Phase IA Cultural Resources Survey was completed for the Radio Tower Site (Appendix E; Langan 2011g). The Phase IA Cultural Resources Survey will be submitted to the New Jersey State Historic Preservation Office (SHPO) for their review. Provided below is a summary of the information and conclusions presented in the Phase1A Cultural Resources Survey.

4.20.1.2 Archaeological Resources

The Phase IA Cultural Resource Survey consisted of documentary background research and a pedestrian survey of the APE (Langan 2011g). The background research did not identify any known prehistoric or historic archaeological sites on the Radio Tower Site. Past cultural resources studies conducted within the vicinity of the APE (LBA 1995; Northern Ecological Associates 2001; Langan 2005; Schuldenrein 2009) characterized the vicinity of the APE as having little, if any, sensitivity for the possible presence of prehistoric archaeological resources. However, recent studies by Hunter Research (2009) identified the possible presence of a historic tide gate and drainage ditches associated with the drainage systems employed to drain the Hackensack Meadowlands on or adjacent to the APE. Based upon the available information the APE has been characterized as low to moderately sensitive for the possible presence of historic features associated with these above mentioned tide gate and drainage ditches.

A document search was performed to identify any registered archaeological sites as part of the survey. Examination of the New Jersey State Museum and SHPO site files, and other standard references indicate that there are no known prehistoric archaeological sites located within one mile of the archaeological APE (Skinner and Schrabisch 1913; Cross 1941). In addition, a pedestrian survey was performed of the Radio Tower Site.

The Meadowlands Sports Complex was examined during the early 1970s for the development of the Sports Complex and construction of Giants Stadium and Meadowlands Racetrack and,

later in that decade, for the Continental Airlines Arena. In 1972, an EIS for Giants Stadium and the Sports Complex described the Meadowlands Sports Complex and adjacent lands (including the Radio Tower Site) as containing wetlands, streams, ditches, dikes, woodland, and trash landfills (Jack McCormick & Associates 1972) (Figure 4-29). The Radio Tower Site was identified as a "filled land" area for Route 20 (known as N.J. Route 120 today). No specific discussion is provided, however, concerning known archaeological resources or areas of archaeological sensitivity on the tract.

In 1995 Louis Berger & Associates, Inc. conducted a Stage IA Cultural Resource Investigation (BER F233) for the Route 120 Relocation (LBA 1995). Part of the study area is adjacent to the north of the Radio Tower Site. The report concluded that the only potential archaeological sites in the study area were around the Paterson Plank Road and the Half Way Hotel, which is well north of the Radio Tower Site. No historic or archaeological resources were thought to be in the area adjacent to the Radio Tower Site. In addition, the report stated that "there are no practical methods for testing for the presence of prehistoric sites that would be buried below deep landfill and meadow mat." Berger recommended no further cultural resource investigations.

In 2005 Langan Engineering and Environmental Services, Inc. submitted a letter report for the Meadowlands Xanadu Redevelopment Project on the Arena Site (BER C598) adjacent to the north of the Radio Tower Site (Langan 2005). Langan relied upon the past cultural resource investigations conducted for the Meadowlands Sports Complex (Jack McCormick & Associates 1972), the Meadowland Arena (Jack McCormick & Associates 1978), Route 120 Relocation (LBA 1995) and the Special Area Management Plan for the Hackensack Meadowlands District. The studies indicated that the area had been previously disturbed through construction and landscape modification. Langan recommended no further cultural resource investigations.

In 2009, Hunter Research developed a historic context for the drainage system and features associated with the draining and mosquito control of the Hackensack Meadowlands for the Army Corps of Engineers (Hunter Research 2009). The drainage features illustrate constant attempt to create usable land in close proximity to New York City. The mosquito control ditches were an important reaction to the knowledge that these insects carried some infectious diseases and that mosquitos infected with these diseases could infect human populations. The study was based upon the results of previous work conducted for nearby properties in 2006. The research presented in the study identified the potential presence of a historic tide gate adjacent to the APE (i.e., Radio Tower Site). The tide gate was identified as: No. 35, a pre-1941 gate (Figure 4-30). Hunter Research did not visit the location of resource No. 35. The location

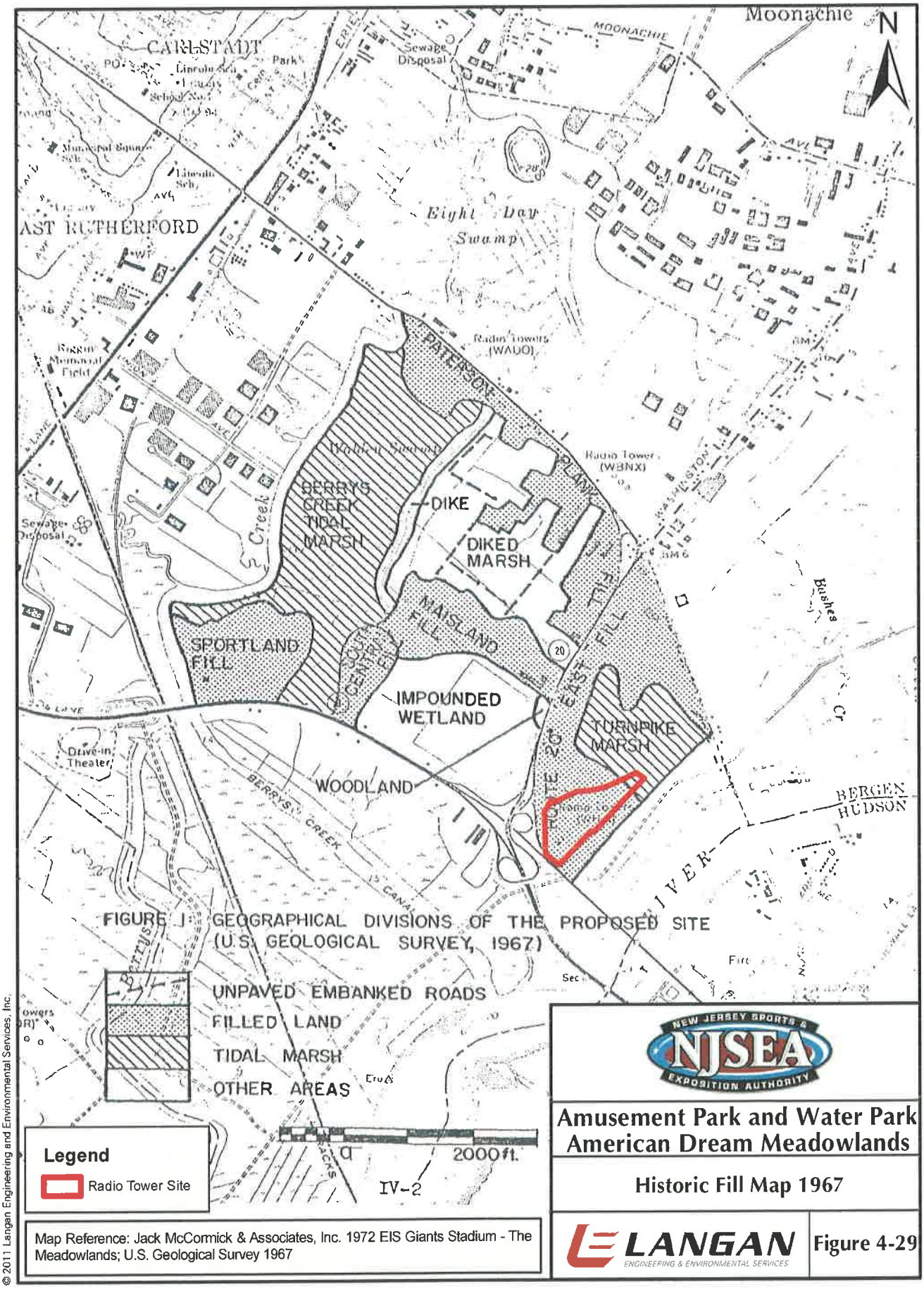


FIGURE 1: GEOGRAPHICAL DIVISIONS OF THE PROPOSED SITE (U.S. GEOLOGICAL SURVEY, 1967)

Map Reference: Jack McCormick & Associates, Inc. 1972 EIS Giants Stadium - The Meadowlands; U.S. Geological Survey 1967

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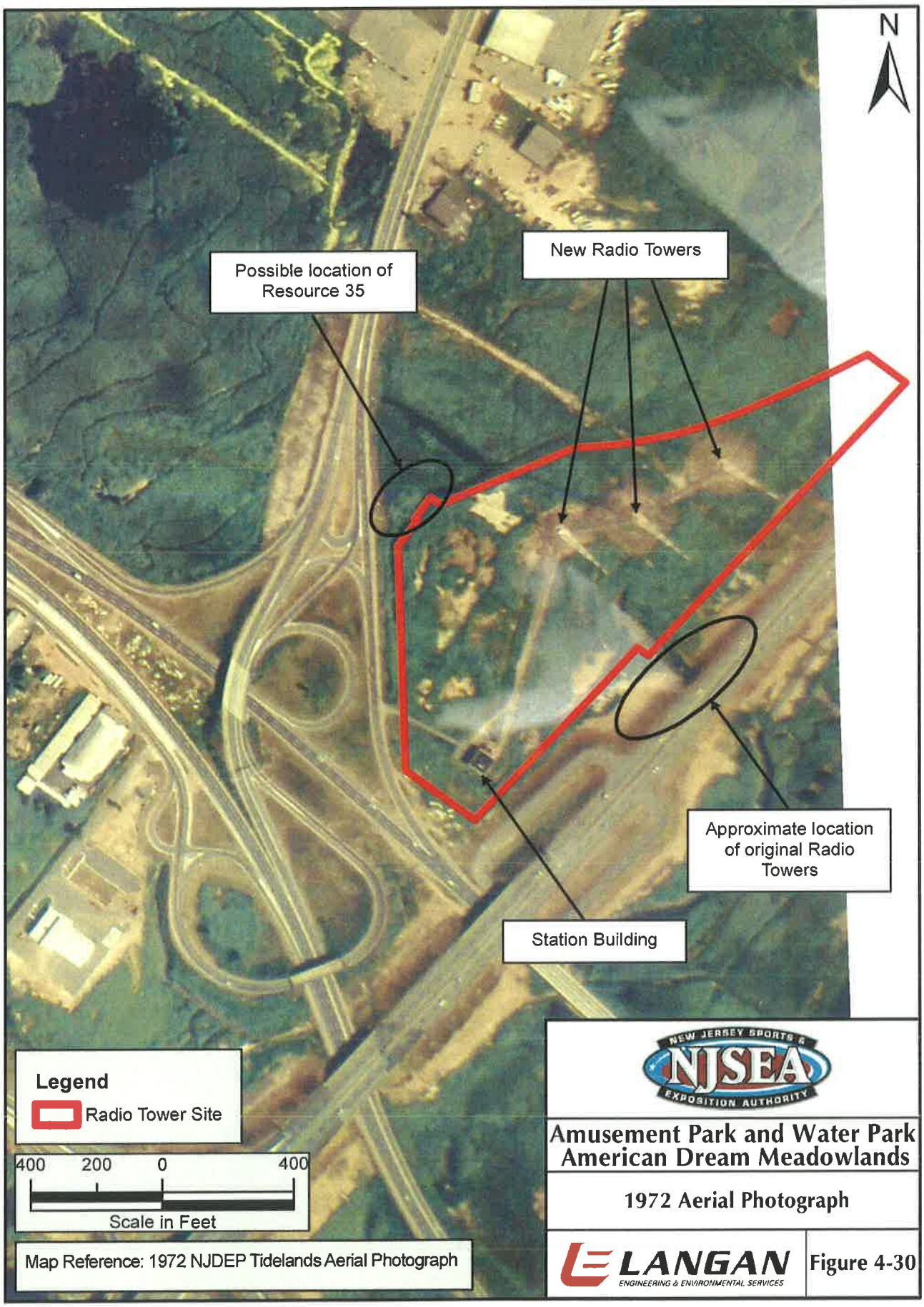
Amusement Park and Water Park
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Historic Fill Map 1967

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Figure 4-29

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was identified from cartographic resources. Other features identified by research included historic ditches on the Radio Tower Site. As part of the historic context, Hunter Research also provided a framework for the assessment of various types of potential and adverse effects as well as guidance for cultural resource recommendations and for documenting identified resources.

As part of the Phase IA Cultural Resource Survey aerial imagery for the APE dating from between 1931 and 1995 was reviewed (Langan 2011g). The aerial imagery indicates that there were several phases of modification and realignment for Route 120. None of the imagery clearly indicates the original tide gate reported by Hunter Research. The pedestrian survey included the entire western and southern boundary of the APE and did not identify any features or remains of the tide gate. The pedestrian survey did find a new retention pond and drainage ditch in the vicinity of the tide gate. However, no traces of a tide gate were found during the pedestrian survey. It is most likely that the rerouting and expansion of Route 120 has destroyed any remains of this tide gate.

Historic background research indicates that a system of drainage ditches was present within the APE since at least the 1940s. Aerial images topographic maps from the 1940s, 1950s and 1960s indicate that these ditches were similar to those described as associated with the mosquito control measures employed in the Hackensack Meadowlands (Hunter Research 2009). The imagery revealed that the ditches were located in several places within the APE. Subsequent filling in of the APE has most likely filled in the majority, if not all, of the drainage ditches. It is possible that some of the ditches to the north or the east of the radio towers at the edge of the APE still exist. These ditches would have a more natural look versus the straight lines that were typically created for drainage and mosquito control after years of not being maintained. However, it is more likely that the filling events in the APE have destroyed all traces of the drainage ditches and what can be seen in the APE today is from natural factors.

The documentary research performed for the Phase IA Cultural Resources Survey found no listed or eligible cultural resources in the APE (Langan 2011g). The pedestrian survey of the APE did not encounter any evidence of either the former drainage ditches or Resource No. 35 – Tide Gate. Based on the documentary research and the pedestrian survey, it was concluded that no prehistoric or historic archaeological resources will be affected by the Amusement Park and Water Park Project. Therefore, no further archaeological survey was recommended.

4.20.1.3 Historic Architectural Resources

As part of the Phase IA Cultural Resources Survey, research was conducted at the SHPO to determine if any buildings or properties in or near the APE have been identified as historic resources (Langan 2011g). According to SHPO records there are no National Register listed or eligible historic properties within or adjacent to the APE. The existing radio towers and radio station transmission building were evaluated for their potential as historic architectural resources.

Historic background research indicates that the radio towers currently in the APE are not the original towers constructed in 1941. These towers were constructed as a result of the construction of the New Jersey Turnpike in the location of the original towers. The current towers were constructed sometime in the 1960s or early 1970s and appear on the 1972 Aerial Photograph making them most likely less than 50 years in age.

The radio station transmission building is a raised one story brick building on a concrete foundation built in 1941(Figure 4-31). The building has been renovated several times on the inside, even as late as 2003 when Disney took over the station transmission building. The radio station transmission building is over 50 years in age and may have been associated with significant persons or events associated with radio over its history. Nationally, some radio stations and towers have been determined eligible for the National Register of Historic Places. The Amusement Park and Water Park Project will include the demolition of the radio station transmission building. Therefore, it is recommended that a Reconnaissance Level Architectural Survey be completed on the radio station transmission building to determine if there is justification for further investigation of National Register eligibility (Langan 2011f).



Figure 4-31. View of the radio transmission building in the APE, facing southeast.

4.20.2 Impacts

Review of SHPO files and several project studies dating from the 1970s to the present demonstrates that the Amusement Park and Water Park Project area contains no archaeological or architectural resources that have been listed in or determined eligible for listing in the State or National Registers of Historic Places (Langan 2011f). The available information also suggests that there are no zones of sensitivity within the Project Area that are likely to contain unidentified resources. The potential eligibility of the radio station transmission building should be evaluated. If the radio station transmission building is determined not to be eligible, the Amusement Park and Water Park Project will not have any direct impacts on cultural, historic or archaeological resources.

4.20.3 Mitigation

No mitigation is necessary at this time.

4.21 Visual and Landscape Aesthetics

4.21.1 Existing Conditions

The Meadowlands Sports Complex and Radio Tower Site are situated along the west bank of the Hackensack River near the middle of the Hackensack Meadowlands District. Most of the HMD lies close to sea level and is adjoined by ridges on the west and east that rise to elevations of more than 200 feet above sea level. To the north, the HMD is bordered by ridges that reach more than 150 feet above sea level in the city of Hackensack. In addition to the Hackensack River, the HMD includes numerous smaller watercourses and approximately 8,400 acres of undeveloped wetlands and salt marshes which comprise the more dominate natural landscape features. The balance of the HMD is comprised of a mix of residential, commercial retail, transportation, and utility infrastructure and large-scale professional sports and gaming facilities. These developments comprise the dominant man-made component of the HMD's visual landscape.

The built environment of the HMD includes hotels, roadways, commercial/industrial facilities, and residential developments. Major roadways passing through the District include the New Jersey Turnpike and N.J. Route 3. Amtrak's Northeast Corridor rail line and NJ TRANSIT's Bergen County Line and Main Line/Passaic Valley Line cross the HMD. These transportation arteries are carried on large earth fills that stand 10 to 20 feet above the surrounding terrain. Along the Hackensack River, portions of the shoreline are developed with bulkheads, small piers, and boat slips. However, where there are no bulkheads, the shoreline is typically dominated by high marsh, shrubs, emergent forbs, and mudflats.

The Meadowlands Sports Complex consists of five major facilities: the IZOD Center, MetLife Stadium, Timex Performance Center (i.e., Giants Training Center), Meadowlands Racetrack and the ERC. The space between these five facilities is comprised of paved surface parking lots and access and service roads. Smaller support buildings adjoin the racetrack. Adjoining the Meadowlands Sports Complex are major arterial highways, commercial/light industrial areas, and wetlands. The commercial and light industrial areas are comprised of small and medium-size buildings one to three stories high. A pair of high-rise commercial buildings is located approximately 0.5 miles to the south between N.J. Route 3 and the Berry's Creek Canal. The nearest residential areas are located across the Hackensack River in Secaucus, approximately one to 1.5 miles to the east. The Radio Tower Site lies to the southeast of the Arena Site on the East Side of the Meadowlands Sports Complex.

Adjacent to the Meadowlands Sports Complex and Radio Tower Site is the New Jersey Turnpike's western spur. To a passing observer on the Turnpike, MetLife Stadium, the

Meadowlands Racetrack, ERC and the IZOD Center are highly visible from both the south- and northbound lanes. The three radio towers on the Radio Tower Site are also highly visible from these roadways, but lack the mass of the large buildings on the Sports Complex. These structures can also be seen from several other roadways that serve the area including N.J. Routes 3, 17, and 120, as well as Paterson Plank Road and Washington Avenue.

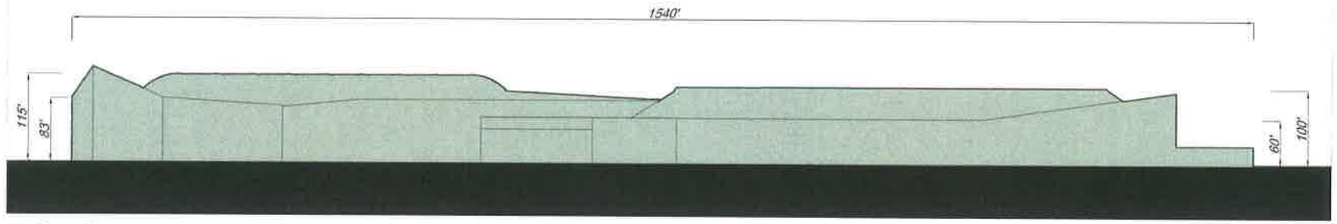
From the neighboring communities, there are only limited vantage points to see the various Sports Complex facilities. Within the HMD, views of the Sports Complex are partially buffered by shoreline features, wetland vegetation, and stretches of open water. However, the Sports Complex facilities are highly visible from various vantage points on the ridges to the west, east, and north from distances of two to four miles.

Distant views from the Project Area to the east are of the midtown Manhattan skyline, interrupted by natural gas storage tanks located on Transcontinental Gas Pipeline Co. property and the Palisades ridgeline on which the communities of North Bergen and West New York are located (USACE 2002). The commercial/industrial sections of Carlstadt limit the views to the north and west. Additional visual landmarks are the New Jersey Turnpike and the Hackensack River. Short-range or near views from the Radio Tower Site include the ERC building on the Arena Site, nearby roadways and hotels, bridges and wetlands.

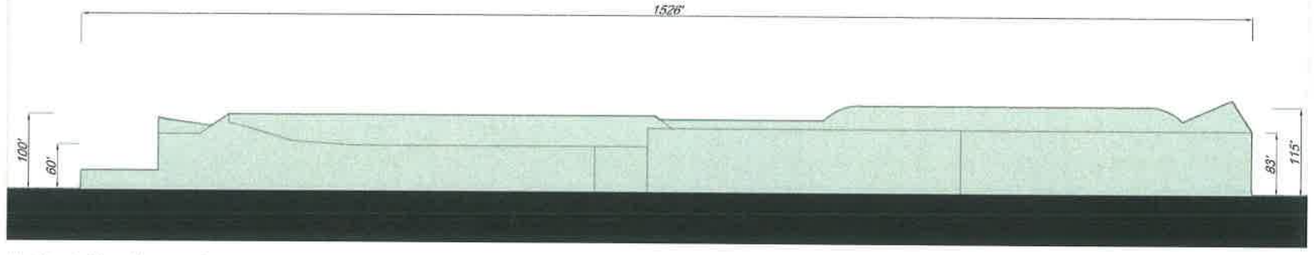
4.21.2 Impacts

The Amusement Park and Water Park will introduce an additional large structure that is a combination of a building space for the Amusement Park, a building space for the Water Park, and a building space for the adjoining common area located between the two buildings. In addition, the common area will be connected to the existing ERC by an elevated pedestrian bridge going over the East Peripheral Road. The Amusement Park and Water Park will limit views of the southern face of the ERC and view of the Turnpike.

The Amusement Park and Water Park will add to the variation of structures already constructed on the Arena Site with a new structure of varying heights and rooflines (Figure 4-32). Portions of the Amusement Park roofline will extend up to 115 feet, while the Water Park roofline will extend up to 100 feet. From N.J. Route 3, N.J. Route 120, and the New Jersey Turnpike, the Amusement Park and Water Park building will be immediate visible, with taller structures behind including the ERC and Observation Wheel. In addition, for certain rides with drop towers, a pop-up enclosure will extend vertically above the main roof of the building up to 150 feet. The Amusement Park and Water Park will add to the increasing height and diversity of the built environment at the Meadowlands Sports Complex.



South East Elevation – 1



North West Elevation – 2



Key Plan

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NJSEA

Amusement Park and Water Park
American Dream Meadowlands

Proposed Building Massing Elevation of the Amusement Park and Water Park

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Figure 4-32

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The design of the Amusement Park and Water Park Project will incorporate features that will promote visual compatibility with its surrounding, as it is expected to complement the size and massing of the ERC, Stadium and Racetrack. The exterior façade will be designed in concert with the redesign of the ERC exterior so the buildings become visually compatible.

The Amusement Park and Water Park Project will result in the redevelopment of the Radio Tower Site by introducing a large and vertical development. The Amusement Park and Water Park will result in the loss of some of the undeveloped emergent vegetation growth on the Radio Tower Site, leading to a loss of some natural landscaped areas. These areas will be changed by the introduction of a new structure and perimeter access road. The Amusement Park and Water Park will also result in a development footprint of 19 acres on the 21.75-acre Radio Tower Site. The Amusement Park and Water Park structure will form an extension of the current ERC structure, by extending the structure in a southerly direction. The height of the Amusement Park and Water Park will add additional variation to the buildings making up the ERC which range from 80 feet to over 200 feet as well as the Observation Wheel, which will extend up to 286 feet from grade.

Exterior facades of the buildings will be designed to provide a suitable appearance for a mixed-use development. The exterior of the buildings will consist of a variety of materials and finishes. The introduction of different patterns and materials will serve to give the structures scale and to articulate entrances and other major features. Building finishes may include materials such as Engineered Insulated Finished Surface (EIFS), Ethylene Tertrafluoroethylene (ETFE), metal panels, pre-cast concrete, and aluminum and glass curtain walls. Appropriate finishes, including modular masonry products, may be used to enhance select portions of the new structures. Articulated building elements may consist of painted steel frames, tensile fabric, metal mesh, and similar materials.

Various landscaping and planting schemes will be used to screen foundations, electrical and mechanical equipment, and loading docks as well as to provide an aesthetically pleasing environment. Plantings will also be introduced around the new structure, their foundations and at appropriate locations along the perimeter access road. Lighting will complement building designs and will be planned in accordance with applicable standards.

The vertical massing of the will make the Amusement Park and Water Park structure prominent from nearby roadways, especially the New Jersey Turnpike, N.J. Route 3, and N.J. Route 120. The Amusement Park and Water Park structure will result in an extension of the current ERC that will be easily seen in and around the Project Area. This additional structure will become part of the varied vertical landscape currently present in the region and will be similar in nature to other structures at the Meadowlands Sports Complex including MetLife Stadium, IZOD

Center, Timex Performance Center, the Meadowlands Racetrack, and the high-rise residences/hotels that are located along N.J. Route 3.

Through the introduction of a harmonious design of the Amusement Park and Water Park building with the ERC, it is expected that the Amusement Park and Water Park building will complement the existing elements of the Meadowlands Sports Complex and enhance the area's overall aesthetic and architectural qualities.

As discussed in Section 4.20, the cultural resources investigations conducted for the Amusement Park and Water Park did not identify any significant historic sites or structures on or within close proximity to the Arena Site. Therefore, the Amusement Park and Water Park Project will not result in any visual impacts to historic architectural features or sites.

4.21.3 Mitigation

It is anticipated that the Amusement Park and Water Park building will enhance the scenic resources of the Arena Site, Sports Complex, and adjacent areas. The disturbance and development of existing vegetated areas on the Radio Tower Site will be mitigated through the introduction of landscaped areas located in appropriate areas in the development. Landscaping of open space areas and roadway embankments will be performed. Landscaping will also be used to develop screening for electrical and mechanical equipment and loading and unloading areas. All exterior equipment at ground level, such as transformers, will be screened with compatible building façades and planting buffer areas. Loading and service areas will be screened. The Amusement Park and Water Park will be designed in such a manner as to provide compatibility with the surrounding natural setting and the nearby ERC and Meadowlands Sports Complex.

4.22 Avoidance of Adverse Environmental Impacts

The Amusement Park and Water Park Project will avoid many potential adverse environmental impacts due to the location of the Project on previously-developed land and the proposed use of existing infrastructure. In conformance with the State of New Jersey Smart Growth policies, the Amusement Park and Water Park minimizes adverse environmental impacts by using an already-developed site (i.e., Radio Tower Site) that offers redevelopment opportunities and limits the potential adverse environmental impacts compared to locating the Amusement Park and Water Park on an undeveloped site. If the Amusement Park and Water Park Project were to be constructed on an undeveloped site, adverse environmental impacts greater than those expected to occur at the Radio Tower Site, such as site clearing of forested areas, loss of wildlife habitat, loss of wetland, and changes in land use would likely occur at the undeveloped site.

In addition, the placement of the Amusement Park and Water Park Project on the Radio Tower Site allows for the use of the infrastructure improvements associated with the redevelopment of the Arena Site including roads, sewers, water mains, power lines and telephone lines such that adverse environmental impacts are avoided for connection to these services. Redevelopment of the Radio Tower Site allows the use of the existing infrastructure on the Arena Site such that offsite improvements for the Amusement Park and Water Park are only limited to drainage improvements within the Turnpike right-of-way. Potential environmental impacts from the expansion of infrastructure to service a new development on an undeveloped site are thereby avoided. Often, new development located on an undeveloped site requires extensive infrastructure improvements, such as new roadways and sewer mains, which lead to adverse environmental impacts both onsite and offsite for the construction of this new infrastructure. The placement of the Amusement Park and Water Park Project adjacent to the ERC also allows for the use of vehicular parking available for the ERC. Therefore, the Amusement Park and Water Park Project does not provide for any patron parking areas on the Radio Tower Site. This sharing of parking resources reduces the land mass required for the Amusement Park and Water Park Project compared to locating the parks on their own site. This reduced footprint avoids potential environmental impacts.

In order to provide for the necessary land area to accommodate the Amusement Park and Water Park Project immediately adjacent to the ERC, some environmental impacts on the Radio Tower Site are unavoidable. As discussed in Section 4.3.2.1, approximately 5.24 acres of tidal and non-tidal emergent wetlands would be filled on the Radio Tower Site for construction of the Amusement Park and Water Park buildings and perimeter access road; and, an additional 0.23 acres of tidal emergent wetlands would be filled to complete drainage improvements within the adjacent Turnpike right-of-way. Approximately 0.66 acres of wetlands and waters

will be temporarily impacted from the dredging of a drainage area as part of the drainage improvements for the Amusement Park and Water Park Project. Approximately 13 acres of lands on the Radio Tower Site currently within the 100-year tidal floodplain of the Hackensack River will be filled. These proposed adverse environmental impacts are necessary and unavoidable.

The design and operation of the Amusement Park and Water Park Project will be performed in a manner that avoids adverse environmental impacts through the use of proper utilities to manage and convey potable water to the buildings, and collect and direct wastewater produced within the buildings to the local public wastewater treatment plant conveyance system (see Section 4.13). A stormwater management system will be designed, permitted, constructed and maintained on the Radio Tower Site and Turnpike right-of-way to minimize any potential flooding and water quality degradation from the Amusement Park and Water Park Project. Drainage improvements within the drainage easement located on the Radio Tower Site and within the Turnpike right-of-way, associated with a 96-inch culvert which conveys runoff from the Radio Tower Site easterly towards the Hackensack River, will be performed as part of the Amusement Park and Water Park. Solid waste, including recyclables, will be collected and stored in suitable containers and disposed of in accordance with federal and state solid waste programs and regulations (see Section 4.13).

To limit potential adverse environmental impacts from the operation of the Amusement Park and Water Park to energy resources in the region, energy conservation steps will be taken during design and operation of the Project (see Section 1.5). Where feasible, low-emission equipment, energy-efficient fixtures, energy-efficient glazing, proper insulation to control heat and cooling losses, and state-of-the-art systems will be utilized.

4.23 Short-Term and Long-Term Impacts

Short-term impacts will occur during the construction phase of the Amusement Park and Water Park Project, while long-term impacts will occur from construction of the Project and during operation of the Project. This Section summarizes the potential short and long-term impacts from the Amusement Park and Water Park as identified and discussed throughout the preceding sections of this Draft Supplemental EIS.

Short-term impacts during construction of the Amusement Park and Water Park may include the following:

- Erosion and sediment loadings in construction site runoff;
- Diminished water quality due to the dewatering of subsurface excavations;
- Increased air emissions from construction equipment, construction worker vehicles, and placement of asphalt;
- Noise and dust emissions from construction equipment and construction vehicle traffic;
- Increased traffic from construction equipment and construction worker vehicles;
- Increased solid waste and sewerage production from building and infrastructure construction, and construction workers;
- Increase in construction jobs; and,
- Increase in tax revenues.

The disturbance of the Radio Tower Site and drainage improvements within the Turnpike right-of-way during the construction phase of the Amusement Park and Water Park Project will lead to soil disturbances that may erode and allow sediments to be carried in stormwater runoff into adjacent drainage features, wetlands and tributaries. The water quality of existing drainage features, adjacent wetlands, and water bodies could also be affected by dewatering discharges from temporary utility trenches. Construction equipment, such as bulldozers and pile drivers, may produce excessive noise. Dust could be produced from exposed soils and grading activities during dry weather conditions. Traffic in the area will be increased by trips to and from the Radio Tower Site by construction workers and construction equipment, and for delivery of construction materials to the site. Construction of the buildings and infrastructure will produce solid waste that will need to be managed and be properly disposed of. Workers will require sanitary facilities, from which wastes will require proper disposal.

Long-term impacts from construction and operation of the Amusement Park and Water Park Project may include the following:

- Loss of approximately 5.47 acres of wetlands from proposed filling activities and drainage improvements;
- Increased utilization of energy (electricity, gas, oil, etc.) and potable water;

- Increase in sanitary and solid wastes;
- Increase in air emissions;
- Increase in vehicular traffic in the project area;
- Increase in jobs;
- Increase in tax revenues; and,
- Decreased exposure from existing environmental hazards due to capping of the site.

The Amusement Park and Water Park Project will require the filling of a total of 5.47 acres of tidal and non-tidal wetlands for the construction of the Project and drainage improvements (see Section 4.3.2.1). These adverse impacts will be compensated by wetlands mitigation (see Section 4.3.3). The wetlands mitigation plan for the Amusement Park and Water Park Project is intended to have a significant and positive impact on wetland resources in the region and contribute to the overall restoration and preservation of important wetland complexes along the Hackensack River.

Operation of the facilities associated with the Amusement Park and Water Park Project will require the utilization of various energy sources to heat, cool, cook, illuminate and operate the amusement park rides and water park features (see Section 4.13). Potable water will be required to service the buildings, provide make-up water for the Water Park, water the landscaping, and allow for cleaning of the facilities. The development will produce additional sanitary and solid wastes that will be disposed of offsite. All of these long-term operations of the Amusement Park and Water Park Project will increase the demand for these existing services (i.e., potable water supply, wastewater treatment, energy production, etc.) in the region.

As part of the overall redevelopment project for the Arena Site, the Amusement Park and Water Park Project will contribute to an increase in air emissions to the region (see Section 4.15). The use of energy sources to operate the Amusement Park and Water Park Project will lead to increases in stationary air emissions. The Amusement Park and Water Park Project will produce a minimal increase in traffic, which in turn will lead to a minimal increase in air quality impacts from mobile sources emissions.

Combined with the ERC building and part of the American Dream Meadowlands, the Amusement Park and Water Project will have many significant, beneficial socioeconomic impacts to the NJSEA, local region, and State. Tax revenues will provide beneficial impacts to the local region and State. Jobs to the region will be increased from the Amusement Park and Water Park Project. The Amusement Park and Water Park Project will also contribute to the continuing economic development of the Meadowlands region.

4.24 Indirect and Cumulative Impacts

The Amusement Park and Water Park Project has the potential, coupled with the redevelopment of the Arena Site, other development completed and ongoing at the Meadowlands Sports Complex, and other existing and proposed developments in the region, to have indirect and cumulative impacts on environmental resources. The impact evaluations and analyses of the redevelopment project on the Arena Site was presented in the August 2004 EIS, and considered indirect and cumulative impacts, both beneficial and adverse, for a variety of environmental and socioeconomic resources (NJSEA 2004).

For the purposes of this Draft Supplemental EIS, this Section provides a summary of the potential indirect and cumulative impacts from the Amusement Park and Water Park Project on those environmental resources where impacts may meaningfully contribute to cumulative impacts to that resource on a regional scale.

For several environmental resources discussed below, the regional scale is the HMD where master planning and related impact analyses have been studied extensively (USEPA and USACE 1995; NJMC 2002; NJMC 2004a). For traffic and air quality, the larger region of northern New Jersey, as studied by transportation agencies, is the region considered for cumulative impacts (NJTPA 2003).

Land Use

The Amusement Park and Water Park Project provides a suitable and compatible land use as an additional component to the overall redevelopment project on the Arena Site at the Meadowlands Sports Complex (see Section 4.18). The "entertainment" proposed land use on the Radio Tower Site conforms to the NJMC Master Plan zoning designation of this property as "Sports and Exposition" (NJMC 2004a). Therefore, the Amusement Park and Water Park Project will not contribute to any potential adverse indirect impacts or cumulative impacts since it conforms to the overall land use designation as set forth by the NJMC for the HMD.

It is anticipated that the redevelopment of the Radio Tower Site will have beneficial indirect impacts on nearby lands, including the redevelopment project at the Arena Site. The NJMC-designated Paterson Plank Road Redevelopment Area will most likely be stimulated in growth as businesses develop to support the construction and operation of the Amusement Park and Water Park Project. Existing commercial businesses in the area such as warehouses are also likely to provide support services to the Amusement Park and Water Park Project.

Wetlands and Wildlife Habitat

The HMD contains approximately 8,400 acres of wetland and open water areas (USEPA and USACE 1995). Approximately 62 percent of the wetland and aquatic habitats in the HMD are dominated by common reed vegetation. The type of wetlands found on the Radio Tower Site, common reed tidal and non-tidal emergent wetlands, is the most common type of wetlands found within the HMD. Common reed wetlands are generally less valuable due to their diminished capacity to provide habitat other than along the edges, and their inherent higher elevations that decrease their interaction with the tidal waters.

The Amusement Park and Water Park Project will require the filling of approximately 5.47 acres of tidal and non-tidal emergent wetlands, which is less than one tenth of a percent of the total wetlands in the HMD. Since the type of wetlands to be lost, common reed wetlands, is regionally common and of less value than tidal wetlands dominated by native vegetation, the Amusement Park and Water Park Project would not lead to the loss of any special habitat type in the HMD that could contribute to certain cumulative impacts for sensitive wildlife species. The Meadowlands Xanadu Redevelopment Project required the filling of 7.54 acres (NJSEA 2004). Combined with the Amusement Park and Water Park Project, the overall redevelopment project at the Arena Site including the Amusement Park and Water Park has a cumulative impact of 13.01 acres of wetlands/waters.

The NJMC has projected in its revised Master Plan that certain development will affect wetland resources within the HMD (NJMC 2004a). Coupled with other development and transportation improvements anticipated to occur within the HMD, the Master Plan assumes that approximately 71 acres of wetland fill will occur in the future within the HMD. At the same time, the Master Plan projects preservation of the balance of the approximately 8,400 acres of wetlands and open water in the HMD. Therefore, on a cumulative basis, the Amusement Park and Water Park Project coupled with other anticipated projects in the HMD contribute to a loss of approximately one percent of the existing wetland and open water resources in the HMD.

The loss of any wildlife habitat has the potential to fragment or reduce the value of adjacent remaining habitat. The wetlands to be impacted by the Amusement Park and Water Park Project have already been fragmented from past development activities including the original construction of the Sports Complex and roadways (i.e., New Jersey Turnpike, Paterson Plank Road, and NJ Routes 120 and 3). The wetlands remaining on the Radio Tower Site are remnants of the historical tidal wetland system that has been reduced and reconfigured from previous human activities, as well as isolated wetland pockets that formed on previously filled areas. The filling of additional wetlands for the development of the Amusement Park and Water Park Project will eliminate wetland areas already isolated and fragmented from the major

wetland complexes along the Hackensack River. Therefore, the loss of these wetlands will not contribute to any additional fragmentation of existing wetland resources in the region.

The proposed wetland mitigation plan for the Amusement Park and Water Park Project will contribute to the overall restoration and preservation of major wetland complexes associated with the Hackensack River. The goal of the mitigation plan is to provide a significant benefit to the Hackensack River ecosystem, thereby providing suitable compensation for the proposed wetland impacts from the Amusement Park and Water Park Project.

Flooding

The Amusement Park and Water Park Project will result in the filling of approximately 13 acres of tidally influenced floodplain associated with the unnamed tributary to the Hackensack River. This reduction in floodplain area has the potential to impact adjacent areas that may use this area to store floodwaters. However, since the floodplain is a tidal flooding area, the loss of this flood storage area is minor compared to the large storage volume offered by the adjacent Hackensack River system and thus results in a relatively minor loss of floodplain.

Traffic

A Traffic Impact Assessment was prepared in 2011 to examine the potential for additional traffic that might result with the addition of the Amusement Park and Water Park Project to the overall redevelopment project at the Arena Site (TRC Engineers 2011) (see Section 4.14). The study concluded that the Amusement Park and Water Park Project coupled with other growth in traffic from other projects would not have any adverse cumulative impacts on the State roadways near the project area. This study is currently being reviewed by the NJDOT.

Air Quality

On a regional scale, the HMD is part of the Northern New Jersey planning region that is overseen by the NJTPA (see Section 4.15). The Amusement Park and Water Park Project will contribute to air emissions in the region from both stationary and mobile sources. The NJTPA is the MPO responsible for determining air quality conformity throughout the region. As discussed in the August 2004 EIS, the original redevelopment project at the Arena Site was included in a conforming TIP as a regionally significant non-federally funded project in 2004. The addition of the Amusement Park and Water Park Project will not require any addition roadway improvements. The 2011 Traffic Impact Assessment concluded that traffic increases from the Amusement Park and Water Park would be minimal. Therefore, the Amusement Park and Water Park should also be conforming and should not contribute to any significant cumulative air quality impacts to the region.


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WATER PARK

5.0 PERMITS AND APPROVALS REQUIRED

5.1 Overview

The Meadowlands Sports Complex is located within the boundaries of the Hackensack Meadowlands District, a land area encompassing portions of 14 different municipalities that is subject to specific state legislation that governs its development through the New Jersey Meadowlands Commission (NJMC), formerly known as the Hackensack Meadowlands Development Commission (HMDC). The Meadowlands Sports Complex, however, is exempted from the Hackensack Meadowlands District legislation by the statute governing the creation and operation of the NJSEA (*N.J.S.A. 5:10-1 et seq.*). Under Section 5(x) of this statute, the NJSEA may determine the location, type and character of a project or any part thereof and all other matters in connection with all or any part of the project, notwithstanding any land use plan, zoning regulation, building code or similar regulation adopted by the State, any municipality, county, public body politic and corporate, including but not limited to the Meadowlands Commission, or any other political subdivision of the State. This exemption applies to the redevelopment of the Radio Tower Site because the NJSEA will take ownership to the land and make the property part of the Meadowlands Sports Complex.

The NJSEA's enabling legislation, however, does require it to consult with the NJMC and the New Jersey Department of Environmental Protection (NJDEP) "with respect to the ecological factors constituting the environment of the Hackensack meadowlands to the end that the delicate environmental balance of the Hackensack meadowlands may be maintained and preserved" (*N.J.S.A. 5:10-23).* A Final Environmental Impact Statement (EIS) was prepared in August 2004 for the proposed redevelopment of the Arena Site with the Meadowlands Xanadu Redevelopment Project to facilitate the goal of NJSEA's consultation process with the NJMC and NJDEP, and meet the scope and intent of the New Jersey Executive Order No. 215 EIS process. This Draft Supplemental EIS was prepared to address the addition of the Amusement Park and Water Park to the redevelopment project at the Arena Site and inclusion of the Radio Tower Site to the Meadowlands Sports Complex.

As part of the Consultation Process, a Public Hearing is to be conducted by the NJMC and the NJDEP, where the Amusement Park and Water Park Project Draft Supplemental EIS will be presented by the NJSEA for public comment and review by both agencies, as provided for by the applicable statutory requirements. Topics being presented in this Draft Supplemental EIS in support of the consultation process are the same topics presented in the August 2004 EIS, and include purpose and need, alternatives and a wide array of environmental, socioeconomic and cultural conditions and impacts, as well as proposed mitigation measures. More detail about NJSEA's consultation process is provided in Section 6.0.

The Amusement Park and Water Park Project also requires a number of Federal, State and regional permits, approvals and certifications. Section 5.2 provides a brief history of previous approvals obtained for projects on the Meadowlands Sports Complex and the construction of the Meadowlands Xanadu Redevelopment Project. Section 5.3 discusses the material permits and approvals for the Amusement Park and Water Park Project.

5.2 Previous Approvals

The planning and construction of the Meadowlands Sports Complex was performed primarily in the 1970s (Jack McCormick and Associates 1978). Giants Stadium and Meadowlands Racetrack were completed in 1976 and the Arena was completed in 1981. In the past several years a new stadium (now called MetLife Stadium) was built and the old Giants Stadium demolished. The New York Football Giants constructed a new training facility (now called Timex Performance Center) in the western portion of the Meadowlands Sports Complex. A new rail station and rail line has been constructed on the West Side of the Meadowlands Sports Complex. The ERC building and associated parking decks associated with Phase I and Phase II of the Meadowlands Xanadu Redevelopment Project have been substantially constructed on the Arena Site (i.e., East Side of Meadowlands Sports Complex).

The development of the Meadowlands Sports Complex in the 1970s required a number of regulatory reviews, permits, and approvals. Consultations were undertaken by the NJSEA with the NJMC and NJDEP in accordance with the NJSEA enabling legislation. The first consultation process occurred in 1972 for the selection of the overall Sports Complex site in the Hackensack Meadowlands and for the first phase of construction of the Sports Complex (HMDC and NJDEP 1972). That first phase included Giants Stadium and Meadowlands Racetrack, as well as parking for 20,000 cars and 400 buses. The second consultation process occurred in 1978, after the NJSEA announced its intention to build an indoor multi-purpose arena (HMDC and NJDEP 1978). At the conclusion of each of these two consultation processes, a Hearing Officers' Report that provided recommendations concerning the proposed Meadowlands Sports Complex facilities was issued and approved by the NJMC and the NJDEP (HMDC and NJDEP 1972; HMDC and NJDEP 1978). Subsequently, additional consultations have occurred for the Meadowlands Xanadu Redevelopment Project, Meadowlands Railroad and Roadway Improvement Project, and the New Meadowlands Stadium Project.

The Meadowlands Xanadu Redevelopment Project required a number of federal, state and regional permits and approvals. Some of the permits and approvals obtained for the construction of the Meadowlands Xanadu Redevelopment Project include:

- U.S. Army Corps of Engineers Department of the Army Permit
- FAA Hazard To Air Navigation Approvals
- NJDEP Land Use Regulation Permits
- NJDEP Treatment Works Approval
- NJDEP Water Main Extension Certification
- NJDEP Approval of Remedial Action Workplan
- NJDOT Major Access Permit

5.3 Required Regulatory Approvals

The requirement for NJSEA to consult with the NJMC and NJDEP concerning potential impacts to the ecological balance of the Hackensack Meadowlands, as well as the preparation of this Draft Supplemental EIS to facilitate this consultation process for the review of the Amusement Park and Water Park Project, was discussed previously in Section 5.1. Separate and apart from the NJSEA's consultation process, the proposed Amusement Park and Water Park Project will be required to be reviewed under separate permit and approval processes. This section discusses each of the required regulatory approvals for the Amusement Park and Water Park Project.

Additional permits to those listed and discussed below may also be required for construction and operation of the Amusement Park and Water Park Project. For instance, air permits may be required from the NJDEP for the operation of any significant stationary sources associated with the project such as emergency generators. These permits, as necessary, will be applied for in the future.

5.3.1 Department of the Army Permit

Under Section 10 of the Rivers and Harbors Act and Section 404(b)(1) of the Clean Water Act, the proposed filling of wetlands for construction of the Amusement Park and Water Park Project will require a Department of the Army permit from the USACE. Due to the estimated 5.4 acres of wetlands fill impacts associated with the Amusement Park and Water Park Project, an individual wetlands permit will be required. As part of the USACE review process, several other Federal regulatory agencies, including the USEPA, U.S. Fish and Wildlife Service (USFWS), and National Marine Fisheries Service (NMFS) are expected to provide comments to the USACE on the permit application. A permit application was submitted to the USACE on October 11, 2011 (Langan 2011b).

As part of its review of the permit application, the USACE is expected to prepare an Environmental Assessment (EA) in accordance with the Council on Environmental Quality's (CEQ) regulations implementing NEPA (40 CFR Part 1500-1508) and USACE's regulations for NEPA implementation (see 33 CFR Parts 230 through 325). In addition, the USACE will perform an evaluation of the Amusement Park and Water Park Project under the Section 404(b)(1) Guidelines as part of its permit application review process.

5.3.2 Jurisdictional Determination

As a prelude to the Department of the Army permit, a request for a USACE Jurisdictional Determination (JD) to confirm the extent of waters of the United States (i.e., wetlands and waters) within the Radio Tower Site was submitted to the USACE by the Developer on August 1, 2011 (Langan 2011a). A field visit by the USACE was performed on August 12, 2011. The USACE issued a JD letter dated September 30, 2011 confirming the extent of regulated waters of the United States within the Radio Tower Site (see correspondence in Appendix A).

A request for a Jurisdictional Determination for a section of the Turnpike right-of-way where drainage improvements are proposed as part of the Amusement Park and Water Park Project will be prepared and submitted to the USACE for their review and approval.

5.3.3 Water Quality Certification

Under Section 401 of the Federal Clean Water Act and in accordance with the State Water Pollution Control Act, a Water Quality Certificate (WQC) is required from the State of New Jersey for the proposed discharge of fill to waters of the State (i.e., filling of wetlands). This approval is required as part of and prior to the USACE issuance of a Department of the Army permit. A multi-permit application, including a WQC request, will be submitted to the NJDEP Division of Land Use Regulation in the near future.

5.3.4 Waterfront Development Permit

Under the Waterfront Development regulations (N.J.A.C. 7:7-1.1 et seq.), a Waterfront Development Permit is required for development activities at and below the mean high water line. Since a portion of the drainage area improvements proposed as part of the Amusement Park and Water Park Project will be performed in areas at and below the mean high water line, compliance with these regulations is required. A multi-permit application, including a Waterfront Development permit, will be submitted to the NJDEP Division of Regulation in the near future.

5.3.5 Tidelands Conveyance

A tidelands, or riparian, conveyance instrument will not be required for the Amusement Park and Water Park Project since a series of tidelands grant have been issued by the State of New Jersey for the Radio Tower Site and Turnpike right-of-way where Amusement Park and Water Park Project activities are proposed (see Section 4.6 for further discussion).

5.3.6 Flood Hazard Area Permit

Under the Flood Hazard Area Control Act regulations (N.J.A.C. 7:7-1.1 et seq.), a Flood Hazard Area permit is required for development activities in floodplains, floodways and associated riparian zones. Portions of the Amusement Park and Water Park Project will be performed within areas designated as tidally influenced floodplains, tidal floodways and riparian zones (see Section 4.5.2). A multi-permit application, including a Flood Hazard Area permit, will be submitted to the NJDEP Division of Land Use Regulation in the near future. The application will also include a request for a Flood Hazard Area Verification.

5.3.7 Coastal Zone Management Consistency Determination

Under the Federal Coastal Zone Management Act, a Coastal Zone Management Consistency Determination (CZMCD) is required from the State for any development activities in the Coastal Zone requiring a Federal permit. Given the need to obtain a Department of the Army permit from the USACE for the Amusement Park and Water Park Project, CZMCD approval is also required as part of, and prior to, the USACE issuance of a permit. A multi-permit application, including a request for CZMCD, will be submitted to the NJDEP Division of Land Use Regulation in the near future.

5.3.8 Treatment Works Approval

Under Section 404 of the Federal Clean Water Act, a permit is required for discharges to surface waters of the State. Presently, wastewaters from the Arena and ERC building utilize existing approved infrastructure components, such as sewer lines and a pumping station, which discharge to the East Rutherford pump station, located northwest of the Meadowlands Racetrack. The East Rutherford pump station conveys sewerage to the Bergen County Utilities Authority (BCUA) wastewater plant in Little Ferry, New Jersey. Additional wastewater conveyance systems will be required for the Amusement Park and Water Park Project.

The NJDEP Treatment Works Approval (TWA) regulations specifically address sanitary sewer systems and their associated discharges. Sewerage infrastructure improvements will be required on the Radio Tower Site and Arena Site to accommodate the flows from the Amusement Park and Water Park Project. A TWA permit will be required from the NJDEP for

improvements, modifications and/or additions to the existing sewer infrastructure on the Arena Site and additional flows from the Amusement Park and Water Park Project, and will be submitted to the NJDEP in the near future. Endorsements from East Rutherford and BCUA will be required as part of completing the TWA application. The Amusement Park and Water Park Project is situated within a designated service area for the BCUA Little Ferry facility (see Section 4.13.1.2). Therefore, the Amusement Park and Water Park Project is within the acceptable service area, and no amendment will be required to the existing Area-wide Water Quality Management Plan.

5.3.9 Water Main Extension Certification

Under the State's water supply laws, certification of plans for the construction of new water main extensions is required. A Water Main Extension Certification application will be submitted to the NJDEP in the near future for improvements, modifications and/or additions to the existing potable water infrastructure for the Amusement Park and Water Park Project.

5.3.10 National Pollutant Discharge Elimination System Permit

Under the New Jersey Water Pollution Control Act, a New Jersey Pollutant Discharge Elimination System Permit (NJPDES) is required for discharges into surface waters of the State. The Amusement Park and Water Park will require a NJPDES Construction Stormwater General Permit for the construction phase of the Amusement Park and Water Park Project. A Stormwater Pollution Prevention Plan (SPPP) will be prepared as part of this Construction Stormwater General Permit. A separate NJPDES permit may be required for construction dewatering discharges to surface water depending on the method of dewatering selected by the contractor.

5.3.11 Remedial Action Workplan

Based on the results of recent investigations including the Preliminary Assessment Report (Appendix B) and the Site Investigation Report (Appendix C) for the Amusement Park and Water Park Project, soil, groundwater, and sediments within the Radio Tower Site have been determined to have contaminant concentrations above certain defined regulatory levels (Langan 2011c and Langan 2011d). Since the construction of the Amusement Park and Water Park Project will include the disturbance of contaminated media, a Licensed Site Remediation Professional (LSRP) will be overseeing the investigation and remedial actions necessary in accordance with the New Jersey Site Remediation Reform Act, N.J.S.A. 58:10C-1 et seq. (SRRA) and other applicable law. A Remedial Action Workplan (RAW), including a Soil Reuse Plan (SRP), and Health and Safety Plan will be prepared by the LSRP.

5.3.12 Soil Erosion and Sediment Control Plan Certification

In conformance with the Soil Erosion and Control Act of 1975, an application for Soil Erosion and Sediment Control Plan Certification will be submitted to the Bergen County Soil Conservation District in the near future.

5.3.13 New Jersey Uniform Construction Code Plan Approval

The design of the Amusement Park and Water Park structures will have to conform to the New Jersey Uniform Construction Code, including the barrier free sub-code, and receive approval from the Department of Community Affairs (DCA). The Developer will submit the necessary plans and specifications to the DCA as required for a plan review under the New Jersey Uniform Construction Code.

5.3.14 NJDOT Major Access Permit

The Amusement Park and Water Park Project is expected to generate a minimal amount of traffic compared to the other components of the redevelopment project at the Arena Site (Appendix F) (TRC Engineers 2011). Based on recent discussions with the NJDOT and in accordance with the New Jersey Highway Management Access Code 16:47, it was determined that a Major Access Permit (Without Planning Review) Application would be submitted to the NJDOT to allow for the review of the potential traffic increases associated with the Amusement Park and Water Park Project.


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6.0 PUBLIC PARTICIPATION & STATUTORY CONSULTATION

6.1 Statutory Consultation Requirement / Executive Order No. 215

Section 5:10-23 of the New Jersey Statutes Annotated requires the NJSEA, when undertaking projects, to consult with the New Jersey Meadowlands Commission (NJMC) and the New Jersey Department of Environmental Protection (NJDEP) with respect to ecological factors constituting the environment of the Hackensack Meadowlands, to the end that the delicate environmental balance of the Hackensack Meadowlands may be maintained and preserved. In addition, Section 5:10-5(x) requires the NJSEA to consult with the NJMC with respect to the project location, type and use.

The procedures for consulting with the NJMC and NJDEP pursuant to N.J.S.A. 5:10-5(x) and 23 were established by the New Jersey Supreme Court decision in New Jersey Sports and Exposition Authority v. McCrane, et al., 61 N.J. 1 (1972) made during the NJSEA's original site selection for the Sports Complex in the Meadowlands. The Court held that private consultation between the NJSEA, the NJDEP and the NJMC (formerly known as the Hackensack Meadowlands Development Commission, or the HMDC) on the Sports Complex project was not alone sufficient to fulfill the statutory consultation requirement and should be supplemented to include a public hearing at which all interested parties should be entitled to present their views. The Court also held that the hearing would be legislative in nature; the presentation could be made to both agencies at the same time; and a full record of the hearing should be made on which any further review would be based. New Jersey Sports and Exposition Authority v. McCrane, 61 N.J. 1 (1972).

A public hearing was held in 1972 at which an environmental impact statement was presented by the NJSEA to hearing officers appointed by the NJMC and the NJDEP, and public comments were received and considered by the hearing officers. The hearing officers then prepared their report and recommendations which were approved by the NJMC and the NJDEP. This consultation process was upheld by the New Jersey Supreme Court. Matter of Sports Complex in the Hackensack Meadowland, 62 N.J. 248 (1973).

In 1978, another public hearing was held as part of the consultation process for the development of the Arena Site before hearing officers appointed by the NJMC and the NJDEP. The NJSEA presented an environmental impact statement to the hearing officers. Public comments were received and considered by the hearing officers. The hearing officers then prepared their report and recommendations which were approved by the NJMC and the NJDEP. Among their findings, the hearing officers concluded that the consultation process had

the effect of fulfilling the requirements of Executive Order No. 53, an environmental process related to State actions at that time.

Executive Order 215 ("EO 215"), which was signed by Governor Kean on September 11, 1989, rescinded and replaced Executive Order No. 53. EO 215 provides that all departments, agencies and authorities of the State shall prepare and submit to the NJDEP an environmental assessment (EA) or environmental impact statement (EIS) in support of major construction projects. The NJSEA's enabling legislation contains provisions which appear to exempt it from EO 215. Further, EO 215 does not require any public comment or hearing on the EIS, but rather, only requires review by the NJDEP.

The consultation process with the NJMC and the NJDEP required by N.J.S.A. 5:10-5(x) and 23 includes a public hearing. Thus, the NJSEA determined that for the Amusement Park and Water Park, which will become part of the overall redevelopment plan for the Arena Site, a Draft Supplemental EIS to the original August 2004 EIS would be prepared consistent with EO 215 and will present it to the NJMC and the NJDEP at the public hearing scheduled as part of the consultation process. Upon completion of the consultation process, the NJSEA will request that the hearing officers find that the consultation process has the effect of fulfilling the requirements of EO 215.

6.2 Permits

The Developer has applied or will apply for permits required for the Amusement Park and Water Park Project from federal and state governmental agencies. Each permit application has its own separate procedures which may or may not include a public hearing separate and apart from the consultation process with the NJMC and the NJDEP. Further details about the permit requirements of these governmental agencies and the status of each permit application process as it relates to the Amusement Park and Water Park Project appears in Section 5.0.

6.3 Consultation Schedule for the Amusement Park and Water Park Project

The NJSEA and the Developer began the consultation process for the Amusement Park and Water Park Project by meeting with the NJMC and the NJDEP to discuss the procedures and schedule for public hearings and preparation of this Draft Supplemental EIS.

This Draft Supplemental EIS is being submitted to the NJMC and the NJDEP on October 25, 2011. From that date until the close of business on December 19, 2011, the public is entitled to submit written comments on this Draft Supplemental EIS to the hearing officers appointed by the NJMC and the NJDEP addressed as follows:

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P. O. Box 402
Trenton, NJ 08625

Locations where this Draft Supplemental EIS may be reviewed are: the NJMC Library, One DeKorte Park Plaza, Lyndhurst, NJ 07071; the NJMC website (www.meadowlands.state.nj.us); the NJSEA office at the Racetrack in East Rutherford, NJ 07073; and the public libraries in the Hackensack Meadowlands District listed in Section 6.5. Copies of this Draft Supplemental EIS are also available on the NJSEA website (www.njsea.com).

It is anticipated that Consultation Public Hearings will be held on Tuesday, November 15, 2011 from 10:00 a.m. to 12:00 p.m. and 6:00 p.m. to 8:00 p.m., and on Wednesday, November 16, 2011 from 10:00 a.m. to 12:00 p.m. and 6:00 p.m. to 8:00 p.m. to obtain public comments on this Draft Supplemental EIS. The hearings will be held before the NJMC and NJDEP hearing officers at the Racetrack Pegasus facility at the Meadowlands Sports Complex at State Route 120, East Rutherford, New Jersey 07073.

At the hearing, the NJSEA will present an overview of the Amusement Park and Water Park Project and this Draft Supplemental EIS to the hearing officers appointed by the NJMC and NJDEP. Persons who attend the hearing and wish to speak and/or to present written information on this Draft Supplemental EIS to the hearing officers will be entitled to do so.

After the close of the public comment period on December 19, 2011, the NJSEA will complete the Final Supplemental EIS, which will include responses to the public comments received at the hearing and during the public comment period, and will submit it to the NJMC and the NJDEP. The hearing officers will then prepare their report and recommendations.

Copies of the Final Supplemental EIS will be made available to the public in January 2012, and public comments can be provided to the Hearing Officers 30 days open publication of the Final Supplemental EIS. The Hearing Officers Report and Recommendations will be made available for public review at the locations listed above on or about March 9, 2012. If not completed by that date, they will be made available as soon as practicable thereafter.

6.4 Libraries Where This Draft Supplemental EIS Is Available

In addition to copies available at the NJMC Library, the offices of the NJSEA, and the website, this Draft Supplemental EIS is available for public review by October 25, 2011, and the Final Supplemental EIS and the report and recommendations of the hearing officers will be made available on or about March 9, 2012, at the following municipal libraries serving the Hackensack Meadowlands District:

Wm. E. Dermody Public Library
420 Hackensack Street
Carlstadt, N.J. 07072

East Rutherford Memorial Library
143 Boiling Springs Avenue
East Rutherford, N.J. 07073

Jersey City Public Library
472 Jersey Avenue
Jersey City, N.J. 07302

Kearny Public Library
318 Kearny Avenue
Kearny, N.J. 07032

Little Ferry Public Library
239 Liberty Street
Little Ferry, N.J. 07643

Lyndhurst Library
355 Valley Brook Avenue
Lyndhurst, N.J. 07071

North Arlington Public Library
210 Ridge Road
North Arlington, N.J. 07032

North Bergen Free Public Library
8411 Bergenline Avenue
North Bergen, N.J. 07047

Ridgefield Free Public Library
725 Slocum Avenue
Ridgefield, N.J. 07657

Rutherford Public Library
150 Park Avenue
Rutherford, N.J. 07070

Secaucus Public Library
1379 Paterson Plank Road
Secaucus, N.J. 07094

For Moonachie, South Hackensack and Teterboro:

Johnson Public Library
274 Main Street
Hackensack, N.J. 07601

Wood-Ridge Memorial Library
231 Hackensack Street
Wood-Ridge, N.J. 07075

For further information on how and where to access copies of the complete Draft Supplemental EIS document, please check the NJSEA's website at www.njsea.com.


PARKING DECK "A"
ENTERTAINMENT / RETAIL
PARKING DECK "BCD"
IZOD CENTER
ENTERTAINMENT / RETAIL
PARKING DECK "E"
ENTERTAINMENT RETAIL
AMUSEMENT PARK
WATER PARK

7.0 LIST OF ACRONYMS

AOC	Area of Concern
BCUA	Bergen County Utilities Authority
BMP	Best Management Practices
CAA	Clean Air Act
cfs	cubic feet per second
CIWMB	California Integrated Waste Management Board
CO	Carbon Monoxide
CSO	Combined Sewer Overflow
dB	Decibel
dBA	A-Weighted Decibel
DCA	Department of Community Affairs
DO	Dissolved Oxygen
EIFS	Engineered Insulated Finish Surfaces
EIS	Environmental Impact Statement
EMS	Emergency Medical Services
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
gpd	Gallons per Day
gpm	Gallons per Minute
GWQC	Ground Water Quality Criteria
HASP	Health and Safety Plan
HC	Hydrocarbons Compounds
HMD	Hackensack Meadowlands District
HMDC	Hackensack Meadowlands Development Commission
HVAC	Heating, Ventilation, and Air Conditioning Systems
Hz	Hertz
JD	Jurisdictional Determination
L_{dn}	Day-Night Noise Level
L_{eq}	Equivalent Sound Level
LURP	Land Use Regulation Program
L_x	Statistical Sound Level
mgd	Millions of Gallons per Day
mg/l	Milligrams per Liter
MOA	Memorandum of Agreement
MPO	Metropolitan Planning Organizations
MTA	Metropolitan Transportation Authority
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NGVD	National Geodetic Vertical Datum
NHP	National Heritage Program
NJDEP	New Jersey Department of Environmental Protection
NJDOT	New Jersey Department of Transportation

NJMC	New Jersey Meadowlands Commission
NJPDES	New Jersey Pollutant Discharge Elimination System
NJSEA	New Jersey Sports and Exposition Authority
NJT	NJ Transit
NJTA	New Jersey Turnpike Authority
NJTPA	New Jersey Transportation Planning Authority
NMFS	National Marine Fisheries Service
NO	Nitric Oxide
NO_2	Nitrogen Dioxide
NO_X	Nitrogen Oxides
NOAA	National Oceanographic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NRDCSCC	Non-Residential Direct Contact Soil Clean-Up Criteria
NRHP	National Register of Historical Places
O_3	Ozone
OSHA	Occupational Safety and Health Administration
PA	Preliminary Assessment
PABT	Port Authority Bus Terminal
PAH	Polynuclear Aromatic Hydrocarbons
PANYNJ	Port Authority of New York and New Jersey
Pb	Lead
PCBs	Polychlorinated Biphenyl Compounds
PILOT	Payments in Lieu of Taxes
PM	Particulate Matter
ppm	parts per million
ppt	parts per trillion
PSEG	Public Service Enterprise Group
PSE&G	Public Service Electric & Gas Company
psi	Per Square Inch
RAW	Remedial Action Work Plan
RCRA	Resource Conservation and Recovery Act
RDSCC	Residential Direct Contact Soil Clean-Up Criteria
RFP	Request for Proposal
RONA	Record of Non-Applicability
RTP	Regulatory Transportation Planning
SAMP	Special Area Management Plan
SCD	Soil Conservation District
SE-2	NJDEP classification "estuarine" waters
SESC	Soil Erosion and Sediment Control
SF	Square Feet
SHPO	State Historic Preservation Office
SIR	Site Investigation Report
SIP	State Implementation Plan
SRP	Sulfur Dioxide
SO_2	Sulfur Dioxide
SU	Standard Units
SVOC	Semi-Volatile Organic Compound

SWPP	Stormwater Pollution Prevention Plan
TIP	Transportation Improvement Program
TPHC	Total Petroleum Hydrocarbons
TSP	Total Suspended Particulates
TTMP	Traffic and Transportation Management Program
TWA	Treatment Work Approval
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USDOI	United States Department of the Interior
USDOT	United States Department of Transportation
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UWNJ	United Water New Jersey
VOC	volatile organic compound
WMA	Watershed Management Area
WQC	Water Quality Certificate


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PARKING DECK "BCD"
IZOD CENTER
ENTERTAINMENT / RETAIL
PARKING DECK "E"
ENTERTAINMENT RETAIL
AMUSEMENT PARK
WATER PARK

8.0 REFERENCES

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PARKING DECK "E"
ENTERTAINMENT RETAIL
AMUSEMENT PARK
WATER PARK

9.0 LIST OF PREPARERS

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APPENDIX A

AGENCY CORRESPONDENCE

APPENDIX A

AGENCY CORRESPONDENCE

AMUSEMENT PARK AND WATER PARK
AMERICAN DREAM MEADOWLANDS
DRAFT FINAL SUPPLEMENTAL EIS

1. Letter from NJDEP Division of Parks and Forestry, Natural Heritage Program, dated August 29, 2011.

2. E-mail from Megan Brunatti, American Dream Permit Readiness Checklist – NJDEP Program Comments, dated July 25, 2011.

3. Letter from United States Department of Commerce (NOAA), National Marine Fisheries Service, dated September 18, 2011.

4. Jurisdictional Determination Letter from USACE New York District, dated September 30, 2011.

5. US Army Corps of Engineers New York District Public Notice, dated October 14, 2011.

State of New Jersey

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

DEPARTMENT OF ENVIRONMENTAL PROTECTION
Division of Parks and Forestry
Mail Code 501-04
ONLM -Natural Heritage Program
P.O. Box 420
Trenton, NJ 08625-0420
Tel. #609-984-1339
Fax. #609-984-1427

BOB MARTIN
Commissioner

August 29, 2011

David Charette
Langan Engineering and Environmental Services, Inc.
River Drive Center 1
Elmwood Park, NJ 07407

Re: American Dream Meadowlands (Block 107.02, Lot 3)

Dear Mr. Charette:

Thank you for your data request regarding rare species information for the above referenced project site in East Rutherford Borough, Bergen County.

Searches of the Natural Heritage Database and the Landscape Project (Version 3 for the highlands region, Version 2.1 elsewhere) are based on a representation of the boundaries of your project site in our Geographic Information System (GIS). We make every effort to accurately transfer your project bounds from the topographic map(s) submitted with the Request for Data into our Geographic Information System. We do not typically verify that your project bounds are accurate, or check them against other sources.

We have checked the Natural Heritage Database and the Landscape Project habitat mapping for occurrences of any rare wildlife species or wildlife habitat on the referenced site. Please see Table 1 for species list and conservation status.

Table 1 (on referenced site).

Common Name	Scientific Name	Federal Status	State Status	Grank	Srank
glossy ibis	*Plegadis falcinellus*		SC/S	G5	S3B,S4N
northern harrier	*Circus cyaneus*		E/SC	G5	S1B,S3N
snowy egret	*Egretta thula*		SC/S	G5	S3B,S4N
yellow-crowned night-heron	*Nyctanassa violacea*		T/T	G5	S2B,S2N

Neither the Natural Heritage Database nor the Landscape Project has records for any additional rare wildlife species or wildlife habitat within 1/4 mile of the referenced site.

We have also checked the Natural Heritage Database for occurrences of rare plant species or ecological communities. The Natural Heritage Database does not have any records for rare plants or ecological communities on or within 1/4 mile of the site.

A list of rare plant species and ecological communities that have been documented from Bergen County can be downloaded from http://www.state.nj.us/dep/parksandforests/natural/heritage/countylist.html. If suitable habitat is present at the project site, the species in that list have potential to be present.

Status and rank codes used in the tables and lists are defined in EXPLANATION OF CODES USED IN NATURAL HERITAGE REPORTS, which can be downloaded from http://www.state.nj.us/dep/parksandforests/natural/heritage/nhpcodes_2008.pdf.

If you have questions concerning the wildlife records or wildlife species mentioned in this response, we recommend that you visit the interactive I-Map-NJ website at the following URL, http://www.state.nj.us/dep/gis/depsplash.htm or contact the Division of Fish and Wildlife, Endangered and Nongame Species Program at (609) 292 9400.

PLEASE SEE 'CAUTIONS AND RESTRICTIONS ON NHP DATA', which can be downloaded from http://www.state.nj.us/dep/parksandforests/natural/heritage/newcaution2008.pdf.

Thank you for consulting the Natural Heritage Program. The attached invoice details the payment due for processing this data request. Feel free to contact us again regarding any future data requests.

Sincerely,



Robert J. Cartica
Administrator

c: NHP File No. 11-4007471-7989

Kelly McCormick

Subject: American Dream Permit Readiness Checklist - Program Comments

From: Megan Brunatti [mailto:Megan.Brunatti@dep.state.nj.us]
Sent: Monday, July 25, 2011 3:20 PM
To: Dave Charette
Cc: Ruth Foster; Scott Brubaker
Subject: American Dream Permit Readiness Checklist - Program Comments

Dave,

The Office of Permit Coordination and Environmental Review received your Permit Readiness Checklist along with detailed narrative and maps. We forwarded your documentation to the appropriate DEP programs for review and comments. You will find a summary of comments provided by several DEP program representatives below. The DEP program name, contact person and contact information has been provided for your convenience.

Office of Land Use Planning- Meghan Gosselink (609)777-0586
As proposed, this project is Consistent with the current BCUA Wastewater Management Plan.

The Division of Fish & Wildlife (DFW)- Kelly Davis (908)236-2118
The following comments address the Amusement and Water Park aspects of this project. The DFW would not expect any further issues where construction has already occurred.

Fisheries Concerns:
All or parts of the water bodies contained within this project area are considered to be within an **anadromous species migration corridor**.
In order to protect the **anadromous species** spawning run in this area, a timing restriction from **March 15 through June 30** is needed on any activities which would generate sediment or sediment plumes in these water bodies.

Landscape Mapping:
Species Occurrence Area mapping indicates **threatened / endangered (T / E)** and *species of concern* in the area**.**

Yellow-crown Night-heron
Great Blue Heron
Glossy Ibis
Snowy Egret

Landscape Mapping includes habitat patches of emergent wetland valued for Yellow-crown Night-heron and forested wetland patches. Loss of these habitats may require mitigation.

Safe Drinking Water Permitting- Steven Pudney (609) 984-6831
In reviewing the information associated with the Xanadu development. A water main extension permit WCP040002 was issued June 25th 2004 for this development in particular for "300 L.F. of 12 & 16-inch

CLDIP off-site water main extension and 9,670 L.F. of 12 & 16-inch on-site distribution mains to serve Meadowlands Xanadu".

Due to the two Permit Extension Acts this permit does not expire until 6/26/2013 and a Construction Completion Certificate that would record the construction of and placing into service of the water mains has not yet been received. Therefore any installation of the water mains permitted under WCP040002 that have not yet been constructed can still be installed up to the 2013 expiry date.

The water demand associated with the permit WCP040002 1.954MGD has been carried forward as a previously allocated demand when evaluating subsequent permits and whether United Water has the capacity to supply.

An "additional water main permit" would be required if the additional water main construction, service connections or demands exceeds:

. A minimum of more than 30 Realty Improvements or;
. Generates a new non residential average demand of more than 12,000 gpd or;
. 3,000 ft of water main construction or;
. Includes an interconnection with another public community water system.

United Water has a Master Permit therefore any additional "water main extension permit" that would be needed would need to be included as demands in the Master Permit application that United Water needs to submit before the permit expires on **August 1st, 2011**. Separate water main extension permits are not issued to systems that have Master Permits.

According to the Deficit / Surplus table data United Water has 38.632MGD spare firm capacity, 395 MGM and 1592MGY spare allocation.

Site Remediation Program - Chris Kanakis (609) 633-1460

Regarding the ERC parcel, the RAWP was approved by NJDEP on October 22, 2004. The soil portion of the remedy essentially deals with historic fill with the exception of some confirmed non-historic fill AOCs. These areas were discovered during construction related activities and consisted of PCB impacted areas, TPH and free product, underground storage tanks, drum remnants, and groundwater contamination. All of the non-historic fill AOCs located within the unsaturated zone have been remediated. The remaining non-historic fill AOCs located within the saturated zone will be addressed via a groundwater remedy. The 25 acre MAC Cali portion of the Xanadu site also exhibits historic fill contamination and PCB contaminated soils. The PCB impacted areas within the MAC Cali portion have also been remediated.

If new non-historic fill AOCs are identified during the renewed redevelopment activities, the approved RAWP would be utilized to address these previously unidentified areas. Of course, this would not apply to areas proximate to the original Xanadu Project site but not within the project limits. **Areas outside of the original Xanadu Project site would require the appropriate initial investigation, including a PA/SI and the development of an RAWP.**

I hope you find these comments helpful. Additional program representatives will attend the pre-application meeting tomorrow to discuss their comments and provide recommendations which are applicable to their programs. I look forward to seeing you and the team tomorrow.

Megan L. Brunatti
New Jersey Department of Environmental Protection

Office of Permit Coordination & Environmental Review
401 East State Street, 7th Fl
PO Box 420
Mail Code: 401-07J
Trenton, NJ 08625
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UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Habitat Conservation Division
James J. Howard Marine
Sciences Laboratory
74 Magruder Road
Highlands, New Jersey 07732

September 18, 2011

TO: David Charette
Langan Engineering & Environmental Services
River Drive Center 1
Elmwood Park, NJ 07407

Karen Greene
(Reviewing Biologist)

SUBJECT: Species Request
American Dream Meadowlands
East Rutherford, Bergen County, NJ
Langan Project No. 100234201

We have reviewed the information provided to us regarding the above subject project. We offer the following preliminary comments pursuant to the Endangered Species Act, the Fish and Wildlife Coordination Act and the Magnuson-Stevens Fishery Conservation and Management Act:

Endangered Species Act

No threatened or endangered species under the jurisdiction of the NMFS are known to occur in the project area. As a result, further consultation by the federal action agency is not required. However should project plans change that would alter the basis for determination, or if new species or critical habitat is designated, consultation should be reinitiated.

Fish and Wildlife Coordination Act

The Hackensack River and its tributaries are migratory pathways and nursery and forage areas for anadromous fish including alewife, blueback herring, white perch, striped bass and American shad. Because landing statistics and the number of fish observed on annual spawning runs indicate a drastic decline in alewife and blueback herring populations throughout much of their range since the mid-1960's, they have been designated as species of concern by NMFS in a Federal Register Notice dated October 17, 2006 (71 FRN 61022). A wide variety of other NOAA trust resources including windowpane, winter flounder, summer flounder, bluefish, weakfish, Atlantic tomcod, mummichog, menhaden, silversides, American eel, blue crab and many others may found within these waterways.

Magnuson-Stevens Fishery Conservation and Management Act (MSA)
Essential Fish Habitat

Essential Fish Habitat (EFH) has been designated in within the mixing zone of the Hackensack River and its tributaries. If work is proposed in these areas, consultation by the lead federal action agency may be required. For a listing of EFH and further information, please go to our website at: http://www.nero.noaa.gov/hcd. The species for which EFH has been designated can be found under the Hudson-Raritan Estuary list. If you wish to discuss this further, please call 732-872-3023.

DEPARTMENT OF THE ARMY
NEW YORK DISTRICT, CORPS OF ENGINEERS
JACOB K. JAVITS FEDERAL BUILDING
NEW YORK, N.Y. 10278-0090

REPLY TO
ATTENTION OF:

Regulatory Branch

September 30, 2011

SUBJECT: Permit Application File Number NAN-2011-00858-WCA by Metro Central, LLC C/o Triple Five Development, Block 172.02, Lot 3, East Rutherford, Bergen County, New Jersey

Langan Engineering and Environmental Services
C/o Mr. Michael Nevins, P.W.S.
River Drive Center 1
Elmwood Park, New Jersey 07407

Dear Mr. Nevins:

On August 1, 2011, the New York District of the U.S. Army Corps of Engineers received a request for a Department of the Army jurisdictional determination for the above referenced site. This request was made by Langan Engineering and Environmental Services, on behalf of Metro Central, LLC C/o Triple Five Development. The site, designated as Block 107.02, Lot 3, occupies approximately 21.75 acres within the Hackensack River watershed, in the Borough of East Rutherford, Bergen County, New Jersey.

In the letter received on August 1, 2011, and as part of the permit application, your office submitted a proposed delineation of the extent of waters of the United States within the project boundary. A site inspection was conducted by representatives of this office on August 12, 2011, in which it was agreed that changes would be made to the delineation and that the modified delineation would be submitted to this office. On September 2, 2011, this office received the modified delineation.

Based on the material submitted and the observations of the representatives of this office during the site visit, this site has been determined to contain jurisdictional waters of the United States based on: the presence of wetlands determined by the occurrence of hydrophytic vegetation, hydric soils and wetland hydrology according to criteria established in the 1987 "Corps of Engineers Wetlands Delineation Manual," Technical Report Y-87-1 that are either adjacent to or part of a tributary system; the presence of a defined water body (e.g. stream

channel, lake, pond, river, etc.) which is part of a tributary system; and the fact that the location includes property below the ordinary high water mark, high tide line or mean high water mark of a water body as determined by known gage data or by the presence of physical markings including, but not limited to, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter or debris or other characteristics of the surrounding area.

Based on the above, it has been determined that the drawing entitled "Wetland Delineation Plan", Drawing No. 61.01, prepared by Langan Engineering and Environmental Services, dated July 26, 2011 and last revised August 25, 2011, appears to accurately depict the extent of all waters of the United States on the subject site. This drawing indicates that there are approximately 7.36 acres of jurisdictional waters of the United States located on the subject site. These jurisdictional areas include areas A, B, D, E, X, Y, Ditch 1 and Ditch 2. Wetland A, D, E and Ditch 1 occupy approximately 3.41 acres in the southeast portion of the site. Wetland B occupies approximately 0.97 acres in the northern portion of the site. Wetland areas X and Y occupy approximately 2.8 acres within the south central portion of the site, and Ditch 2 occupies approximately 0.18 acres along the sites western boundary. An unnamed tidal tributary is situated within Wetland A and extends offsite, beneath the New Jersey Turnpike via a 96-inch diameter corrugated culvert, and discharges to the Hackensack River. The Hackensack River is a navigable waterway. These jurisdictional areas are considered to be waters of the United States and are part of a tributary system under the jurisdiction of the Corps of Engineers.

As all eight delineated areas depicted on the above referenced drawing have been determined to be waters of the United States and under the jurisdiction of the U.S. Army Corps of Engineers, the "isolated" notations on the drawing for Wetland areas X, Y, and Ditch 2 should be disregarded.

This determination regarding the delineation shall be considered valid for a period of five years from the date of this letter unless new information warrants revision of the determination before the expiration date.

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This determination was documented using the Approved Jurisdictional Determination Form, promulgated by the Corps of Engineers in June 2007. A copy of that document is enclosed with this letter, and will be posted on the New York District website at:

http://www.nan.usace.army.mil/business/buslinks/regulat/index.php?jurisdet.

This delineation/determination has been conducted to identify the limits of the Corps Clean Water Act jurisdiction for the particular site identified in this request. If you object to this determination, you may request an administrative appeal under Corps regulations at 33 CFR Part 331. Enclosed is a combined Notification of Appeal Process (NAP) and Request For Appeal (RFA) form. If you request to appeal this determination you must submit a completed RFA form to the North Atlantic Division Office at the following address:

Michael G. Vissichelli, Administrative Appeals Review Officer
North Atlantic Division, U.S. Army Engineer Division
Fort Hamilton Military Community
General Lee Avenue, Building 301
Brooklyn, New York 11252-6700

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR Park 331.5, and that it has been received by the Division Office within 60 days of the date of the NAP. Should you decide to submit an RFA form, it must be received at the above address by November 30, 2011. It is not necessary to submit an RFA form to the Division Office if you do not object to the determination in this letter.

This delineation/determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985, as amended. If you or your tenant are USDA program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service prior to starting work.

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It is strongly recommended that the development of the site be carried out in such a manner as to avoid as much as possible the discharge of dredged or fill material into the delineated waters of the United States. If the activities proposed for the site involve such discharges, authorization from this office may be necessary prior to the initiation of the proposed work. The extent of such discharge of fill will determine the level of authorization that would be required.

In order for us to better serve you, please complete our Customer Service Survey located at http://www.nan.usace.army.mil/business/buslinks/regulat/index.php?survey

If any questions should arise concerning this matter, please contact James Cannon, of my staff, at (917) 790-8412.

Sincerely,

Richard L. Tomer
Chief, Regulatory Branch

Enclosures

Cf: NJDEP
NJMC

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: Metro Central, LLC C/o Triple Five Development	File Number: NAN-2011-00858	Date: SEP 30 2011

Attached is:		See Section Below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of Permission)	A
	PROFFERED PERMIT (Standard Permit or Letter of Permission)	B
	PERMIT DENIAL	C
X	APPROVED JURISDICTIONAL DETERMINATION	D
	PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at http://www.usace.army.mil/CECW/Pages/reg_permit.aspx or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

•ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the New York District Engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations (JD) associated with the permit.

•OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the New York District Engineer. Your objections must be received by the New York District Engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the New York District Engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the New York District Engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit.

•ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the New York District Engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.

•APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the North Atlantic Division Engineer, ATTN: CENAD-PD-PSD-O, Fort Hamilton Military Community, Building 301, General Lee Avenue, Brooklyn, NY 11252-6700. This form must be received by the Division Engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the North Atlantic Division Engineer, ATTN: CENAD-PD-PSD-O, Fort Hamilton Military Community, Building 301, General Lee Avenue, Brooklyn, NY 11252-6700. This form must be received by the Division Engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

•ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.

•APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the North Atlantic Division Engineer within 60 days of the date of this notice with a copy furnished to the New York District Engineer.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps

district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact: Richard L. Tomer U.S. Army Corps of Engineers, New York District Jacob K. Javits Federal Building New York, NY 10278-0090 (917) 790-8510	If you only have questions regarding the appeal process you may also contact: Michael G. Vissichelli, Administrative Appeals Review Officer North Atlantic Division, U.S. Army Engineer Division Fort Hamilton Military Community General Lee Avenue, Building 301 Brooklyn, NY 11252-6700 (718) 765-7163 E-mail: Michael.G.Vissichelli@usace.army.mil

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

Signature of appellant or agent.	Date:	Telephone number:

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): 27-Sep-2011

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: New York District, NAN-2011-00858-JD1

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State :	NJ - New Jersey
County/parish/borough:	Bergen
City:	East Rutherford
Lat:	40.8
Long:	-74.07
Universal Transverse Mercator	Folder UTM List *UTM list determined by folder location* • NAD83 / UTM zone 18N Waters UTM List *UTM list determined by waters location* • NAD83 / UTM zone 18N
Name of nearest waterbody:	Unnamded tributary of the Hackensack River
Name of nearest Traditional Navigable Water (TNW):	Unnamed tributary of the Hackensack River
Name of watershed or Hydrologic Unit Code (HUC):	02030103180

Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

Check if other sites (e.g., offsite mitigation sites, disposal sites, etc¿) are associated with the action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION:

Office Determination Date:

Field Determination Date(s): 12-Aug-2011

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION

There are"navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area.

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

Explain: An unnamed tidal tributary to the Hackensack River extends from Wetland A. An unnamed tidal tributary of Cedar Creek extends from Wetland B. Cedar Creek is a tidal tributary of the Hackensack River. The Hackensack River is a navigable waterway. These unnamed tributaries which Wetland A and Wetland B abut and which allow tidal waters to flow into and from the site are Traditional Navigable Waterways pursuant to Appendix D, Legal Definition of Traditional Navigable Waters of the U.S. Army Corps of Engineers Jurisdictional Determination Form Instructiional Guidebook, dated May 2007, and Title 33 Code of Federal Regulations, Part 328.3(a)(1).

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area.

1. Waters of the U.S.
a. Indicate presence of waters of U.S. in review area:[1]

Water Name	Water Type(s) Present
Wetland A, D, E and Ditch 1	Wetlands adjacent to TNWs
Wetland B	Wetlands adjacent to TNWs
Wetland X	Wetlands adjacent to TNWs
Wetland Y	Wetlands adjacent to TNWs

Unnamed tributary to the Hackensack River	TNWs, including territorial seas
Ditch 2	Wetlands adjacent to TNWs

b. Identify (estimate) size of waters of the U.S. in the review area:

Area: (m^2)
Linear: (m)

c. Limits (boundaries) of jurisdiction:

based on:
OHWM Elevation: (if known)

2. Non-regulated waters/wetlands:[3]

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain:

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

1.TNW

TNW Name	Summarize rationale supporting determination:
Unnamed tributary to the Hackensack River	This unnamed tidal tributary to the Hackensack River conveys tidal waters into Wetland A to the Spring High Water elevation of 3.89 ft. NGVD29. The Hackensack River a a navigable waterway. This tributary is a Traditional Navigable Water of the U.S. pursuant to Appendix D, Legal Definition of Traditional Navigable Waters of the U.S. Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook, dated May 2007, and Title 33 Code of Federal Regulations, Part 328.3(a)(1).

2. Wetland Adjacent to TNW

Wetland Name	Summarize rationale supporting conclusion that wetland is "adjacent":
Wetland A, D, E and Ditch 1	Wetland A, D, E and Ditch 1 are all one wetland area . This wetland abuts an unnamed tidal tributary of the Hackensack River. The Hackensack River is a navigable waterway. This unnamed tributary conveys tidal waters into Wetland A to the Spring High Water elevation (3.89 ft. NGVD29).
Wetland B	Wetland B abuts an unnamed tidal tributary of Cedar Creek. Cedar Creek is a tidal tributary to the Hackensack River, a navigable waterway. This unnamed tributary conveys tidal waters into Wetland B to the Spring High Water elevation (3.89 ft. NGVD29).
Wetland X	The unnamed tidal tributary that Wetland A abuts is a traditional navigable water (TNW). Wetland X is separated from the TNW by a upland access road. Wetland X is jurisdictional under Section 404 of the Clean Water Act as it is adjacent to the unnamed tidal tributary of the Hackensack River, a TNW in accordance with Title 33 Code of Federal Regulations Part 328.3(c).
Wetland Y	The unnamed tidal tributary that Wetland A abuts is a traditional navigable water (TNW). Wetland Y is separated from the TNW by a upland access road. Wetland Y is jurisdictional under Section 404 of the Clean Water Act as it is adjacent to the unnamed tidal tributary of the Hackensack River, a TNW in accordance with Title 33 Code of Federal Regulations Part 328.3(c).
Ditch 2	The unnamed tidal tributary that Wetland A abuts is a traditional navigable water (TNW). Ditch 2 is separated from the TNW by a upland access road. Ditch 2 is jurisdictional under Section 404 of the Clean Water Act as it is adjacent to the unnamed tidal tributary of the Hackensack River, a TNW in accordance with Title 33 Code of Federal Regulations Part 328.3(c).

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:
Watershed size:
Drainage area:
Average annual rainfall: inches
Average annual snowfall: inches

(ii) Physical Characteristics
(a) Relationship with TNW:

Tributary flows directly into TNW.

Tributary flows through [ ] tributaries before entering TNW.

:Number of tributaries

Project waters are river miles from TNW.
Project waters are river miles from RPW.
Project Waters are aerial (straight) miles from TNW.
Project waters are aerial(straight) miles from RPW.

Project waters cross or serve as state boundaries.

Explain:

Identify flow route to TNW:[5]

Tributary Stream Order, if known:
Not Applicable.

(b) General Tributary Characteristics:

Tributary is:
Not Applicable.

Tributary properties with respect to top of bank (estimate):
Not Applicable.

Primary tributary substrate composition:
Not Applicable.

Tributary (conditions, stability, presence, geometry, gradient):
Not Applicable.

(c) Flow:
Not Applicable.

Surface Flow is:
Not Applicable.

Subsurface Flow:
Not Applicable.

Tributary has:
Not Applicable.

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction:

High Tide Line indicated by:
Not Applicable.

Mean High Water Mark indicated by:
Not Applicable.

(iii) Chemical Characteristics:
Characterize tributary (e.g., water color is clear, discolored, oily film; water quality;general watershed characteristics, etc.).
Not Applicable.

(iv) Biological Characteristics. Channel supports:
Not Applicable.

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:
(a) General Wetland Characteristics:

Properties:
Not Applicable.

(b) General Flow Relationship with Non-TNW:

Flow is:
Not Applicable.

Surface flow is:
Not Applicable.

Subsurface flow:
Not Applicable.

(c) Wetland Adjacency Determination with Non-TNW:
Not Applicable.

(d) Proximity (Relationship) to TNW:
Not Applicable.

(ii) Chemical Characteristics:
Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
Not Applicable.

(iii) Biological Characteristics. Wetland supports:
Not Applicable.

3. Characteristics of all wetlands adjacent to the tributary (if any):

All wetlands being considered in the cumulative analysis:
Not Applicable.

Summarize overall biological, chemical and physical functions being performed:
Not Applicable.

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Significant Nexus: Not Applicable

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE:

1. TNWs and Adjacent Wetlands:

Wetland Name	Type	Size (Linear) (m)	Size (Area) (m²)
Wetland A, D, E and Ditch 1	Wetlands adjacent to TNWs	-	13799.77896
Wetland B	Wetlands adjacent to TNWs	-	3925.45032
Wetland X	Wetlands adjacent to TNWs	-	3277.95336
Wetland Y	Wetlands adjacent to TNWs	-	8053.24344
Unnamed tributary to the Hackensack River	TNWs, including territorial seas	51.5112	-
Ditch 2	Wetlands adjacent to TNWs	-	728.43408
Total:		**51.5112**	**29784.86016**

2. RPWs that flow directly or indirectly into TNWs:

Not Applicable.

Provide estimates for jurisdictional waters in the review area:
Not Applicable.

3. Non-RPWs that flow directly or indirectly into TNWs:[8]
Not Applicable.

Provide estimates for jurisdictional waters in the review area:

Not Applicable.

4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.
Not Applicable.

Provide acreage estimates for jurisdictional wetlands in the review area:
Not Applicable.

5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs:
Not Applicable.

Provide acreage estimates for jurisdictional wetlands in the review area:
Not Applicable.

6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs:
Not Applicable.

Provide estimates for jurisdictional wetlands in the review area:
Not Applicable.

7. Impoundments of jurisdictional waters:[9]
Not Applicable.

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS:[10]
Not Applicable.

Identify water body and summarize rationale supporting determination:
Not Applicable.

Provide estimates for jurisdictional waters in the review area:
Not Applicable.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS

If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements:

Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce:

Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based soley on the "Migratory Bird Rule" (MBR):

Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (Explain):

Other (Explain):

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (ie., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment:
Not Applicable.

Provide acreage estimates for non-jurisdictional waters in the review area, that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction.
Not Applicable.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD
(listed items shall be included in case file and, where checked and requested, appropriately reference below):

Data Reviewed	Source Label	Source Description
--Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant	-	Wetland Delineation Plan, Drawing No. 61.01, prepared by Langan Engineering and Environmental Services, dated July 26, 2011 and last revised August 25, 2011
--Data sheets prepared/submitted by or on behalf of the applicant/consultant	-	Langan Engineering and Environmental Services
----Office does not concur with data sheets/delineation report	-	Based on the USACE's site investigation, those ares indicated as isolated by the applicant in their data sheets were determined to be waters of the United States under the jurisdiction of the U.S. Army Corps of Engineers.
----USGS 8 and 12 digit HUC maps	-	02030103180
--U.S. Geological Survey map (s).	-	Weehawken, NJ
--National wetlands inventory map(s).	-	Available
--State/Local wetland inventory map(s):	-	Available
--Photographs	-	Applicant's site photographs (Appendix B)
----Aerial	-	Aerial photographs, 1930, 1958, 1969, 1985, 1992, 1995-1997, and 2002
----Other	-	USACE photographs and aerial photographs, 1930, 1958, 1969, 1985, 1992, 1995-1997, and 2002
--Previous determination(s).	-	July 27, 2004
--Applicable/supporting scientific literature	-	Appendix D, Legal Definition of Traditional Navigable Waters of the U.S. Army Corps of Engineers Jurisdictional Determnation Form Instructional Guidebook, dated May 2007; Clean Water Act Jurisdictional Following the U.S. Surpreme Courts Decision in Rapanos v. United States and Carabell v. United States, dated December 2, 2008; Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403) and Section 404 of the Celan Water Act (33 U.S.C. 1344).
--Other information	-	USACE site investigation report dated August 12, 2011.

B. ADDITIONAL COMMENTS TO SUPPORT JD:
Not Applicable.

[1]-Boxes checked below shall be supported by completing the appropriate sections in Section III below.

[2]-For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

[3]-Supporting documentation is presented in Section III.F.

[4]-Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

[5]-Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

[6]-A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

[7]-Ibid.

[8]-See Footnote #3.

[9]-To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

[10]-Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

PUBLIC NOTICE

US Army Corps
of Engineers
New York District
Jacob K. Javits Federal Building
New York, N.Y. 10278-0090
ATTN: Regulatory Branch

In replying refer to:
Public Notice Number: NAN-2011-01158-WCA
Issue Date: October 14, 2011
Expiration Date: November 28, 2011

To Whom It May Concern:

The New York District, Corps of Engineers has received an application for a Department of the Army permit pursuant to Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403), and Section 404 of the Clean Water Act (33 U.S.C. 1344).

APPLICANT: Metro Central, LLC C/o Triple Five Development
60 East Broadway
Bloomington, Minnesota 55425

ACTIVITY: Discharge fill material into 5.47 acres of tidal and non-tidal waters of the United States to facilitate the construction of a commercial amusement park and water park.

WATERWAY: Unnamed Tidal Tributaries to the Hackensack River, and Cedar Creek and Associated Wetlands.

LOCATION: Borough of East Rutherford, Bergen County, New Jersey

A detailed description and plans of the applicant's activity are enclosed to assist in your review.

As part of a public hearing being held by the New Jersey Meadowlands Commission and New Jersey Department of Environmental Protection, the New York District Corps of Engineers will conduct a **PUBLIC HEARING** to gather information on this proposal to assist in the review of the permit application. The details of the hearing are as follows:

DATE: Tuesday, November 15, 2011
Wednesday, November 16, 2011

TIME: Morning Session – 10:00 am to 12:00 pm*
Evening Session – 6:00 pm to 8:00 pm *

*The public hearing sessions may end before the closing times noted above if all parties wishing to speak have done so prior to the closing times.

LOCATION: Pegasus – Meadowlands Racetrack
Meadowlands Sports Complex
East Rutherford, New Jersey

DIRECTIONS: See attached map and written directions

The United States Corps of Engineers neither favors nor opposes the proposed construction work. The purpose of this public notice and the public hearing is to afford the Corps of Engineers the opportunity to efficiently hear from the general public on the application which is before this agency, in order to acquire information which will be considered in evaluating whether to issue or deny the requested permit. The Corps of Engineers is soliciting comments from the public; federal, state and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this determination, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed below. Comments are used in the preparation of an environmental assessment pursuant to the National Environmental Policy Act (42 U.S.C 4321 et seq.). The Corps of Engineers will also consider information in the Draft Supplemental Environmental Impact Statement being prepared on behalf of the New Jersey Sports and Exposition Authority.

The decision whether to issue a permit will be based on an evaluation of the probable impact, including cumulative impacts of the proposed activity, on the public interest. That decision will reflect the national concern for both protection and utilization of important public resources. The benefit which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership and, in general, the needs and welfare of the people.

The public hearing is open to everyone. All interested individuals, groups, and agencies are invited to be present or be represented at the hearing. Everyone will be given an opportunity to express his or her views and to furnish specific data on aspects of the proposed activity. At the public hearing, any person may appear on his or her behalf, or may be represented by counsel, or by other representatives.

Should commenters choose to write, all comment letters received in regard to this public notice shall be made part of the permit application record, and will also be considered in the permit decision–making process. INFORMATION SUBMITTED BY MAIL IS CONSIDERED JUST AS CAREFULLY IN THE PERMIT DECISION-MAKING PROCESS AND BEARS THE SAME WEIGHT AS THAT FURNISHED AT THE PUBLIC HEARING. ALL WRITTEN COMMENTS REGARDING THIS PUBLIC NOTICE MUST BE MAILED TO REACH THE CORPS OF ENGINEERS NEW YORK CITY OFFICE BEFORE THE EXPIRATION DATE OF THIS COMMENT PERIOD OF 5 PM MONDAY 28 NOVEMBER 2011, otherwise, it will be presumed that there are no objections to the activity.

The public hearing will be conducted in accordance with the procedures set forth at Title 33 of the Code of Federal Regulations, Part 327. Any person shall be permitted to submit oral or written statements concerning the subject matter of the hearing, to call witnesses who may present oral statements; or to present recommendations as to an appropriate decision. Any person may present written statements or other additional information, and may present proposed findings and recommendations prior to the time the total comment period closes (5:00 PM EST on Monday, 28 November 2011).

All speakers will be requested to limit oral presentations. Lengthier written presentations may be submitted, but the speaker will be requested to summarize the presentation. Cross-examination of speakers will not be permitted; however, subject to time constraints, the presiding hearing officer shall afford participants a reasonable opportunity for rebuttal after all others have had an opportunity to speak.

The public hearing will be reported verbatim. Copies of the hearing transcript will be available for public inspection at the Corps of Engineers New York District office after the close of the comment period, and will be posted on the Corps of Engineers website at http://www.nan.usace.army.mil.

All written statements, charts, tabulations, and similar data offered in evidence at the hearing shall, subject to exclusion for reasons of redundancy, be received in evidence and will constitute a part of the hearing file which will become part of the administrative record for this permit action. For filing purposes it is requested that the material not exceed 8 1/2" x 14", if possible.

The hearing record and comment period will remain open until 5:00 p.m. on Monday 28 November 2011, for the receipt of written comments. All comments should be sent to the following address so as to be received prior to the close of the hearing record and comment period:

New York District Corps of Engineers
Regulatory Branch
26 Federal Plaza, Room 1937
New York, New York 10278-0090

Our preliminary determination is that the activity for which authorization is sought herein is not likely to affect any Federally endangered or threatened species or their critical habitat. However, pursuant to Section 7 of the Endangered Species Act (16 U.S.C. 1531), the District Engineer is consulting with the appropriate Federal agency to determine the presence of and potential impacts to listed species in the project area or their critical habitat.

The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act (Public Law 104-267), requires all Federal agencies to consult with the National Oceanic and Atmospheric Administration Fisheries Service (NOAA/FS) on all actions, or proposed actions, permitted, funded, or undertaken by the agency, that may adversely affect Essential Fish Habitat (EFH). The proposed work, fully described in the attached work description, could cause the disruption of habitat for various lifestages of some EFH-designated species as a result of a temporary increase in turbidity during construction. However, the New York District has made the preliminary determination that the site-specific adverse effects are not likely to be substantial because it is expected that fish populations would avoid the small area of disturbance. Further consultation with NOAA/FS regarding EFH impacts and conservation recommendations being conducted and will be concluded prior to the final decision.

Based upon a review of the latest published version of the National Register of Historic Places, there are no known sites eligible for, or included in, the Register within the permit area. Presently unknown archeological, scientific, prehistorical, or historical data may be lost by work accomplished under the required permit.

Reviews of activities pursuant to Section 404 of the Clean Water Act will include application of the guidelines promulgated by the Administrator, U.S. Environmental Protection Agency, under authority of Section 404 (b) of the Clean Water Act and the applicant will obtain a water quality certificate or waiver from the appropriate state agency in accordance with Section 401 of the Clean Water Act prior to a permit decision.

Pursuant to Section 307 (c) of the Coastal Zone Management Act of 1972 as amended [16 U.S.C. 1456 (c)], for activities under consideration that are located within the coastal zone of a state which has a federally approved coastal zone management program, the applicant has certified in the permit application that the

activity complies with, and will be conducted in a manner that is consistent with, the approved state coastal zone management program. By this public notice, we are requesting the state's concurrence with, objection to, or waiver of the applicant's certification. No permit decision will be made until one of these actions occurs. For activities within the coastal zone of New Jersey State, the applicant's certification and accompanying information is available from the New Jersey Department of Environmental Protection, Coastal Management Program, P.O. Box 418, 401 E. State Street, Trenton, NJ, 08625, Telephone (609) 633-2201. Comments regarding the applicant's certification, and copies of any letters to this office commenting upon this proposal, should be so addressed.

In addition to any required water quality certificate and coastal zone management program concurrence, the applicant has obtained or requested the following governmental authorization for the activity under consideration:

- New Jersey Department of Environmental Protection Waterfront Development Permit
- New Jersey Department of Environmental Protection Flood Hazard Area Permit
- Bergen County Soil Conservation District Soil Erosion and Sediment Plan Certification

It is requested that you communicate the foregoing information concerning the activity to any persons known by you to be interested and who did not receive a copy of this notice. If you have any questions concerning this application, you may contact this office at (917) 790-8412 and ask for James Cannon.

In order for us to better serve you, please complete our Customer Service Survey located at http://www.nan.usace.army.mil/business/buslinks/regulat/index.php?survey

For more information on New York District Corps of Engineers programs, visit our website at http://www.nan.usace.army.mil

Richard L. Tomer
Chief, Regulatory Branch

Enclosures

Directions to the Pegasus-Meadowlands Racetrack:

The address is: Meadowlands Racetrack, 50 State Route 120, East Rutherford, NJ 07073

FROM THE GEORGE WASHINGTON BRIDGE:
Follow Interstate 95 South signs to the New Jersey Turnpike south western spur (Sports Complex to exit 16W), which provides direct access to the Sports Complex parking areas.

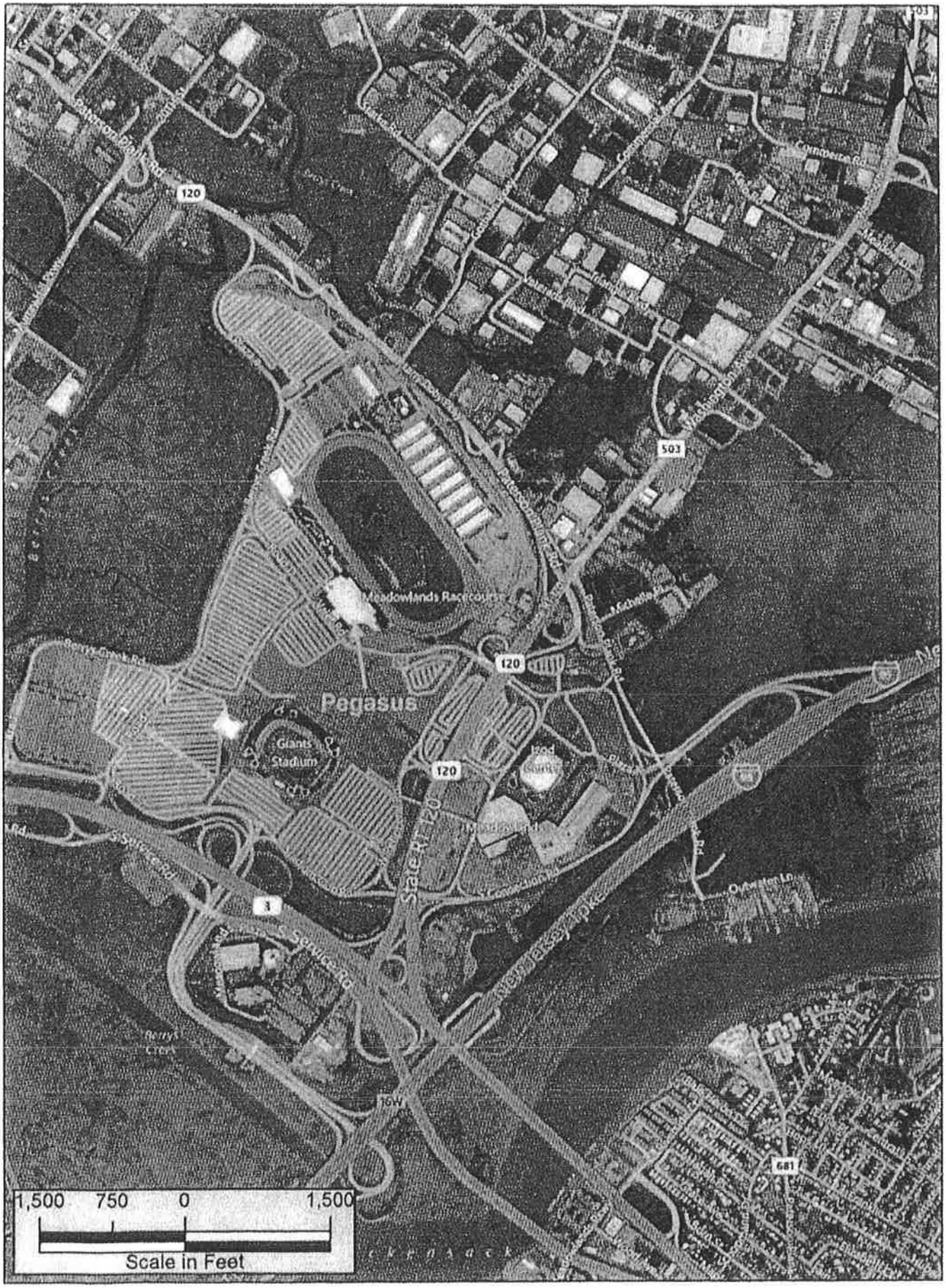
FROM THE LINCOLN TUNNEL:
Take Route 3 West and follow the signs to the Sports Complex and Racetrack.

TRAVELING NORTH ON THE NEW JERSEY TURNPIKE:
Follow the Western Spur (Sports Complex to Exit 16W), which provides direct access to Sports Complex parking areas. If congested, use eastern spur (Lincoln Tunnel) to exit 16E to Route 3 West, follow directions above.

TRAVELING SOUTH ON THE GARDEN STATE PARKWAY:
Garden State Parkway South to exit 163 (Route 17). Follow Route 17 to Paterson Plank Road. Take Paterson Plank Road east to the Sports Complex.

TRAVELING NORTH ON THE GARDEN STATE PARKWAY:
Garden State Parkway North to exit 153A (Route 3). Follow Route 3 East to the Sports Complex.

FROM HOLLAND TUNNEL OR BROOKLYN-STATEN ISLAND BRIDGE CROSSINGS:
Take New Jersey Turnpike extension to the Turnpike North. Follow directions above.


Pegasus
Meadowlands Racetrack
Giants Stadium
120
503
3
681
1,500 750 0 1,500
Scale in Feet

WORK DESCRIPTION

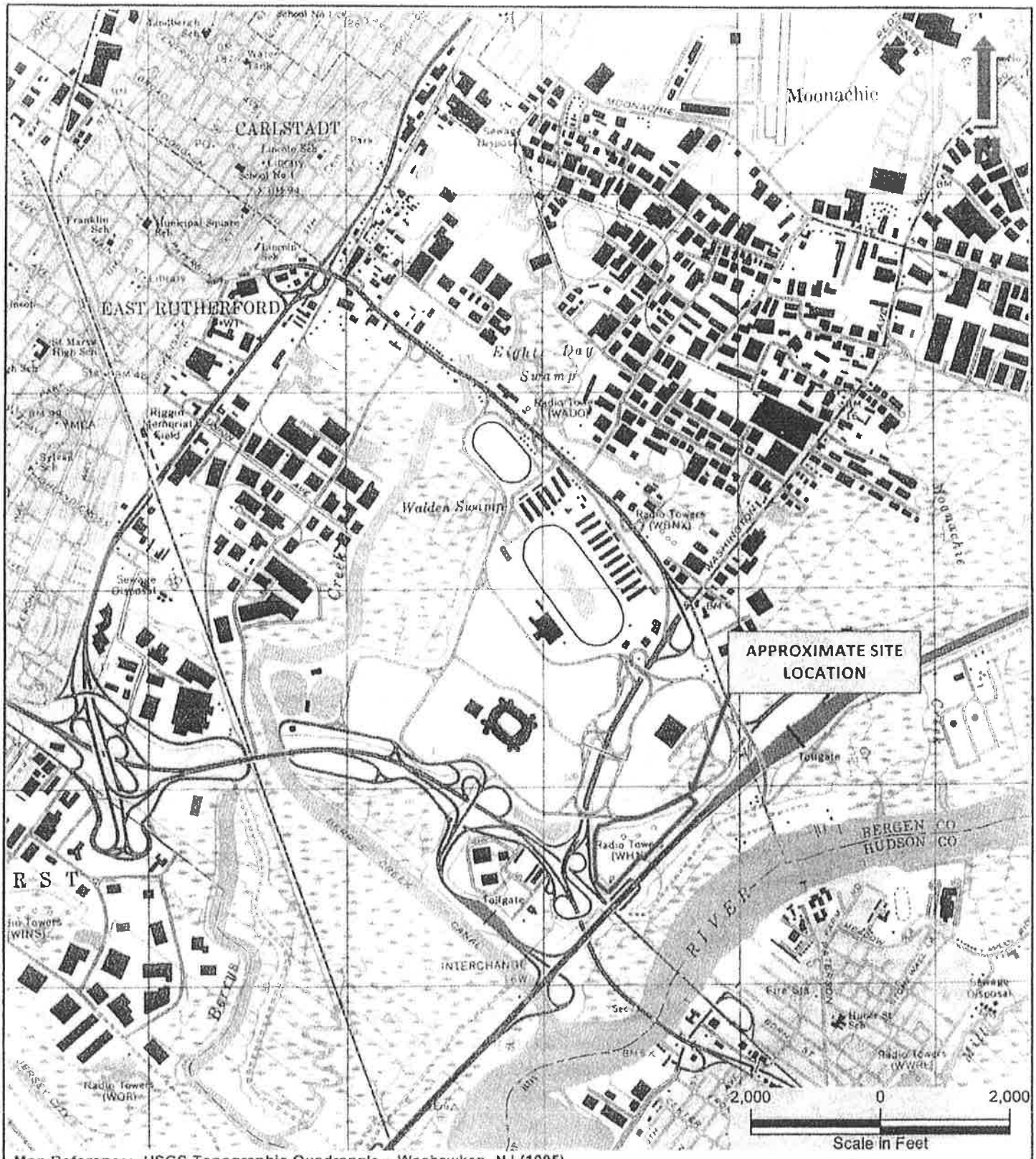
The applicant, Metro Central, LLC C/o Triple Five Development, has requested Department of the Army authorization to discharge fill material into approximately 5.47 acres of waters of the United States, including wetlands, to facilitate the construction of a commercial amusement park and water park, adjacent to the entertainment and retail complex that was authorized under Department of the Army Permit 2003-00549, and is now known as "American Dream Meadowlands". The 21.75 acre site for the proposed work is located in the Borough of East Rutherford, Bergen County, New Jersey, includes approximately 7.36 acres of jurisdictional tidal and non-tidal Waters of the United States. These Waters of the United States consist of an unnamed tributary to the Hackensack River and associated wetlands, and an unnamed tributary to Cedar Creek (tributary to the Hackensack River) and associated wetlands. In addition, work is proposed on an adjacent site for drainage improvements involving an existing 96-inch culvert that extends beneath the New Jersey Turnpike.

The proposed regulated activities would include discharging approximately 50,000 cubic yards of fill into 2.44 acres of tidal wetlands and 2.8 acres of non-tidal wetlands to facilitate the construction of a 639,000 square foot building complex that would consist of a 318,000 square foot Amusement Park, and a 236,000 square foot Water Park. Both the indoor Amusement Park and the indoor Water Park would share a two-level common area that would contain various patron facilities on the lower level and a food court on the upper level. A perimeter road would be constructed around the building to allow maintenance and emergency vehicles access to the site. This perimeter road would connect to the East Peripheral Road. A proposed pedestrian bridge would cross the East Peripheral Road, connecting the common area to the adjacent entertainment and retail complex.

Approximately 0.23 acres of tidal emergent wetlands would be impacted to facilitate drainage improvements to the 96-inch culvert currently situated offsite and beneath the New Jersey Turnpike. These drainage improvements would include dredging approximately 3,500 cubic yards of accumulated sediments from a 300 linear foot long portion of the unnamed tributary (0.66 acres), and constructing a new headwall with associated rock riprap scour protection on both the east and west side of the New Jersey Turnpike culvert. A total of approximately 1,325 cubic yards of rock riprap would be placed within the unnamed tributary to facilitate the placement of scour protection for both headwalls. Temporary construction mats will be used to allow construction vehicles access to the culvert area. All dredged sediments will be disposed of at a suitable upland disposal site.

The applicant completed an alternatives analysis, including the no build alternative, which evaluated construction alternatives and their associated impacts to the aquatic environment. As a result, the applicant concluded that the preferred project, as designed, is the least damaging practicable alternative available to them. The applicant has avoided and minimized impacts to waters of the United States, including wetlands to the extent feasible through the following measures: stacking of common areas and integrating two buildings into one, alleviate vehicular parking at the project site by utilizing existing parking at the existing and adjacent entertainment and retail complex. The applicant proposes to compensate for the 5.47 acres of permanent impacts to tidal and non-tidal wetlands associated with the proposed project at offsite locations within the same watershed and may include: the purchase of available credits from any federally approved wetland mitigation bank; the preservation of wetlands and or compensation through in-lieu fee payment. The final compensatory mitigation program for the project will be consistent with the Final Rule for Compensatory Mitigation for Losses of Aquatic Resources (40 CFR Part 230), dated April 10, 2008.

The stated purpose of the proposed work is to construct a commercial amusement park and water park as a component of the American Dream Meadowlands Project.



Map Reference: USGS Topographic Quadrangle – Weehawken, NJ (1995)

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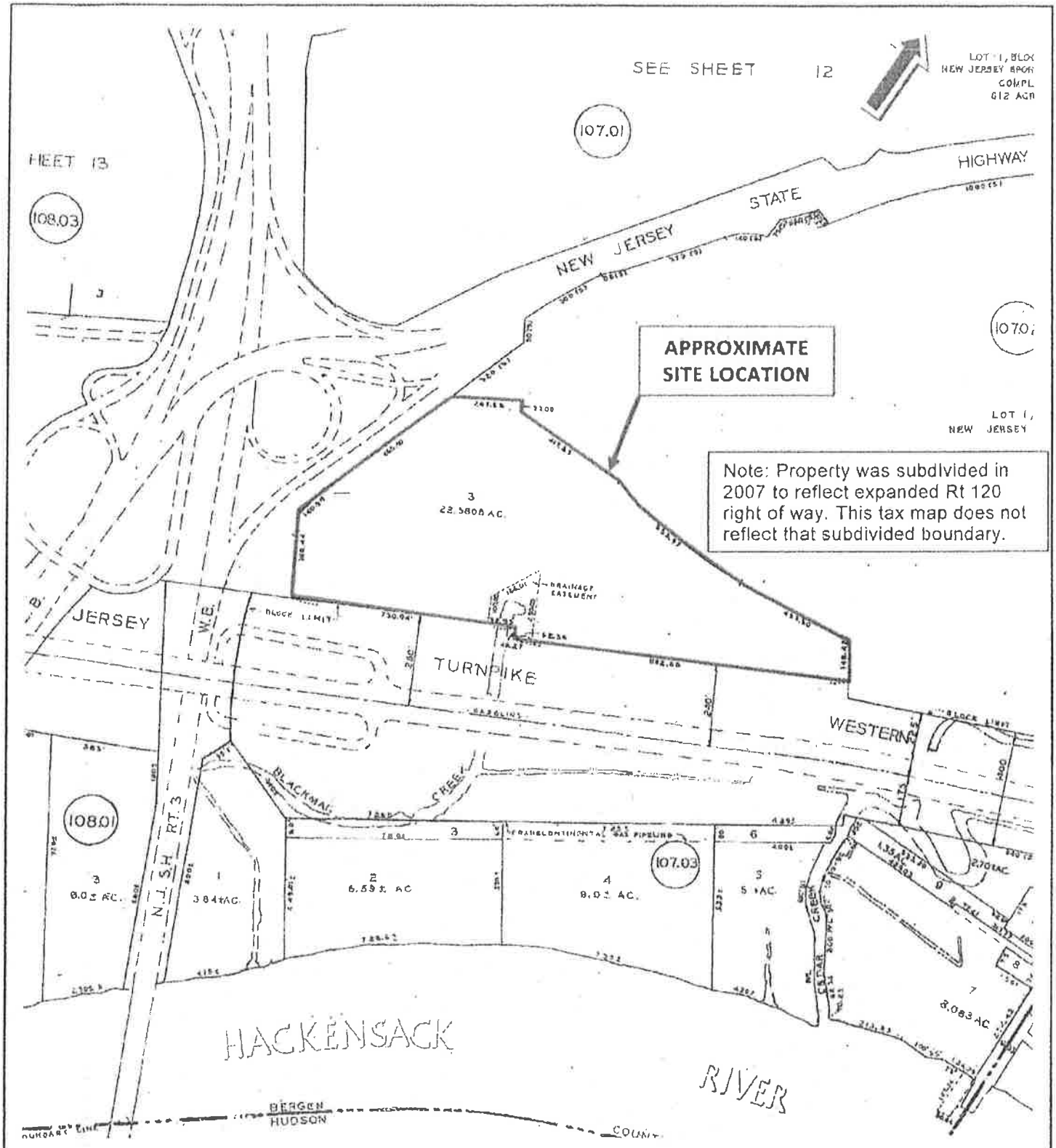
CLIFTON, NJ • NEW YORK, NY • PHILADELPHIA, PA • DOYLESTOWN, PA
NEW HAVEN, CT • MIAMI, FL • TRENTON, NJ

USGS SITE LOCATION MAP

AMUSEMENT PARK AND WATER PARK
AMERICAN DREAM MEADOWLANDS
BLOCK 107.02, LOT 3

EAST RUTHERFORD — NEW JERSEY

JOB NO.	DATE	SCALE	FIGURE NO.
100234201	10/11/2011	1"=2,000'	1



Map Reference: Borough of East Rutherford Tax Map, Sheet No. 10

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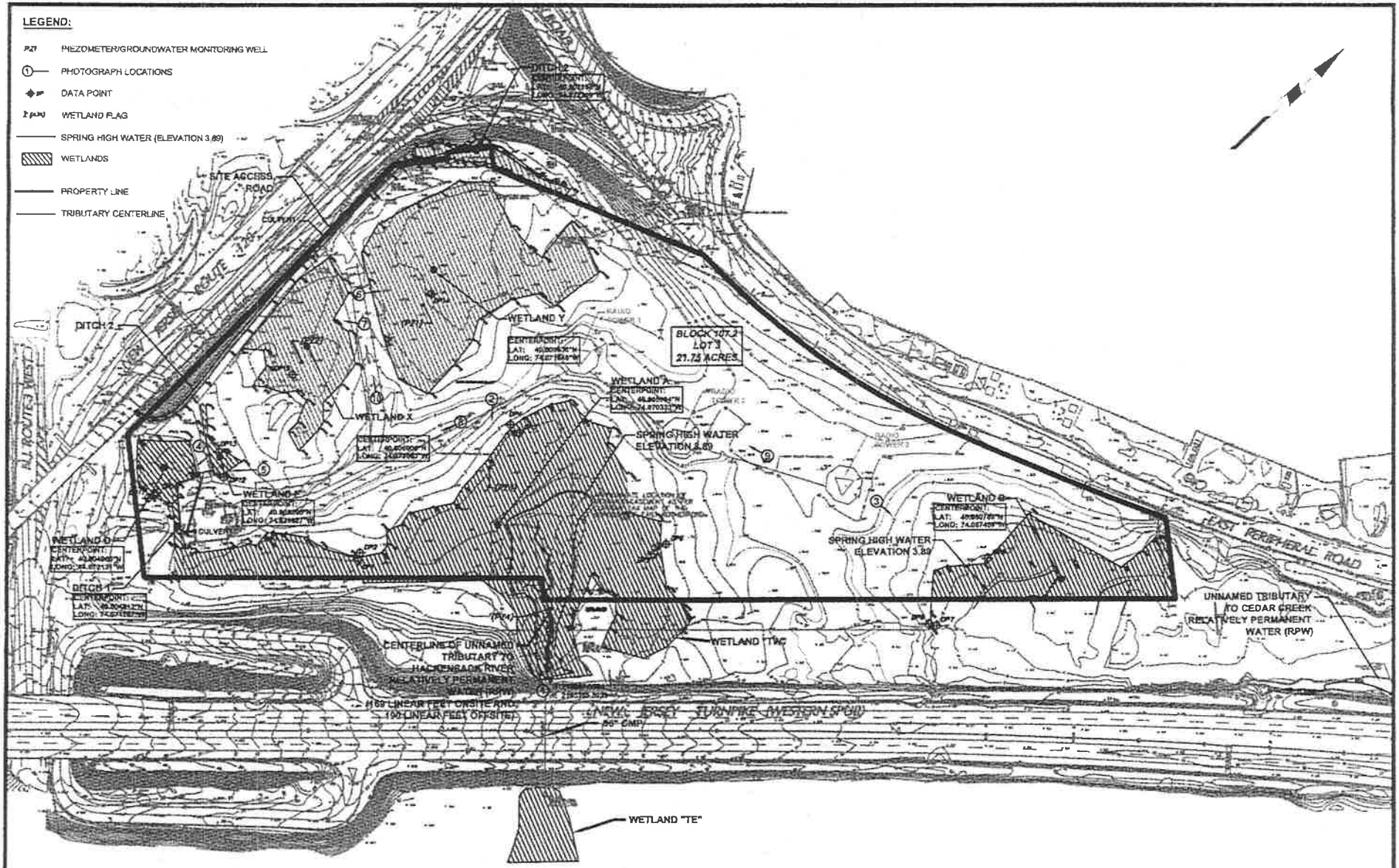
ELMWOOD PK, NJ • NEW YORK, NY • PHILADELPHIA, PA • DOYLESTOWN, PA
NEW HAVEN, CT • MIAMI, FL • TRENTON, NJ

TAX MAP
AMUSEMENT PARK AND WATER PARK
AMERICAN DREAM MEADOWLANDS
BLOCK 107.02, LOT 3

EAST RUTHERFORD — NEW JERSEY

JOB NO	DATE	SCALE	FIGURE NO.
100234201	10/11/2011	NTS	2

NJ Certificate of Authorization No. 24GA27996400
\\langan.com\data\EP\data2\100234201\Office Data\Reports\USACE IP Application\Public Notice\Figure 2 - Tax Map.doc



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ENGINEERING & ENVIRONMENTAL SERVICES
River Drive Center 1 Elmwood Park, NJ 07407
P: 201.794.6900 F: 201.794.0366
www.langan.com
NEW JERSEY PENNSYLVANIA NEW YORK CONNECTICUT FLORIDA NEVADA VIRGINIA CALIFORNIA
NJ Certificate of Authorization No: 24GA27996400

WETLAND DELINEATION MAP

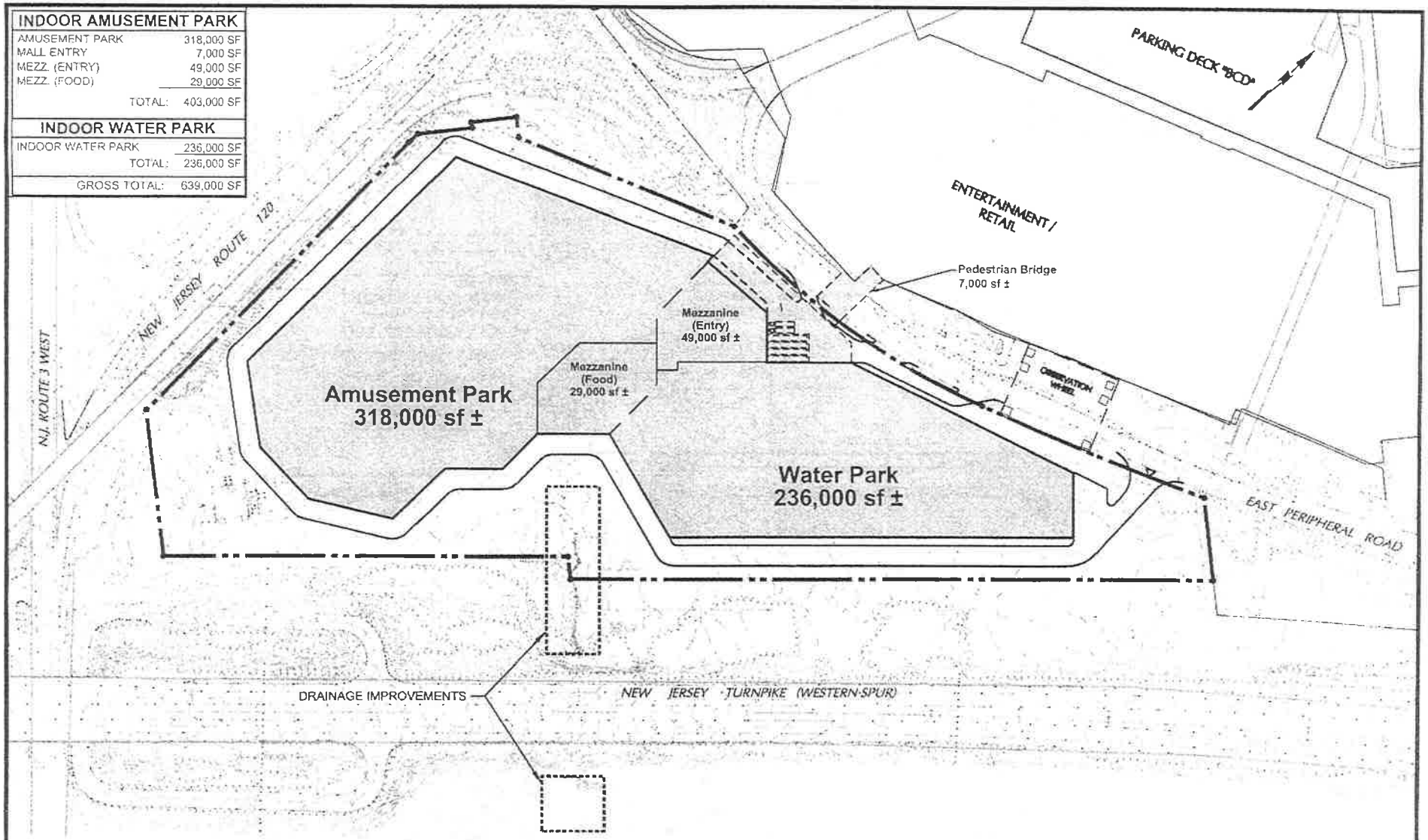
AMUSEMENT PARK AND WATER PARK
AMERICAN DREAM MEADOWLANDS
BLOCK 107.02, LOT 3

EAST RUTHERFORD NEW JERSEY

Project No.	Date	Scale	Fig. No.
100234201	10/13/11	1"=250'	3

Filename: \\langan.com\data\EP\data2\100234201\Cadd Data - 100234201\Wetland Plans\For EIS Only\USACE IP Application Wetland Delineation Plan.dwg Date: 10/13/2011 Time: 15:39 User: cmundson Style Table: Langan.stb Layout: Core Template

INDOOR AMUSEMENT PARK	
AMUSEMENT PARK	318,000 SF
MALL ENTRY	7,000 SF
MEZZ. (ENTRY)	49,000 SF
MEZZ. (FOOD)	29,000 SF
TOTAL:	403,000 SF
INDOOR WATER PARK	
INDOOR WATER PARK	236,000 SF
TOTAL:	236,000 SF
GROSS TOTAL:	639,000 SF



0 125 250
SCALE IN FEET

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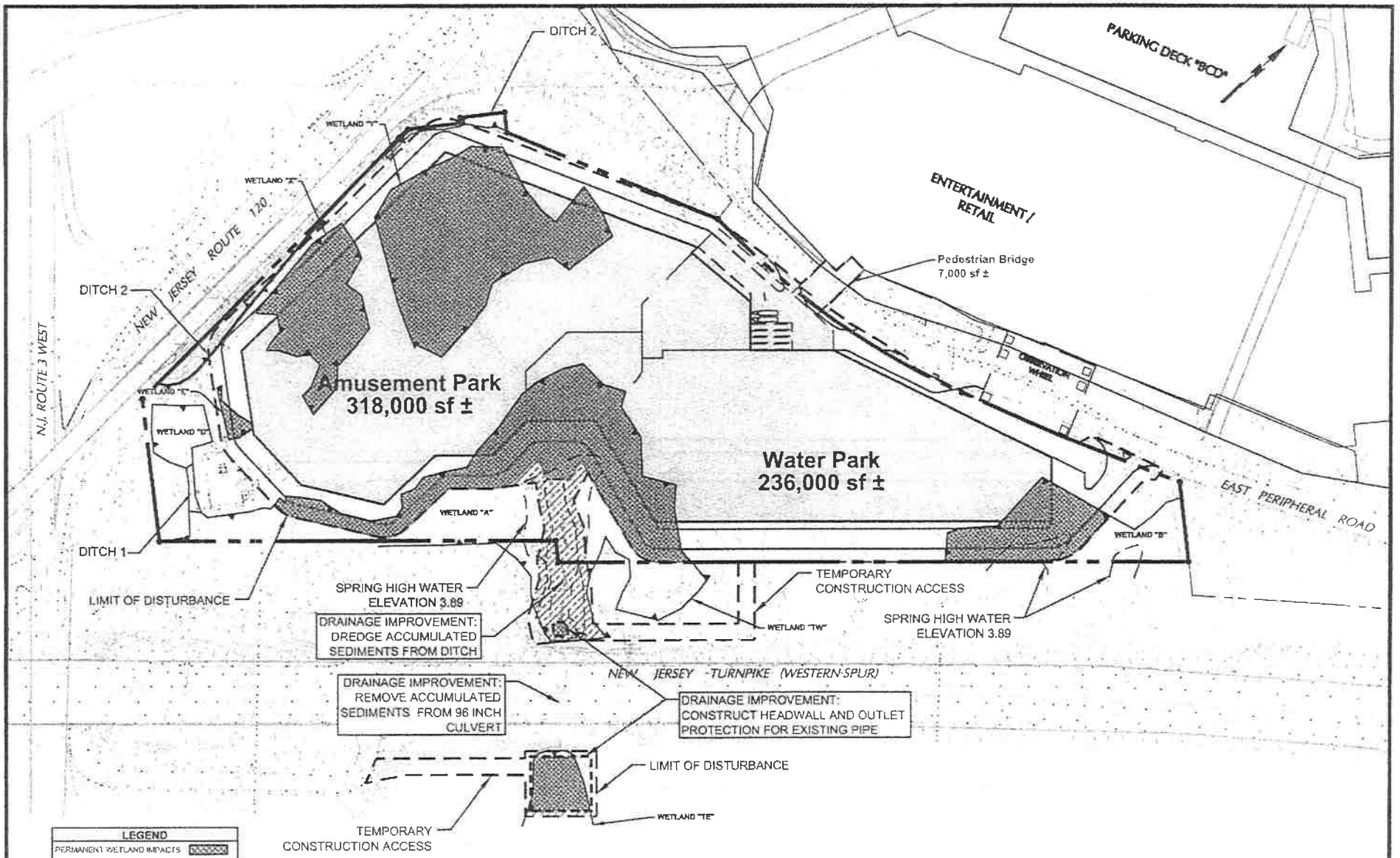
CONCEPT PLAN

AMUSEMENT PARK AND WATER PARK
AMERICAN DREAM MEADOWLANDS
BLOCK 107.02, LOT 3

EAST RUTHERFORD NEW JERSEY

Project No.	Date	Scale	Fig. No.
100234201	10/11/11	1"=250'	4

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WETLAND IMPACT PLAN

AMUSEMENT PARK AND WATER PARK
AMERICAN DREAM MEADOWLANDS
BLOCK 107.02, LOT 3

EAST RUTHERFORD NEW JERSEY

Project No.	Date	Scale	Fig. No.
100234201	10/13/11	1"=250'	5

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Wetland Impact Summary Table

Identified Feature	Wetland Type (Cowardin Classification)	Area (Acres)	Amusement Park/Water Park Permanent Wetland Impacts (Acres)	Drainage Improvements Permanent Wetland Impacts (Acres)	Temporary Wetland Impacts from Dredging Activities (Acres)
Wetland A	E2EM5P6d	3.1	1.78	0	0.28
Wetland B	E2EM5P6d	0.97	0.61	0	0
Wetland D	PEM5A0d	0.22	0	0	0
Wetland E	PEM5A0d	0.06	0.05	0	0
Ditch 1	PEM5J0d	0.03	0	0	0
Wetland X	PEM5A0d	0.81	0.81	0	0
Wetland Y	PEM5C0d	1.99	1.99	0	0
Ditch 2	POW	0.18	0	0	0
Wetland TE	E1UBLx	0.3	0	0.21	0.03
Wetland TW	E1UBLx	0.76	0	0.02	0.35
TOTAL		8.42	5.24	0.23	0.66

0 125 250

SCALE IN FEET

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WETLAND IMPACT SUMMARY TABLE
AMUSEMENT PARK AND WATER PARK
AMERICAN DREAM MEADOWLANDS
BLOCK 107.02, LOT 3
EAST RUTHERFORD NEW JERSEY

Project No.	Date	Scale	Fig. No.
100234201	10/13/11	1"=250'	6

Filename: \\langan.com\data\EP\data2\100234201\Cadd Data – 100234201\Wetland Plans\ACOE Wetland Impact Summary Table.dwg Date: 10/13/2011 Time: 15:25 User: jaldenburger Style Table: Langan.stb Layout: A Site Sheet (Side)

APPENDIX B

PRELIMINARY ASSESSMENT REPORT

PRELIMINARY ASSESSMENT REPORT

for

METRO CENTRAL, LLC PROPERTY
American Dream Meadowlands
Block 107.02, Lot 3
East Rutherford, New Jersey

Prepared By:

Langan Engineering & Environmental Services
River Drive Center 1
Elmwood Park, New Jersey 07407
NJ Certificate of Authorization No: 24GA27996400



19 October 2011
100234201

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

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Figure 3	**Areas of Concern**
Figure 4	**NJDEP Historic Fill Weehawken Quadrangle (2004)**

APPENDICES

Appendix A	**Current and Historic Property Information**
Appendix B	**Historical Topographic Maps**
Appendix C	**Historic Aerial Photographs**
Appendix D	**City Directory**
Appendix E	**Environmental Database Search Summary (Complete EDR Report On Enclosed CD)**
Appendix F	**Areas of Concern (AOCs)**
Appendix G	**Environmental Permits**
Appendix H	**OPRA Request Available Information**
Appendix I	**Property Inspection Photographs**

EXECUTIVE SUMMARY

Langan Engineering and Environmental Services, Inc. (Langan) has prepared this Preliminary Assessment (PA) Report for the American Dream Meadowlands c/o Metro Central, LLC on behalf of Triple Five, LLC. The purpose of this PA report was to identify potential Areas of Concern (AOCs) located at the former radio tower transmission property ("property"). The property is located along State Highway Route 120 and Route 3 in East Rutherford, Bergen County, New Jersey. This property is affiliated with the American Dream Meadowlands, formerly Meadowlands Xanadu.

Through a diligent review of current and historical documents and an inspection of the property (22 August 2011), this PA report has identified nine (9) potential Areas of Concern (AOCs). These nine AOCs are listed below, by the number corresponding to the AOCs listed on the New Jersey Department of Environmental Protection (NJDEP) form (Section H2). The following nine AOC locations are also presented on Figure 3.

- AOC 1 Two diesel fuel (200 and 275 gallons) Aboveground Storage Tanks (ASTs);
- AOC 4 Chemical storage cabinet/closet;
- AOC 7 Discolored or spill area;
- AOC 11 Electrical transformer and capacitor;
- AOC 12 Floor drain collection system;
- AOC 14 Hazardous material storage or handling area;
- AOC 15 Historic fill or any other fill material;
- AOC 33 Surface water body (wetland and ditches); and,
- AOC 38 Groundwater.

Additional investigation has been recommended for these AOCs and the investigation results are presented in the Site Investigation Report/Remedial Action Workplan (SIR/RAW). The SIR/RAW is provided under separate cover.

New Jersey Department of Environmental Protection
Site Remediation Program

PRELIMINARY ASSESSMENT / SITE INVESTIGATION

☐ Non-LSRP (Existing Cases) ☒ LSRP ☐ Subsurface Evaluator

Date Stamp
(For Department use only)

A Phase I or Phase II is not equivalent to a Preliminary Assessment, therefore, it will not be an acceptable substitution.

SECTION A. SITE NAME AND LOCATION

Site Name: Metro Central, LLC

List all AKAs: Radio Tower Property; Disney Parcel

Street Address: State Highway Route 120 and Route 3

Municipality: East Rutherford (Township, Borough or City)

County: Bergen Zip Code: 07073

Incident Number(s)/Com. Center Number(s):

Program Interest (PI) Number(s): Case Tracking Number(s):

Date Remediation Initiated Pursuant to N.J.A.C. 7:26C-2.2 or 2.3(b):

State Plane Coordinates for a central location at the site: Easting: 2165023 Northing: 719381

Municipal Block(s) and Lot(s):

Block #	107.02	Lot #	3	Block #		Lot #	
Block #		Lot #		Block #		Lot #	
Block #		Lot #		Block #		Lot #	
Block #		Lot #		Block #		Lot #	

SECTION B. NJDEP CASE MANAGER

Do you have an assigned Case Manager? ☒ Yes ☐ No

If "Yes," please list the Case Manager: Chris Kanackis

SECTION C. REQUIRED TECHNICAL SUBMITTALS

	Not Applicable	Included in This Submission	Previously Submitted	Date of Submission	Date of Revised Submission
Immediate Environmental Concern Report	☒	☐	☐		
Immediate Response Action Plan	☒	☐	☐		
Preliminary Assessment Report	☐	☒	☐		
Receptor Evaluation	☐	☒	☐		
Site Investigation Report	☐	☒	☐		
Remedial Investigation/Remedial Action Work Plan	☐	☒	☐		
Feasibility Study Report	☒	☐	☐		
Response Action Outcome Report	☐	☐	☐		

SECTION D. SITE USE

Current Site Use (check all that apply)

- ☐ Industrial
- ☐ Residential
- ☒ Commercial
- ☐ School or child care
- ☐ Agricultural
- ☐ Park or recreational use
- ☐ Vacant
- ☐ Government
- ☒ Other: Former Radio Tower Transmission Site

Intended Future Site Use, if known (check all that apply)

- ☐ Industrial
- ☐ Residential
- ☒ Commercial
- ☐ School or child care
- ☐ Park or recreational use
- ☐ Vacant
- ☐ Government
- ☐ Future site use unknown

SECTION E. CASE TYPE: (check all that apply)

- ☐ Child Care Facility
- ☐ School facility
- ☐ School Development Authority (SDA)
- ☐ UST Grant/Loan
- ☐ Hazardous Discharge Remediation Fund (HDSRF) Grant/Loan
- ☐ Administrative Consent Order (ACO)
- ☐ Remediation Agreement (RA)
- ☐ Brownfield Development Area (BDA)
- ☐ Site is located within an economic development priority area
- ☐ ISRA
- ☐ Regulated Underground Storage Tank (UST)
- ☐ Landfill
- ☐ Federal oversight (RCRA, CERCLA, DOD, TSCA, etc.)
- ☐ Coal Gas
- ☐ Chrome Site (Chromate chemical production waste)
- ☐ Spill Act Discharge
- ☐ Due Diligence with RAO
- ☐ Not Applicable

SECTION F. PUBLIC FUNDS

Did the remediation utilize public funds? ☐ Yes ☒ No

If "Yes," check applicable: ☐ UST Grant ☐ UST Loan ☐ Brownfield Reimbursement Program ☐ HDSRF Grant ☐ HDSRF Loan ☐ Landfill Reimbursement Program ☐ Spill Fund ☐ Schools Development Authority

SECTION G. GENERAL

1. Was an inspection of the site conducted? ☒ Yes ☐ No ☐ NA
   Date of the inspection 08/22/2011
2. Did the PA identify any areas of concern? ☒ Yes ☐ No ☐ NA
   If "Yes," please complete section H2.
3. What page or appendix is the site map indicating all of the areas of concern located? Figure 3
4. Did the PA identify any current or historic industrial, commercial, agricultural or residential use at the site dating back to the time the site was naturally vegetated? ☒ Yes ☐ No ☐ NA
   If "Yes," please complete section H1.
5. Prior to this submittal have any NFAs/RAOs been issued for this site? ☐ Yes ☒ No
   a. Does the site currently have a Deed Notice? ☐ Yes ☒ No
   b. Does the site currently have a CEA? ☐ Yes ☒ No
   c. Has an order of magnitude evaluation been performed? ☐ Yes ☒ No
6. Is the ground water at the site classified as a Class I Ground Water? ☐ Yes ☒ No
7. Are there potable wells on-site? ☐ Yes ☒ No
8. Has a well search been conducted pursuant to N.J.A.C. 7:26E-1.17? ☐ Yes ☒ No
   a. If "Yes," are there any potable wells within 200' of the AOCs listed in H2 or within 200' of the site boundary? ☐ Yes ☐ No
9. Is the site investigation complete? ☒ Yes ☐ No

SECTION H. SITE INFORMATION

H1. Current and Historic Operators/Operations (attach additional sheets as necessary)

Name of Operator	Type of Operation – e.g., dry cleaning, electro-plating, residence	Dates of Operation	
		Start	End
Stephanie D. Krause	Vacant land, Radio Tower Site (~1950s)	Unknown	1967
East Rutherford Realty, Inc.	Radio Tower Transmission Site	1967	1980
Mutual Radio of NY, Inc.	Radio Tower Transmission Site	1980	Unknown
Ten Fifty LP, Care of WESPN Radio	Radio Tower Transmission Site	Unknown	2011
Metro Central LLC	Radio Tower Transmission Site	2011	Present
See Appendix A			

H2. Areas of Concern (For PA or PA/SI Report, list each AOC; for SI Report, list only AOCs documented in this submittal.)

	Area of Concern	Currently Exists? ☒ if "Yes"	Formerly Existed? ☒ if "Yes"	Investigation: SI Conducted ☒ if "Yes"	Investigation: RI Proposed ☒ if "Yes"
1	Above ground storage tank and associated piping	☒	☒	☒	☐
2	Area of stressed vegetation	☐	☐	☐	☐
3	Area which receives flood or storm water from potentially contaminated areas	☐	☐	☐	☐
4	Chemical storage cabinet and closet	☒	☒	☒	☐
5	Compressor vent discharge	☐	☐	☐	☐
6	Discharge area pursuant to N.J.A.C. 7:1E	☐	☐	☐	☐
7	Discolored or spill area	☒	☐	☒	☐
8	Drainage swale and culvert	☐	☐	☐	☐
9	Drywell and sump	☐	☐	☐	☐
10	Dumpster	☐	☐	☐	☐
11	Electrical transformer and capacitor	☒	☒	☒	☐
12	Floor drain collection system	☒	☒	☒	☐
13	Former agricultural applied pesticide area	☐	☐	☐	☐
14	Hazardous material storage or handling area	☒	☒	☒	☐
15	Historic fill or any other fill material	☒	☒	☒	☐
16	Hydraulic lift	☐	☐	☐	☐
17	Incinerator	☐	☐	☐	☐
18	Landfill or landfarm	☐	☐	☐	☐
19	Loading and unloading area	☐	☐	☐	☐
20	Non-contact cooling water discharge	☐	☐	☐	☐
21	Open area away from production area	☐	☐	☐	☐
22	Piping, above ground and below ground pumping station, sump and pit	☐	☐	☐	☐
23	Process area sink and piping which receive process waste	☐	☐	☐	☐
24	Rail car	☐	☐	☐	☐
25	Roof leader when process operations vent to the roof	☐	☐	☐	☐
26	Septic system, leachfield or seepage pit	☐	☐	☐	☐
27	Silo	☐	☐	☐	☐
28	Sprayfield	☐	☐	☐	☐
29	Storage pad including drum and/or waste storage	☐	☐	☐	☐
30	Storm sewer and spill containment collection system	☐	☐	☐	☐
31	Storm water detention pond and fire pond	☐	☐	☐	☐
32	Surface impoundment and lagoon	☐	☐	☐	☐
33	Surface water body	☒	☒	☒	☐
34	Underground piping including industrial process sewer	☐	☐	☐	☐
35	Underground storage tank and associated piping	☐	☐	☐	☐
36	Waste pile as defined by N.J.A.C. 7:26	☐	☐	☐	☐
37	Waste water treatment	☐	☐	☐	☐
38	Other: Groundwater	☒	☒	☒	☐

H3. Complete this section only if an ISRA waiver was issued or an ISRA NFA was issued under an expedited review or Limited Site Review.

ISRA Case #	Expedited Review	Limited Site Review	Remediation In Progress Waiver	Regulated UST Waiver	Date	Comments
	☐	☐	☐	☐		
	☐	☐	☐	☐		
	☐	☐	☐	☐		
	☐	☐	☐	☐		
	☐	☐	☐	☐		
	☐	☐	☐	☐		
	☐	☐	☐	☐		
	☐	☐	☐	☐		

H4. REGULATED USTs: Complete if any underground storage tanks (USTs) on site are regulated Pursuant to N.J.A.C. 7:14B

a. Have all the regulated USTs on site been registered with the Department? ☐ Yes ☐ No

b. Have all incidents related to regulated USTs been remediated/investigated? ☐ Yes ☐ No

c. Have any USTs been removed on/after September 4, 1990? ☐ Yes ☐ No

d. Including this submittal, has an SI/RI report been submitted for all USTs closed on/after September 4, 1990? ☐ Yes ☐ No

H5. Compliance Check (Complete only if sampling of soil and/or ground water was conducted)

a. Identify the media if impacted above applicable standards/screening levels (check all that apply):

☒ soil ☒ ground water

Type of contamination in soil and ground water above applicable standards/screening levels (check all that apply):

Soil	Ground Water		Soil	Ground Water	
☒	☒	Volatile Organics	☒	☐	PCBs
☒	☒	Polycyclic Aromatic Hydrocarbons(PAHs)	☐	☐	Chromium
☐	☐	Acid Extractables	☐	☐	Dioxin
☐	☐	Base Neutrals (non-PAHs)	☒	☒	Mercury
☒	☒	Metals	☒	☐	Arsenic
☒	☐	Pesticides	☐	☐	Perchlorate, RDX, TNT, etc.
☒	☐	PHC	☐	☐	Other, specify _____

b. For all AOCs at which a SI was conducted, but no RI/RA is proposed:

1) Are any soil analytical results greater than the most stringent Direct Contact Soil Remediation Standards (DCSRS)? ☒ Yes ☐ No

2) Are any soil analytical results greater than the default Impact to Ground Water Soil Screening Levels (IGWSSL)? ☒ Yes ☐ No

3) Are any ground water analytical results greater than the Ground Water Quality Standards (GWQS)? ☒ Yes ☐ No ☐ NA

4) Are any Method Detection Limits (MDLs) greater than the applicable soil and/or ground water standards or screening levels? ☒ Yes ☐ No

5) Are any surface water analytical results greater than the most stringent, both human and ecological, Surface Water Quality Standards? ☐ Yes ☐ No ☒ NA

6) Are any sediment analytical results above the screening levels? ☐ Yes ☐ No ☒ NA

7) Are any analytical results above the vapor intrusion screening levels? ☐ Yes ☒ No ☐ NA

8) Did the SI document, via a background investigation, outside the influence of onsite AOCs and operational areas, determine that:

a) contamination is migrating onto this site per N.J.A.C. 7:26E-3.7(g)? ☐ Yes ☒ No ☐ NA

b) contamination is naturally occurring per N.J.A.C. 7:26E-3.10? ☐ Yes ☒ No ☐ NA

9) Contamination is associated with an ongoing ISRA remediation..... ☐ Yes ☒ No ☐ NA

c. Have Alternative Remediation Standards (ARS) been utilized for Inhalation and/or Ingestion/Dermal pathways?..... ☐ Yes ☒ No

d. Have any site specific Impact to Groundwater Soil Remediation Standards (IGWSRS) been established?..... ☐ Yes ☒ No

Note: Complete if "Yes" to question b.) 1-4, c. or d. List affected AOC(s) below; attach additional sheets if necessary.

Area of Concern (from H2. above)	Exceeds DCSRS	Exceeds IGWSSL	Exceeds GWQS	MDLs > Standards	ARS	Site Specific IGWSRS	Comments
Eletrical Transformer/Capacitors	☒	☐	☐	☒	☐	☐	
Historic Fill, includes fill material	☒	☐	☐	☐	☐	☐	
Groundwater	☐	☐	☒	☐	☐	☐	
Groundwater	☐	☐	☐	☐	☐	☐	
	☐	☐	☐	☐	☐	☐	
	☐	☐	☐	☐	☐	☐	
	☐	☐	☐	☐	☐	☐	
	☐	☐	☐	☐	☐	☐	

SECTION I. ALTERNATIVE REMEDIATION STANDARD / DEVIATIONS

Alternative remediation standard

If proposing an alternative remediation standard pursuant to N.J.A.C. 7:26D-7.4, check here and attach the Alternative Soil Remediation Standard Application Form as an addendum. ☐

Deviation from regulations

If the Licensed Site Remediation Professional has varied from the Technical Rules, provide the citation(s) from which the remediation varied and the page(s) in the attached document where the rationale for the deviation is provided.

N.J.A.C. 7:26E- _____ Page _____

N.J.A.C. 7:26E- _____ Page _____

N.J.A.C. 7:26E- _____ Page _____

SECTION J. PERSON RESPONSIBLE FOR CONDUCTING THE REMEDIATION INFORMATION AND CERTIFICATION

Full Legal Name of the Person Responsible for Conducting the Remediation: Metro Central, LLC

Representative First Name: Kurt Representative Last Name: Hagen

Title: Senior VP, Development&Construction Business Affiliation: _____

Phone Number: (952) 883-8742 Ext: _____ Fax: _____

Mailing Address: 60 East Broadway

City/Town: Bloomington State: Minnesota ZIP Code: 55425

Email Address: kurt.hagen@moa.net

This certification shall be signed by the person responsible for conducting the remediation who is submitting this notification in accordance with Administrative Requirements for the Remediation of Contaminated Sites rule at N.J.A.C. 7:26C-1.5(a).

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein, including all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, to the best of my knowledge, I believe that the submitted information is true, accurate and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties.

Signature: _____ Date: _____

Name/Title: Senior VP-Development & Construction **No Changes Since Last Submittal** ☐

SECTION K. LICENSED SITE REMEDIATION PROFESSIONAL INFORMATION AND STATEMENT

LSRP ID Number: 512051

First Name: Robert Last Name: Koto

Phone Number: (201) 398-4566 Ext: 4566 Fax: (201) 398-4766

Mailing Address: 619 River Drive, Center One

City/Town: Elmwood Park State: New Jersey Zip Code: 07407

Email Address: bkoto@langan.com

This statement shall be signed by the LSRP who is submitting this notification in accordance with SRRA Section 16 d. and Section 30 b.2.

I certify that I am a Licensed Site Remediation Professional authorized pursuant to N.J.S.A. 58:10C to conduct business in New Jersey. As the Licensed Site Remediation Professional of record for this remediation, I:

[SELECT ONE OR BOTH OF THE FOLLOWING AS APPLICABLE]:

☐ *directly oversaw and supervised all of the referenced remediation, and\or*

☒ *personally reviewed and accepted all of the referenced remediation presented herein.*

I believe that the information contained herein, and including all attached documents, is true, accurate and complete.

It is my independent professional judgment and opinion that the remediation conducted at this site, as reflected in this submission to the Department, conforms to, and is consistent with, the remediation requirements in N.J.S.A. 58:10C-14.

My conduct and decisions in this matter were made upon the exercise of reasonable care and diligence, and by applying the knowledge and skill ordinarily exercised by licensed site remediation professionals practicing in good standing, in accordance with N.J.S.A. 58:10C-16, in the State of New Jersey at the time I performed these professional services.

I am aware pursuant to N.J.S.A. 58:10C-17 that for purposely, knowingly or recklessly submitting false statement, representation or certification in any document or information submitted to the board or Department, etc., that there are significant civil, administrative and criminal penalties, including license revocation or suspension, fines and being punished by imprisonment for conviction of a crime of the third degree.

LSRP Signature: Date:

LSRP Name/Title: Robert Koto - Senior Associate **No Changes Since Last Submittal** ☐

Company Name: Langan Engineering & Environmental Services

Submit this form to:

Bureau of Case Assignment & Initial Notice
Site Remediation Program
NJ Department of Environmental Protection
401-05H
PO Box 420
Trenton, NJ 08625-0420

New Jersey Department of Environmental Protection
Site Remediation Program

PRELIMINARY ASSESSMENT REPORT

This form has been created to assist in completing a Preliminary Assessment in accordance with the Technical Requirements for Site Remediation, N.J.A.C. 7:26E. It must be completed in detail and supplemented with narratives where directed. This form takes the Preliminary Assessment requirements of the Technical Rules and puts them into a question and answer format. It is the foundation for completing an environmental investigation of a site as a means towards obtaining a no-further-action approval from the Department; as well as a means toward meeting the minimum requirements of the due diligence requirements of the innocent purchaser defense as defined by N.J.S.A. 58:10-23.11g

INFORMATION IN THE REPORT SHALL BE USED AS THE INITIAL BASIS FOR ASSESSING POTENTIAL ENVIRONMENTAL CONCERNS. THIS FORM MUST BE CERTIFIED IN ACCORDANCE WITH N.J.A.C. 7:26E-1.5. **SUBMIT ONE ORIGINAL CERTIFIED COPY OF THIS FORM UNLESS IT IS ACCOMPANIED BY A SITE INVESTIGATION REPORT AND A PROPOSED REMEDIAL INVESTIGATION WORKPLAN IN WHICH CASE 3 COPIES SHALL BE SUBMITTED.**

This form should be used as a foundation for completing a preliminary assessment report in accordance with N.J.A.C.7: 26E, the Technical Requirements for Site Remediation, subchapter 3.1 and 3.2. The purpose of a preliminary assessment is to identify the presence of any potentially contaminated areas of concern. And if the information gathered to complete this form identifies any potentially contaminated areas of concern, then there is a need to complete a site investigation pursuant to N.J.A.C. 7:26E-3.3 through 3.13. If this is the case, then continue with the remedial activities and submit the preliminary assessment report with a complete site investigation report and a proposal based on the findings of the site investigation. **Note: A Preliminary Assessment Report does not include the results of a site investigation.**

The Department will accept mimeograph copies or computer-generated copies of this form provided the copies are legible and all questions listed on this form are included.

The application must be notarized.

Should you encounter any problem in completing this form, we recommend that you discuss the matter with your assigned Case Manager for active cases or a representative from the Department if completing the form in anticipation of a future submittal to the NJDEP. Submitting incorrect or insufficient data may cause processing delays and possible postponement of your transaction.

Please call (609) 633-0708 or your assigned case manager between the hours of 8:30 a.m. and 4:30 p.m. to request assistance.

1/2006

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF REMEDIATION SUPPORT
P.O. Box 435, TRENTON, NJ 08625-0435

PRELIMINARY ASSESSMENT REPORT

Answer all questions. Should you encounter any problems in completing this form, we recommend that you discuss the matter with a representative from the Site Remediation Program. Submitting incorrect or insufficient data may cause processing delays and possible postponement of your transaction

PLEASE PRINT OR TYPE Date: **10/2011**

Industrial Establishment/Site Name **Metro Central, LLC**

Address **State Highway Route 120 and Route 3**

City or Town **East Rutherford** Zip Code **07073**

Municipality **East Rutherford** County **Bergen**

Block (s) **107.02** Lots (s) **3**

Site Remediation Program Case Number or EPA Identification Number **None**

1. Present a history of ownership and operations at the industrial establishment, in tabular form, from the time the site was naturally vegetated or utilized as farmland in accordance with N.J.A.C. 7:26E-3.1(c)1.ii. (attach additional sheets as necessary)

Name of Property Owner	From	To
Stephanie D. Krause	Unknown	1967
East Rutherford Realty, Inc.	1967	1980
Mutual Radio of New York, Inc.	1980	Unknown
Ten Fifty LP, Care of WESPN Radio	Unknown	2011
Metro Central LLC/Ten Fifty LP Disney Core Serv	2011	Present

Name of Operator	From	To
WMGM, WHN, WEVD, WFAN, ESPN	1950s	2008

2A. In accordance with N.J.A.C. 7:26E-3.1(c)1.i, provide a clear and concise description of the past industrial/commercial operation(s) conducted on site by each owner and operator. To the extent available the site history shall include an evaluation of the following sources of information:

(1) Sanborn Fire Insurance Maps; (2) MacRae's Industrial Directory, New Jersey Industrial Directory, New Jersey Manufacturers Directory; (3) Title and Deed; (4) Site plans and facility as-built drawings; (5) federal, state, county and local government files; (6) The Department Geographic Information System. (7) and any additional sources which may be available for a specific site.

Site history is frequently an item where preliminary assessments are incomplete. The Industrial Site Recovery Act requires that a diligent inquiry be made, researching the site history back to January 1, 1932. Common answers to this question have included: "Unknown", or "We are only a tenant on the site and have no knowledge of prior site history". Neither of these answers satisfies the requirement for a due diligent inquiry.

To avoid having a PA found incomplete by the Department due to insufficient information, the site history must be researched. The following are ways of obtaining information regarding site history: title searches; contacting the local and county health officials and municipal agencies (for example, local fire and police departments, and local planning, zoning, adjustment boards) requesting any information these public agencies may have on the specific location; and, interviewing long time neighbors of the industrial establishment. Tenants should always request information from the landlord. The applicant should always document any attempts to locate this information to support a claim that a diligent inquiry has been conducted. The Preliminary Assessment report should not be submitted until all parties contacted for information have responded to the request for information and the information obtained has been reviewed. If the prior site history demonstrates that the current building was built on vacant unimproved property, it should be reported as such. If the site has been, or is now the subject of a site remediation, any prior cases should always be referenced.

Provide the page or appendix number where the site history may be found. **Appendix A**

Provide a listing of the resources utilized to compile the site history and as appropriate copies of any maps or information, which will assist the Department in evaluating your conclusions.

Name of Resource	Date of document reviewed	Appendix # if providing copies
USGS Topographic Maps	1900, 1903, 1905, 1947, 1955, 1967, 1981, 1995	Appendix B
Aerial Photographs	1933, 1954, 1966, 1976, 1985, 1995, 2006, 2008	Appendix C
City Directory	11 August 2011	Appendix D
State and Federal Government Database Search	11 August 2011	Appendix E
Sanborn Maps	11 August 2011	Sanborn maps were not available for the site

2B. Include a detailed description of the most recent operations subject to this preliminary assessment.

Provide the page or appendix # where the description of the most recent operations may be found. **The property contains three radio antenna towers and a transmitter building. Additional information on the site operations is provided in Appendix A.**

3. Hazardous Substance/Waste Inventory: N.J.A.C. 7:26E-3.1(c)1.iii. List all raw materials, finished-products, formulations and hazardous substances, hazardous wastes, hazardous constituents and pollutants, including intermediates and by-products that are or were historically present on the site. Note: If past usage included farming, pesticides may be a concern and should be included in this list. (Attach additional sheets if necessary).

Material Name	CAS # if known	Typical annual usage (gallons/lbs.)	Storage method (i.e. Drum, tank, jars)
Diesel Fuel		475 gallons	Two Aboveground Storage Tanks (ASTs)
Roofing Sealant		10 gallons	Plastic buckets
Nitrogen Gas		Unknown	Cylinders
Silica Sealant		55 gallons	Drum
Aerosol Paint			Cans
Floor Finisher			Cans
Cleaning products			Cans, spray bottles
Paint		25 gallons	25 5-gallon pales
PCBs		Unknown	Capacitators

4 A. In accordance with N.J.A.C. 7:26E-3.1(c)1iv provide a summary of all current and historic wastewater discharges of **Sanitary and/or Industrial Waste** and/or sanitary sludge. Present and past production processes, including dates and their respective water use shall be identified and evaluated, including ultimate and potential discharge and disposal points and how and where materials are or were received on-site. All discharge and disposal points shall be clearly depicted on a scaled site map. Information required under this item is intended to identify potential discharges to any on-site disposal system, such as a septic system or lagoon or drywell. For example to complete the following table information may include: From 1955 To 1960, Discharge Type - Sanitary and Industrial, Discharge Location - On-Site Septic System: From 1960 To Present, Discharge Type - Sanitary and Industrial, Discharge Location - Public Treatments Works.

Site Information

Discharge Period		Discharge Type	Discharge Location
From	To		
1953	Present	Sanitary Discharge	Bergen County Utility Authorities (BCUA)

4B. In accordance with N.J.A.C 7:26E-3.1(c)iv provide a narrative of disposal processes for all historic and current process waste streams and disposal points. (attach additional sheets if necessary)

The current waste stream at the property consists of sanitary waste. The sanitary waste discharges to the Bergen County Utilities Authorities (BCUA) waste water treatment facility, located in Little Ferry. Prior to 1950s, there were no buildings on the property and there is no information available on the pre-1950s discharges.

5. This question requires the applicant to conduct a diligent inquiry into the current and historic operations at the site to identify all of the potential areas of concern, which formerly or currently exists at the industrial establishment as defined in N.J.A.C. 7:26E-1.8.

Diligent inquiry as defined in N.J.A.C.7:26E-1.8 states:

A. Conducting a diligent search of all documents which are reasonably likely to contain information related to the object of the inquiry, which documents are in such person's possession, custody or control, or in the possession, custody or control of any other person from whom the person conducting the search has a legal right to obtain such documents; and

B. Making reasonable inquiries of current and former employees and agents whose duties include or included any responsibility for hazardous substances, hazardous wastes, hazardous constituents, or pollutants, and any other current and former employees or agents who may have knowledge or documents relevant to the inquiry.

In accordance with N.J.A.C. 7:26E3.1(c)1.v., a narrative shall be provided for each area of environmental concern describing the **(A)** Type; **(B)** Age; **(C)** Dimensions of each container/area; **(D)** Chemical Content; **(E)** Volume; **(F)** Construction materials; **(G)** Location; **(H)** Integrity (i.e., tank test reports, description of drum storage pad); and **(I)** Inventory control records, unless a Department-approved leak detection system, pursuant to N.J.A.C. 7:1E or 7:14B, has always been in place and there is no discharge history. If sampling is not proposed for any identified area of environmental concern, please explain why it is believed that the area of environmental concern does not contain contaminants above the applicable remediation standards. Submit all necessary documentation to verify this belief. The required narrative need not describe the sampling to be completed; however, it should state that sampling will be completed in accordance with the appropriate section of N.J.A.C.7:26E.

Detailed descriptions of all sampling completed in each area of concern shall be described as part of a Site Investigation Report in accordance with N.J.A.C.7:26E-3.13.

Please indicate if any of the potential areas of environmental concern listed below in #5A through #5G, as defined in N.J.A.C. 7:26E-1.8, formerly or currently exist at the industrial establishment by indicating Yes or No in the appropriate space as provided.

For the Location Reference Keyed to Site Map, use either a unique number or a unique letter identification for each area of concern and be consistent throughout each phase of the remediation, referring to the same identification provided herein. Note: If the industrial establishment has multiple locations for one type of area of concern (example: underground storage tanks [UST] are located in 3 separate areas of the facility), each area must be discussed separately and given a separate identification. For example: Area A-1 a 1,000 gallon gasoline UST, Area A-2 a 10,000 gallon heating oil UST and Area A-3 a 500 gallon TCE UST should all be listed on the site maps and have separate narratives provided for each area discussing required information A-I listed above for each UST area.

Provide the required narrative as an appendix to this report. Do not try to provide a narrative in the space provided

I hereby certify that a diligent inquiry has been conducted to identify all current and historical potential areas of environmental concern and based on the diligent inquiry the areas of environmental concern identified below in question 5A through 5G are the only areas of environmental concern believed to exist at the above referenced industrial establishment.

The signatory on the certification page shall initial here. _____.

A. Bulk Storage Tanks and Appurtenances, including, without limitation:

Area of Concern	Currently or Formerly Exists at the Site Yes/No	Location Referenced to the Site Map	Appendix Number
Aboveground Storage Tanks and Associated Piping	Yes	AOC 1	Appendix F
Underground Storage tanks and Associated Piping	No		Not Applicable
Silos	No		Not Applicable
Rail Cars	No		Not Applicable
Loading and unloading areas	No		Not Applicable
Piping, above ground and below ground pumping stations, sumps and pits	No		Not Applicable

B. Storage and Staging Areas, including

Area of Concern	Currently or Formerly Exists at the Site Yes/No	Location Referenced to the Site Map	Appendix Number
Storage pads including drum and/or waste storage	No		Not Applicable
Surface impoundments and lagoons	No		Not Applicable
Dumpsters	No		Not Applicable
Chemical storage cabinets or closets	Yes	AOC 4	Appendix F

C. Drainage systems and areas including without limitation

Area of Concern	Currently or Formerly Exists at the Site Yes/No	Location Referenced to the Site Map	Appendix Number
Floor drains, trenches and piping and sumps	Yes	AOC 12	Appendix F
Process area sinks and piping which receive process waste	No		Not Applicable
Roof leaders when process operations vent to the roof	No		Not Applicable
Drainage swales & culverts	No		Not Applicable
Storm sewer collection systems	No		Not Applicable
Storm water detention ponds and fire ponds	No		Not Applicable
Surface water bodies	Yes	AOC 33	Appendix F
Septic systems leachfields or seepage pits	No		Not Applicable
Drywells and sumps	No		Not Applicable

D. Discharge and disposal areas, including, without limitation:

Area of Concern	Currently or Formerly Exists at the Site Yes/No	Location Referenced to the Site Map	Appendix Number
Areas of discharge per N.J.A.C. 7:1E	No		Not Applicable
Waste piles as defined by N.J.A.C 7:26	No		Not Applicable
Waste water collection systems including septic systems, seepage pits, & dry wells.	No		Not Applicable
Landfills or landfarms	No		Not Applicable
Sprayfields	No		Not Applicable
Incinerators	No		Not Applicable
Historic Fill or any other Fill material	Yes	AOC 15	Appendix F
Open Pipe discharges	No		Not Applicable

E. Other areas of concern, including, without limitation:

Area of Concern	Currently or Formerly Exists at the Site Yes/No	Location Referenced to the Site Map	Appendix Number
Electrical Transformers & Capacitors	Yes	AOC 11	Appendix F
Hazardous material storage or handling areas	Yes	AOC 14	Appendix F
Waste Treatment areas	No		Not Applicable
Discolored or spill areas	Yes	AOC 7	Appendix F
Open areas away from production areas	No		Not Applicable
Areas of stressed vegetation	No		Not Applicable
Underground piping including industrial process sewers	No		Not Applicable
Compressor vent discharges	No		Not Applicable
Non-contact cooling water discharges	No		Not Applicable
Areas which receive flood or storm water from potentially contaminated areas	No		Not Applicable
Active or Inactive production wells	No		Not Applicable

F. Building interior areas with a potential for discharge to the environment, including, without limitation:

Area of Concern	Currently or Formerly Exists at the Site Yes/No	Location Referenced to the Site Map	Appendix Number
Loading or Transfer areas	No		Not Applicable
Waste Treatment areas	No		Not Applicable
Boiler rooms	No		Not Applicalble
Air vents and ducts	No		Not Applicable
Hazardous material storage or handling areas	No		Not Applicable

G. Any other site-specific area of concern.

Area of Concern	Currently or Formerly Exists at the Site Yes/No	Location Referenced to the Site Map	Appendix Number
Groundwater	Yes	AOC 38	Appendix F

6 If the site area exceeds two acres, an interpretation of the aerial photographic history of the site shall be submitted in accordance with N.J.A.C. 7:26E-3.1(c)1.vi. The interpretation shall focus on the site under review and if any concerns were identified on the site. References to surrounding properties are unnecessary unless a neighboring site is suspected to be directly contributing to environmental factors at the site of concern. The interpretation shall be based on available current and historical color, black and white and infrared aerial photographs (scale 1:18,000 or less) of the site and surrounding area at a frequency that provides the evaluator with a historical perspective of site activities. The photographic history shall date back to 1932 or the earliest photograph available. Aerial photographs are available for review at the New Jersey Department of Environmental Protection, Tidelands Management Program, Aerial Photo Library, 9 Ewing Street, Trenton, New Jersey, (609) 633-7369. Note, the applicant is not required to provide the Department with copies of the aerial photographs reviewed only an interpretation of what was observed in each photograph, which may represent an environmental concern. If photos are submitted please clearly identify the location of the site on each photo.

_____ Check here if an aerial photo review was not completed and provide a reason.

_____

_____

Provide the appendix number for the air photo review narratives **Appendix C**

7. Discharge History of Hazardous Substances and Wastes, N.J.A.C. 7:26E-3.1(c)1vii :

A. Have there been any known discharges of hazardous substances and wastes at the site?

__**X**__ No (Go to question #8) _____Yes (Complete Items 7B & 7C)

B. Was the Department notified of the discharge?

_____Yes; _____ No

If yes, provide the Case # _____

C. Was a no-further-action letter, negative-declaration approval or full-compliance letter issued as a result of the cleanup of this discharge?

_____ Yes (Submit a copy of the no-further-action approval)

_____ No (Submit a complete Site Investigation or Remedial Action Report documenting the action taken to address the discharge)

8 In accordance with N.J.A.C.7:2
previously conducted or curre
actions taken, and all existing
Copies of Department or othe
provided with a description o
information is especially import
site or a specific discharge ever

_____X_____ Check here if t

Provide the appendix number fc

9. Protectiveness of past remedies
remedies previously approved by th
to determine if the remedy remains
consider as part of this evaluation ir
contamination left on site? If yes,
contamination? Is the remedy work
local and county level? Please pr
included ___**Not Applicable**_.

10. Order of Magnitude Analysis, N.J.A.

A. Have any areas of conc
Department or other equivale
proposed? __**X**__ No (go to

B. In accordance with N.J.S.A 5
the protectiveness of past reme
action was previously approved
which no additional remediatic
determine if contaminant leve
criteria. The applicant shall con

I hereby certify that the order of ma
completed, since the issuance of a
equivalent remediation approval; an
the summary table and provide a summ

(1) ____ The areas of concern
remediation standard applicab
required because: (check the ap

_____ (a) The contan
are less than an orde
remediation standard a

_____ (b) The areas
institutional controls ap
public health, safety an

_____ (c) The area c
remediation standard
deriving the site specifi

Please list the areas of concern for which the previous statement applies.

Area of Concern	Location Reference Keyed to the Site Map
None	

Include a separate table comparing the levels of contaminants remaining in each area of concern, the numerical remediation standard approved in the remedial action workplan or at the time of no-further-action approval and the current numerical remediation standards applicable at the time of the comparison. The table shall contain all sampling results, including sample location (depth), sample media, field and laboratory identification numbers, and method detection limits, as necessary, and analytical results for all individual contaminants for each area of concern.

(2) ____ The areas of concern listed below contain contaminants above the current numerical remediation standard applicable at the time of the comparison and further remediation is required because: (check the appropriate sub statement)

_____ (a) The contaminant concentrations remaining in the areas of concern listed below are more than an order of magnitude (factor of 10) greater than the current numerical remediation standard applicable at the time of the comparison;

_____ (b) The areas of concern or the site was remediated using engineering and institutional controls approved by the Department and these controls are no longer protective of public health, safety and the environment; or

_____ (c) The area of concern or the site was remediated to an approved site specific remediation standard and some or all of the factors and assumptions which are the basis for deriving the site specific remediation standard are no longer valid;

Please list the areas of concern for which the previous statement applies.

Area of Concern	Location Reference Keyed to the Site Map
None	

Include a separate table comparing the levels of contaminants remaining in each area of concern, the numerical remediation standard approved in the remedial action workplan or at the time of no-further-action approval and the current numerical remediation standards applicable at the time of the comparison. The table shall contain all sampling results, including sample location (depth), sample media, field and laboratory identification numbers, and method detection limits, as necessary, and analytical results for all individual contaminants for each area of concern.

(3) ____ The areas of concern listed below do not contain contaminants above the current numerical remediation standard applicable at the time of the comparison and no further remediation is required.

Please list the areas of concern for which the previous statement applies.

Area of Concern	Location Reference Keyed to the Site Map
None	

Include a separate table comparing the levels of contaminants remaining in each area of concern, the numerical remediation standard approved in the remedial action workplan or at the time of no-further-action approval and the current numerical remediation standards applicable at the time of the comparison. The table shall contain all sampling results, including sample location (depth), sample media, field and laboratory identification numbers, and method detection limits, as necessary, and analytical results for all individual contaminants for each area of concern.

(4).____The contaminant concentrations remaining in the below listed areas of concern are more than an order of magnitude greater than the numerical remediation standard applicable at the time of the comparison. However, no further remediation is required by the person conducting this preliminary assessment, because, in accordance with N.J.S.A. 58:10B13(e), that person is not liable for the contamination pursuant to N.J.S.A. 58:10-23.11g

Please list the areas of concern for which the previous statement applies.

Area of Concern	Location Reference Keyed to the Site Map
None	

Include a separate table comparing the levels of contaminants remaining in each area of concern, the numerical remediation standard approved in the remedial action workplan or at the time of no-further-action approval and the current numerical remediation standards applicable at the time of the comparison. The table shall contain all sampling results, including sample location (depth), sample media, field and laboratory identification numbers, and method detection limits, as necessary, and analytical results for all individual contaminants for each area of concern.

11 Historical Data on environmental quality at the Industrial Establishment

A. Have any previous sampling results documenting environmental quality of the Industrial Establishment not received a no-further-action approval from the Department or been denied approval by the Department? (N.J.A.C. 7:26E-3.1(c)1.viii)

_____Yes (See Attachment #_____) __X__ No (Go to 12)

B. Have there been any known changes in site conditions or new information developed since completion of previous sampling or remediation? If sampling results were obtained, but are not part of this application, please explain below (N.J.A.C. 7:26E-3.1(c)xi):

_____

_____

12 List all federal, state and local environmental permits at this facility, including permits for all previous and current owners or operators, applied for, received, or both (Attach additional sheets if necessary).

Check here if no permits are involved ____ and got to question 13.

A. New Jersey Air Pollution Control

Permit Number	Expiration Date	Type of Permitted Unit

B. Underground Storage Tank Registration Number _____

Size of Tank (Gallons)	Tank Contents

C. New Jersey Pollutant Discharge Elimination System (NJPDES) Permit

Permit Number	Discharge Type	Discharge Location Keyed to Site map	Expiration Date

D. Resource Conservation and Recovery Act (RCRA) permit # **NJD982742181 (WEVD)**

E. EPA Identification Number _____

F. In accordance with N.J.A.C. 7:26E-3.1(c) xii, list all other federal, state, local government environmental permits for all previous and current owners or operators applied for and/or received for the site including :

(1) Name and address of the permitting agency
(2) The reason for the permit
(3) The permit identification number
(4) The application date
(5) The date of approval, denial or status of the application
(6) The name and current address of the permittees
(7) The reason for the denial, revocation or suspension if applicable
(8) The permit expiration date

_____ Check here if no other environmental permits were applied for or received for this site.

Provide the appendix # for the required listing if other environmental permits exist for this site ___**Appendix G**___.

13. In accordance with N.J.A.C. 7:26E-3.1(c)xiii, provide a summary of enforcement actions (including but not limited to, Notice of Violations, Court Orders, official notices or directives) for violations of environmental laws or regulations (attach additional sheets if necessary):

A. Check here if no enforcement actions are involved ____**X**____ (Go to 14 otherwise complete 13B)

B. (1) Name and address of agency that initiated the enforcement action

_____

(2) Date of the enforcement action _____

(3) Section of statute, rule or permit allegedly violated _____

_____

(4) Type of enforcement _____

_____

(5) Description of the violation _____

_____

(6) How was the violation resolved? _____

_____

14. In accordance with N.J.A.C. 7:26E-3.1(c) xiv, please provide a narrative description of all areas where non-indigenous fill materials were used to replace soil or raise the topographic elevation of the site, including the dates of emplacement.
See AOC 15, Appendix F.

15. A. In accordance with N.J.A.C. 7:26E-3.2(a) 3.i, submit a scaled site plan, detailing the subject lot and block, property and or leasehold boundaries, location of current and former buildings, fill areas, paved and unpaved areas, vegetated areas, and all areas of concern identified above and all active or inactive wells.
See Figure 1: Site Location Map
See Figure 2: Tax Map
See Figure 3: Site Plan and Areas of Concern
See Figure 4: Historic Fill of Weehawken Quadrangle (2004)

B. Scaled historical site maps and facility as built drawings (if available).

C. A copy of the United States Geologic Survey (USGS) 7.5 minute topographical quadrangle that includes the site and an area of at least one mile radius around the site. The facility location shall be clearly noted. If a portion of the USGS quadrangle is used, the scale, north arrow, contour interval, longitude and latitude with the name and date of the USGS quadrangle shall be noted on the map. **(See Figures above)**

16. In accordance with N.J.A.C. 7:26E-3.2 , please provide the date that the site visit was completed to verify the findings of the preliminary assessment. **22 August 2011**

17. List any other information you are submitting or which has been formerly requested by the Department:

Description	Appendix #
OPRA Request Information	**Appendix H**
Site Photographs	**Appendix I**

CERTIFICATION:

The following certification shall be signed by the highest-ranking individual at the site with overall responsibility for that site or activity. Where there is no individual at the site with overall responsibility for that site or activity, this certification shall be signed by the individual having responsibility for the overall operation of the site or activity.

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attached documents, and based on my inquiry of those individuals immediately responsible for obtaining the information, to the best of my knowledge the submitted information is true, accurate and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate or incomplete information, and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties.

Typed/Printed Name _____ Title _____

Signature _____ Date _____

Sworn to and Subscribed Before Me on this _____

Date of _____ 20_____

_____
Notary

1/2006

Division of Responsible Party Site Remediation
FEE SUBMITTAL FORM

Case # (if known) _____

Case Name (Active Case) _____

Check drawn from the account of _____ Check/M.O. # _____

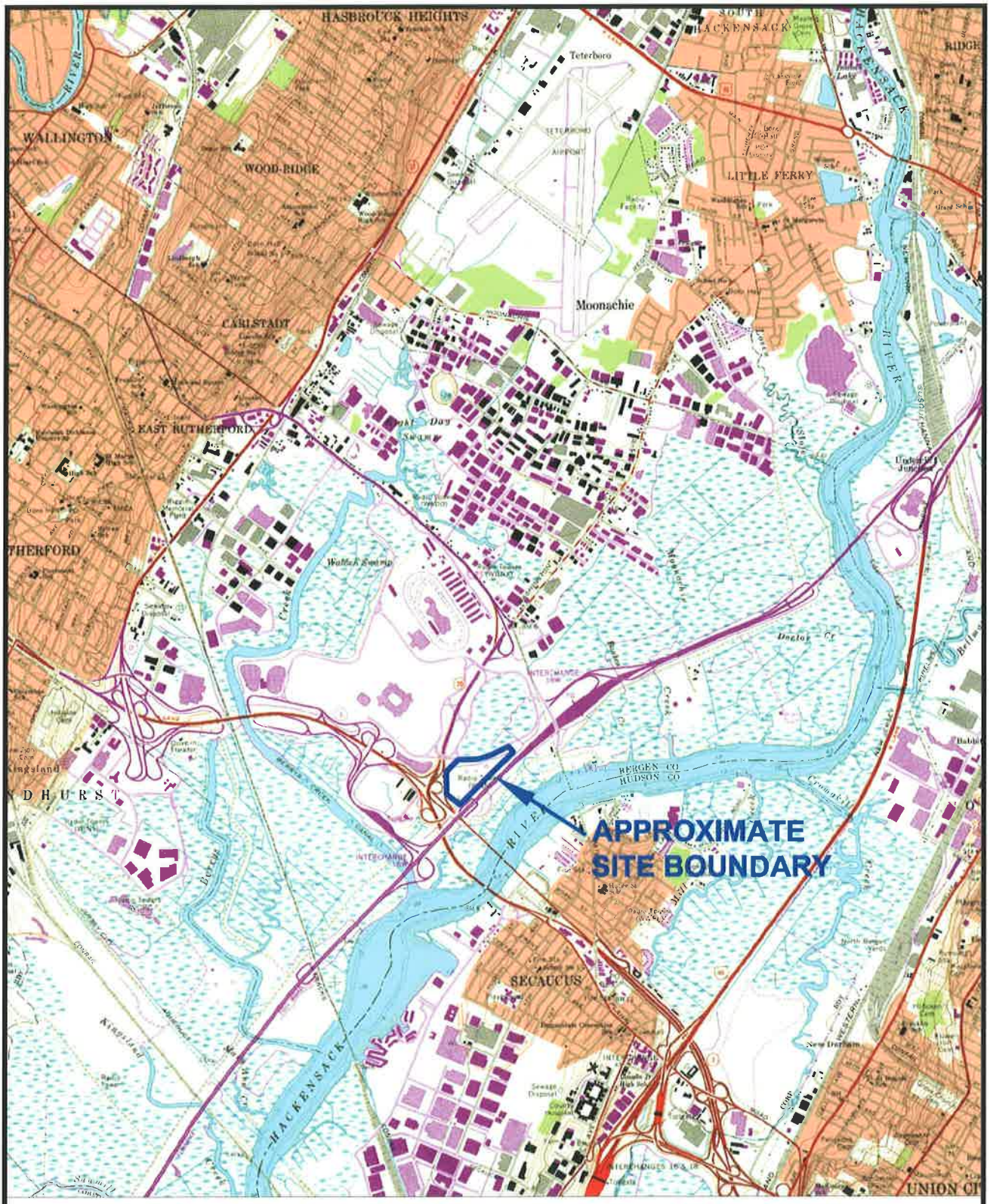
Amount Enclosed _____

Please circle the appropriate payment location(s)

1.	Preliminary Assessment Report	$375.00
2.	Site Investigation Report	$750.00

Note: All applicable fees are due with the submission of each document. Each document requires a separate review fee. Review fees are for a single review. The submission of a revised document in response to deficient submission will require a separate review fee. Fees are not transferable or refundable once a requested review has been completed or written a determination has been made by the Department.

FIGURES



Map Reference: Weehawken Quadrangle

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES
River Drive Center 1 Elmwood Park, NJ 07407
P: 201.794.6900 F: 201.794.0366
www.langan.com
NEW JERSEY PENNSYLVANIA NEW YORK CONNECTICUT FLORIDA NEVADA
NJ Certificate of Authorization No: 24GA27996400

Project

Block 107.02, Lot 3
EAST RUTHERFORD
BERGEN NEW JERSEY

Project No.	Date	Scale	Dwg. No.
100234201	8/18/11	NTS	1

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me: \\langan.com\data\EP\data2\100234201\Cadd Data – 100234201\Environmental\Preliminary Assessment\Fig 1 Site Location Map.dwg Date: 9/21/2011 Time: 09:52 User: ebuckley Style Table: Langan.stb Layout: A Size Sheet (Bottom)

SEE SHEET 12

SEE SHEET 13

LOT 1, BLOCK 107
NEW JERSEY SPORTS & EXPOSITION
COMPLEX
612 ACRES

107.01

108.03

107.02

HIGHWAY

STATE

NEW JERSEY

1000 (S)

300 (S)

80 (S)

370 (S)

140 (S)

320 (S)

BLOCK 107.02
LOT 3

LOT 1, BLOCK 107.02
NEW JERSEY SPORTS & EXPOSITION
COMPLEX
128 ACRES

1164.29'

285.35

37.00

417.83

465.90

140.99

308.44

333.87

3
22.5805 AC.

DRAINAGE EASEMENT

BLOCK LIMIT

730.94'

280'

TURNPIKE

NEW JERSEY

N.J.S.H. RT. 3

S.H. RT. 3

N.B.

S.B.

BASELINE

1182.66

52.38

40.27

148.42

240'

WESTERN SPUR

BLOCK LIMIT

PATERSON PLANK ROAD

BLACKMAN CREEK

108.02

108.01

107.03

TRANSCONTINENTAL GAS PIPELINE

2
6.59± AC

4
9.0± AC.

5
5 ±AC.

2.70±AC.

1.35±AC.

TAX MAP
BOROUGH OF EAST RUTHERFORD
BERGEN COUNTY, NEW JERSEY
SCALE: 1" = 200' NOV. 1990

WILLIAM B. KLAPPER, P.L.S., P.P.
BEHAR SURVEYING ASSOC., P.C.
200 MURRAY HILL PARKWAY
EAST RUTHERFORD N.J. 07073-2113

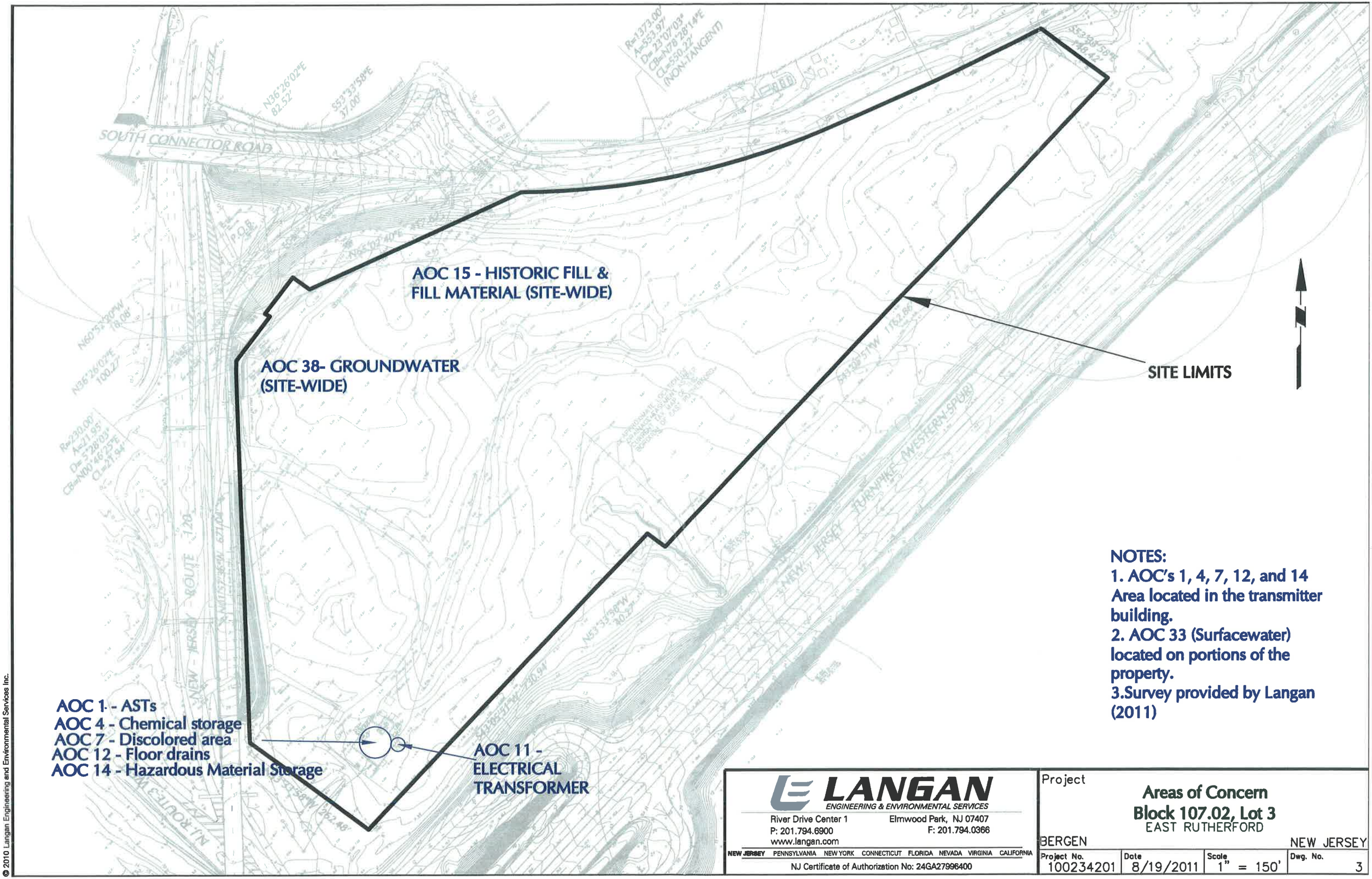
NEW JERSEY DEPARTMENT OF THE TREASURY
DIVISION OF TAXATION
PROPERTY ADMINISTRATION
APPROVED AS A TAX MAP PURSUANT TO THE PROVISIONS OF CHAPTER 176, LAWS OF 1913, ETC.
FOR THE DIRECTOR, DIVISION OF TAXATION
BY [signature] P.E. & L.S.
LIC. # 15431 PRIOR, ASSOCIATION
DATE JUN 21 1992 SERIAL NO. 996

© 2010 Langan Engineering and Environmental Services Inc.

LANGAN
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NEW JERSEY PENNSYLVANIA NEW YORK CONNECTICUT FLORIDA NEVADA VIRGINIA CALIFORNIA
NJ Certificate of Authorization No: 24GA27996400

Project
Block 107.02, Lot 3
EAST RUTHERFORD
BERGEN NEW JERSEY

Project No.	Date	Scale	Dwg. No.
100234201	08/18/11	NTS	2



NOTES:
1. AOC's 1, 4, 7, 12, and 14 Area located in the transmitter building.
2. AOC 33 (Surfacewater) located on portions of the property.
3. Survey provided by Langan (2011)

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NJ Certificate of Authorization No: 24GA27996400

Project
Areas of Concern
Block 107.02, Lot 3
EAST RUTHERFORD
BERGEN NEW JERSEY

Project No.	Date	Scale	Dwg. No.
100234201	8/19/2011	1" = 150'	3

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DEPARTMENT OF ENVIRONMENTAL PROTECTION
LAND USE MANAGEMENT
NEW JERSEY GEOLOGICAL SURVEY

HISTORIC FILL OF THE WEEHAWKEN QUADRANGLE
HISTORIC FILL MAP HFM-43



EXPLANATION

The "Brownfield and Contaminated Site Remediation Act" (N.J.S.A. 58:10B-1 et seq.) requires the Department of Environmental Protection to map regions of the state where large areas of historic fill exist and make this information available to the public. This map shows areas of historic fill covering more than approximately 5 acres. For the purposes of this map, historic fill is non-indigenous material placed on a site in order to raise the topographic elevation of the site. No representation is made as to the composition of the fill or presence of contamination in the fill. Some areas mapped as fill may contain chemical-production waste or ore-processing waste that exclude them from the legislative definition of historic fill.

Fill was mapped from stereo aerial photography taken in March 1979, supplemented in places by planimetric aerial photography taken in the spring of 1991 and 1992. Additional areas of fill were mapped by comparing areas of swamp, marsh, and floodplain shown on archival topographic and geologic maps on file at the N. J. Geological Survey, dated between 1840 and 1910, to their modern extent. In a few places, fill was mapped from field observations and from drillers' logs of wells and borings.
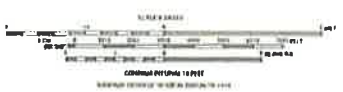
Most urban and suburban areas are underlain by a discontinuous layer of excavated indigenous soil mixed with varying amounts of non-indigenous material. This material generally does not meet the definition of historic fill and is not depicted on this map. Also, there may be historic fills that are not detectable on aerial photography or by archival map interpretation and so are not shown on this map, particularly along streams in urban and suburban areas.

Use of the maps related to the Technical Rules, N.J.A.C. 7:26E

This map is provided for informational purposes only. The use of this map as the only source of information regarding the presence of historic fill at a site does not fulfill the diligent inquiry requirements of the Preliminary Assessment set forth at, N.J.A.C. 7:26E-3.1(c). This map may be used as one source of information to fulfill the requirements of the Site Investigation at, N.J.A.C. 7:26E-3.12. This map is not intended to fulfill the Remedial Investigation requirements associated with historic fill at, N.J.A.C. 7:26E-4.6(b).

Historic Fill
Non-Fill Area





HISTORIC FILL OF THE WEEHAWKEN QUADRANGLE

2004

APPENDIX A

Current and Historic Property Information

APPENDIX A - CURRENT AND HISTORIC PROPERTY INFORMATION

Per the NJDEP PA/SI Form (dated 9/7/11) and the Technical Requirements, this appendix provides the current and historic property information regarding operators/operations (Section H1), hazardous substances/waste inventory, and wastewater discharges. The current and historic property information was compiled from the various documents, including but not limited to: title and deed (Appendix A), historical topographic maps (Appendix B), aerial photographs (Appendix C), city directory (Appendix D), environmental database search (Appendix E), and Jack McCormick and Associates 1972 Environmental Impact Study (EIS) for the Giants Stadium. Using these documents, the following current and historic information regarding the property was developed.

The property was vacant land prior to the 1950s. The vacant land included open water ditches and wetlands. Around 1950, radio towers and a transmitter building were constructed within the wetlands and ditches. Two of the three original radio towers were located south of the property, where the NJ Turnpike is currently located. The three radio towers, present on the property, were re-located prior to the Turnpike roadway construction, around the 1970s.

Between 1950 and 1970, the property was filled with unknown fill material, noted as "Route 20 East Fill" and the wetlands and ditches were altered and redirected, respectively. Additionally, the towers were re-located and roadway improvements were conducted (Route 20 and Route 3 roadway improvements), and the sports complex was developed to the north. Since the 1970s the tower locations have not changed.

In addition to the unknown fill material, approximately 600 tons of fill material was temporarily brought on the property in 2009. The material was excavated from the former owner's property in North Bergen that contained historic fill. The material was temporarily staged on the property and covered with plastic. The owner's consultant (ATC Associates) collected a composite sample was collected from five locations in the stockpile and analyzed for the NJDEP Soil Cleanup Criteria (SCC) list and waste classification. The results indicated an exceedence of the NJDEP Soil Remediation Standards (SRS) for lead and benzo(a)pyrene. The results were used to transport and dispose the material to Apex Landfill of Ohio. This

stockpiled material was removed from the property in July 2009. This material and staging area are part of the property history and is not an area of concern.

Since the 1950s the property has operated as a radio transmission station formerly noted as WMGM, WHN, WEVD, WFAN, and ESPN. The various operators and operations are listed in the table below. A deed search provided the following operators/operations. Copies of deed records showing property transactions are included in this Appendix.

Name of Operator	From	To
Stephanie D. Krause	Unknown	1967
East Rutherford Realty, Inc.	1967	1980
Mutual Radio of New York, Inc.	1980	Unknown
Ten Fifty LP, Care of WEPN Radio	Unknown	2011
Metro Central LLC/Ten Fifty LP Disney Core Serv	2011	Present

Name of Operator	From	To
WMGM, WHN, WEVD, WFAN, and/or ESPN	1950s	2008

Hazardous Substances/Waste Inventory

Although the property has not been in use since 2008, the following raw materials/chemicals were observed on the property. The following materials were observed within the garage, basement, and boiler room of the transmitter building. Based on the age of the structure and its use, PCB containing materials may have been present on the property, however, they were not present during the inspection. See Appendix F, AOC 4 and 14 for additional information.

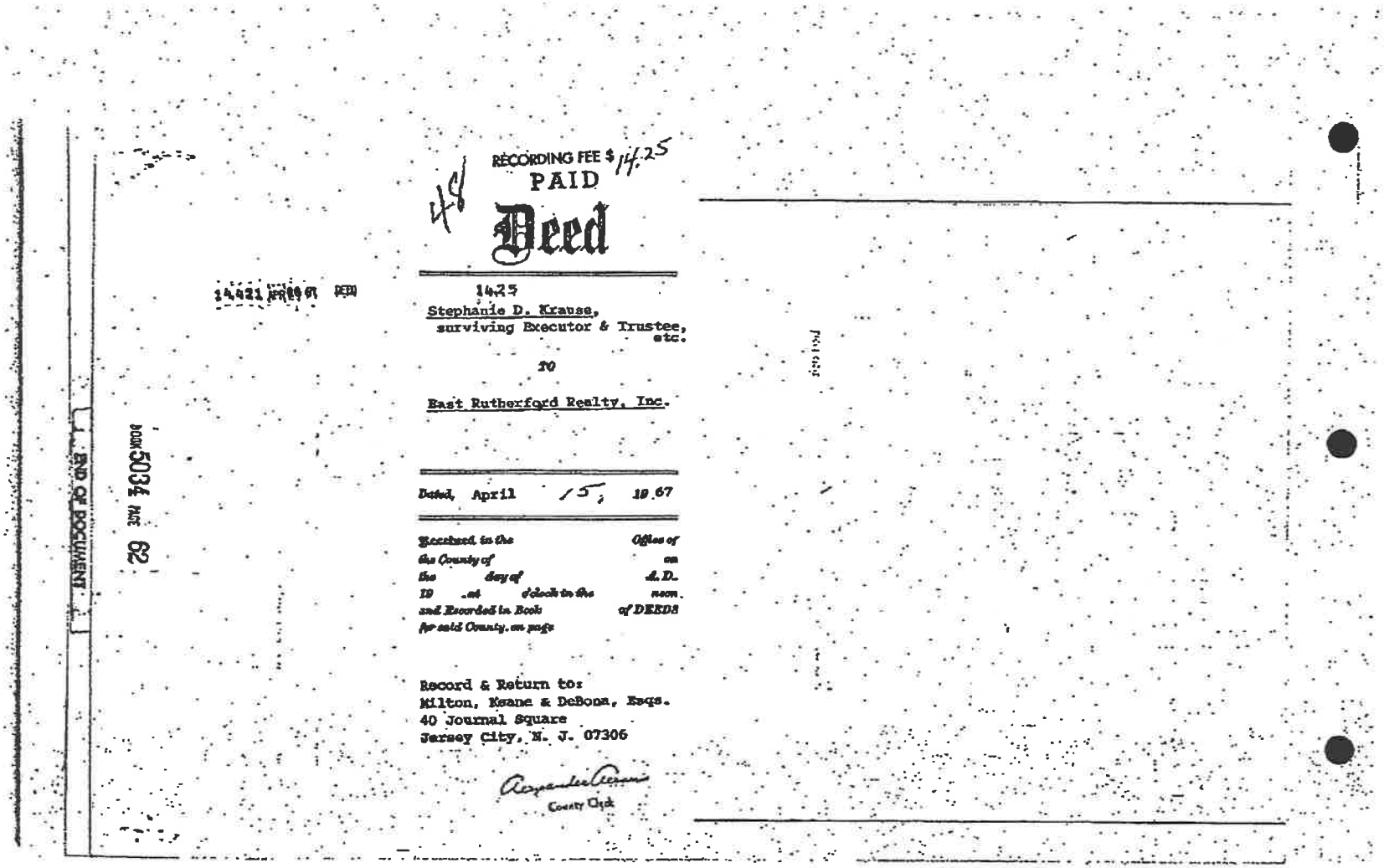
Material Name	CAS # if known	Typical annual usage (gallons/lbs.)	Storage method (i.e. Drum, tank, jars)
Diesel Fuel		475 gallons	Two Aboveground Storage Tanks (ASTs)
Roofing Sealant		10 gallons	Plastic buckets
Nitrogen Gas		Unknown	Cylinders
Silica Sealant		55 gallons	Drum
Aerosol Paint		Unknown	Cans
Floor Finisher		Unknown	Cans

Material Name	CAS # if known	Typical annual usage (gallons/lbs.)	Storage method (i.e. Drum, tank, jars)
Cleaning products		Unknown	Cans, spray bottles
Paint		25 gallons	25 5-gallon pales
PCBs		Unknown	Capacitors

Wastewater Discharges

The current waste stream at the property consists of sanitary waste. The sanitary waste discharges to the Bergen County Utilities Authorities (BCUA) waste water treatment facility, located in Little Ferry, New Jersey. Prior to the 1950s, there were no buildings on the property and there is no information available on the pre-1950s discharge.

Discharge Period		Discharge Type	Discharge Location
From	To		
1953	Present	Sanitary Discharge	Bergen County Utilities Authority (BCUA)



RECORDING FEE $ 14.25
PAID

Deed

14425

Stephanie D. Krause,
surviving Executor & Trustee,
etc.

TO

East Rutherford Realty, Inc.

Dated, April 15, 1967

Received in the Office of the County of on the day of A.D. 19 at o'clock in the noon and Recorded in Book of DEEDS for said County, on page

Record & Return to:
Milton, Keane & DeBona, Esqs.
40 Journal Square
Jersey City, N. J. 07306

County Clerk

BOOK 5034 PAGE 29

END OF DOCUMENT

29496 MAY 8 66 RED 1425

STATE OF NEW JERSEY
DEPARTMENT OF CONSERVATION
AND ECONOMIC DEVELOPMENT
RESOURCE
DIVISION OF RESOURCE
DEVELOPMENT

RECORDING FEE $ PAID

Recorded in Liber V-5
Folio #134 etc.

THE STATE OF NEW JERSEY
TO
EAST RUTHERFORD REALTY, INC.

Grant

Dated April 22 19 66

Milton Keane & De Bona
40 Journal Square
Jersey City, New Jersey
07306

THIS CONVEYANCE SHOULD BE RE-
CORDED IN THE DEED RECORD AT
THE CLERK'S OFFICE IN THE COUNTY
IN WHICH THE LANDS ARE SITUATE

BOOK 5171 PAGE 345

END OF DOCUMENT

State of ~~New Jersey~~ Florida
County of Dade } ss.:

Be it Remembered, That on this 20th day of February
in the year One Thousand Nine Hundred and ~~Seventy-nine~~ Eighty, before me, the subscriber, a

personally appeared Abish A. Church

who, being by me duly sworn on his oath, doth depose and make proof to my satisfaction, that he is the Assistant / Secretary of EAST RUTHERFORD REALTY, INC.

the Grantor named in the within instrument; that Peter Storer is the President of said corporation; that the execution, as well as the making of this Instrument, has been duly authorized by a proper resolution of the board of directors of said corporation; that deponent well knows the corporate seal of said corporation; and the seal affixed to said Instrument is such corporate seal and was thereto affixed and said Instrument signed and delivered by said President, as and for his voluntary act and deed and as and for the voluntary act and deed of said corporation, in presence of deponent, who thereupon subscribed his name thereto as witness. The full and actual consideration paid or to be paid for the transfer of title to realty evidenced by the within deed, as such consideration is defined in P. L. 1968, c. 49 Sec. 1 (c), is $3,808,000.

Subscribed and sworn to before me,
at Miami Florida
the date aforesaid

Loraine H. Strait
NOTARY PUBLIC STATE OF FLORIDA AT LARGE
MY COMMISSION EXPIRES OCT. 7 1980

Abish A. Church
Assistant Secretary
Abish A. Church

Consideration $ 3,808,000.00
Realty Transfer Fee $ 13,328.00
Realty Tax Service Fee $ 11.25
By N. C.

Charge Recorded.

EAST RUTHERFORD REALTY, INC.

TO

MUTUAL RADIO OF NEW YORK, INC.

Dated, 80, 1979

Recorded in the Office of
the County of , N. J.,
on the day of , 19 ,
at o'clock, in the noon and
Recorded in Book of DEEDS for
said County, on page

RECORD AND RETURN TO
Clark L. Connell, III
Attorney at Law
140 Market Street
Paterson, New Jersey 07505

ABSTRACTED

MAR 3 80 DEED- 10.426 11.25 13328.00 13339.25

BOOK 6558 PAGE 702 END OF DOCUMENT

APPENDIX B

Historic Topographic Maps

APPENDIX B – HISTORICAL TOPOGRAPHIC MAPS

A search of available historical topographic maps identified coverage for the years 1900, 1903, 1905, 1947, 1955, 1967, 1981, and 1995 which reference the subject property. Copies of these maps are provided in this appendix and are described, separately. below.

1900, 1903, and 1905 Topographic Maps

The subject property is located in undeveloped wetlands with several drainage ditches and creeks. The area is identified as "Boiling Springs". There are no structures or features noted on the map. The surrounding land is wetlands.

1947 Topographic Map

The subject property is again noted as wetlands with drainage ditches. The Route 3 roadway immediately borders the northwest boundary of the property. Wetlands are located on and surrounding the property. The Hackensack River is located to the south of the property and "Walden Swamp" is located to the northwest.

1955 Topographic Map

The subject property contains three radio towers identified as Radio Station (WMGM). The radio towers remain located among the wetlands and drainage ditches. Note the towers are in a different configuration than their current position. A small black dot is located on the map adjacent to a tower, which is possibly a transmitter building. Route 20 and Route 3 are located adjacent to the western boundary of the property. An unpaved roadway is noted in the location of the NJ Turnpike, east of the subject property. There are several small structures depicted along the east side of Route 20, north of the subject property.

1967 Topographic Map

There are no changes to the subject property, with the exception that the Radio Station is know known as WHN. Wetlands are noted to the north, east and south of the property. Roadway improvements are noted for Route 3 and 20. Additional buildings are noted east and west of Route 20.

1981 Topographic Map

The subject property contains three radio towers noted as Radio Station WHN; however the towers have been relocated to the northern portion of the property. Additionally, the property is not located in wetlands and it appears the ditches have been redirected to the perimeter of the property. The surrounding land has been developed with improved roadways. The sports complex and associated roadways have been constructed to the north. Wetlands remain on the sports arena property with a perimeter roadway around the wetlands. The western spur of the New Jersey Turnpike has been constructed.

1995 Topographic Map

No significant changes in the subject property in comparison to the 1981 topographic map. The sports arena has been constructed to the north of the subject property.

\\langan.com\data\EP\data2\100234201\Office Data\Reports\Environmental\Preliminary Assessment Report\Appendix B Hist Topo Maps.DOC

Block 107.02, Lot 3
Bounded By NJ-120, I-95, & S. Connection Road
East Rutherford, NJ 07073

Inquiry Number: 3145301.4
August 11, 2011

EDR Historical Topographic Map Report

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

EDR Historical Topographic Map Report

Environmental Data Resources, Inc.s (EDR) Historical Topographic Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topographic Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the early 1900s.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

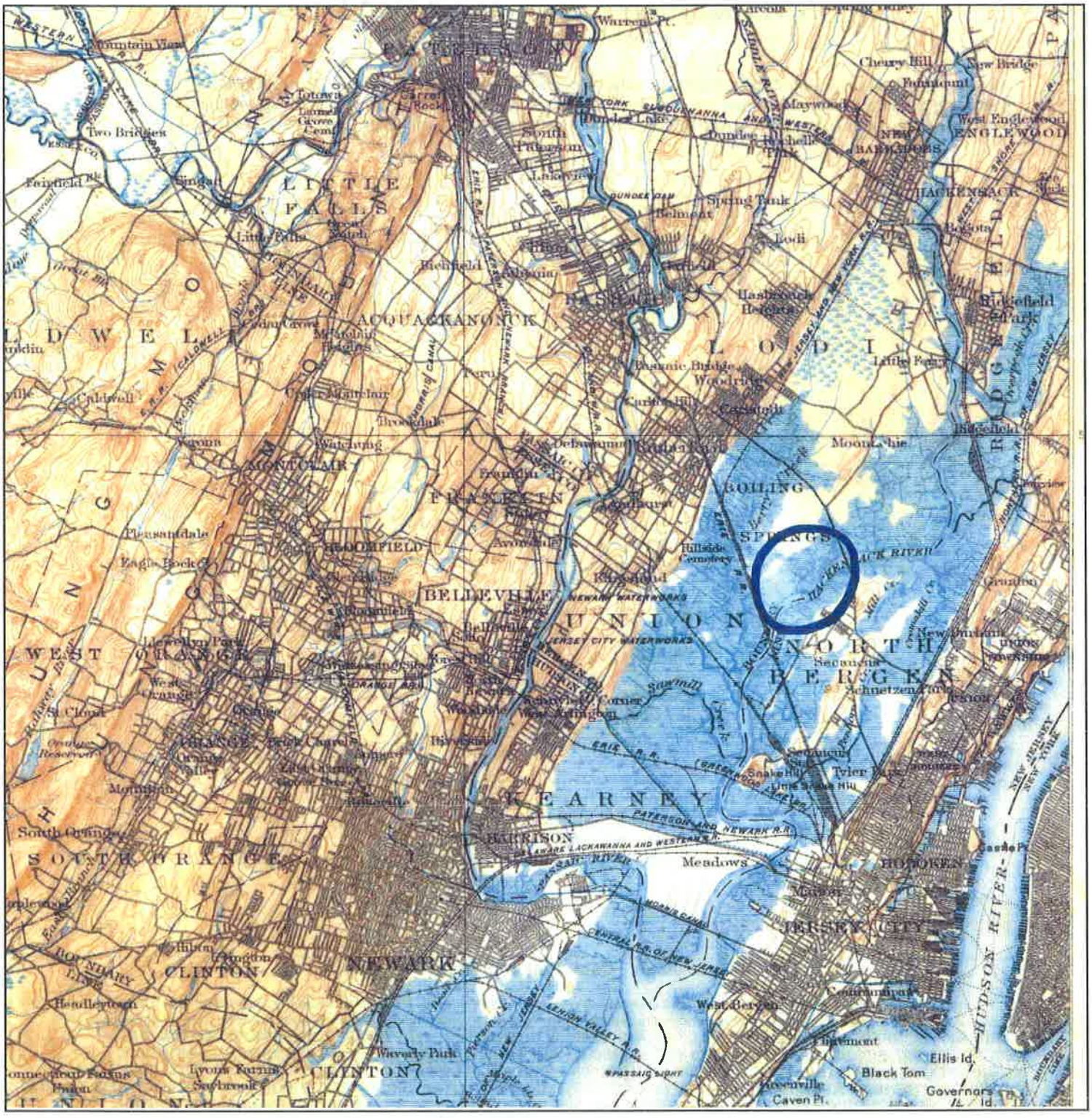
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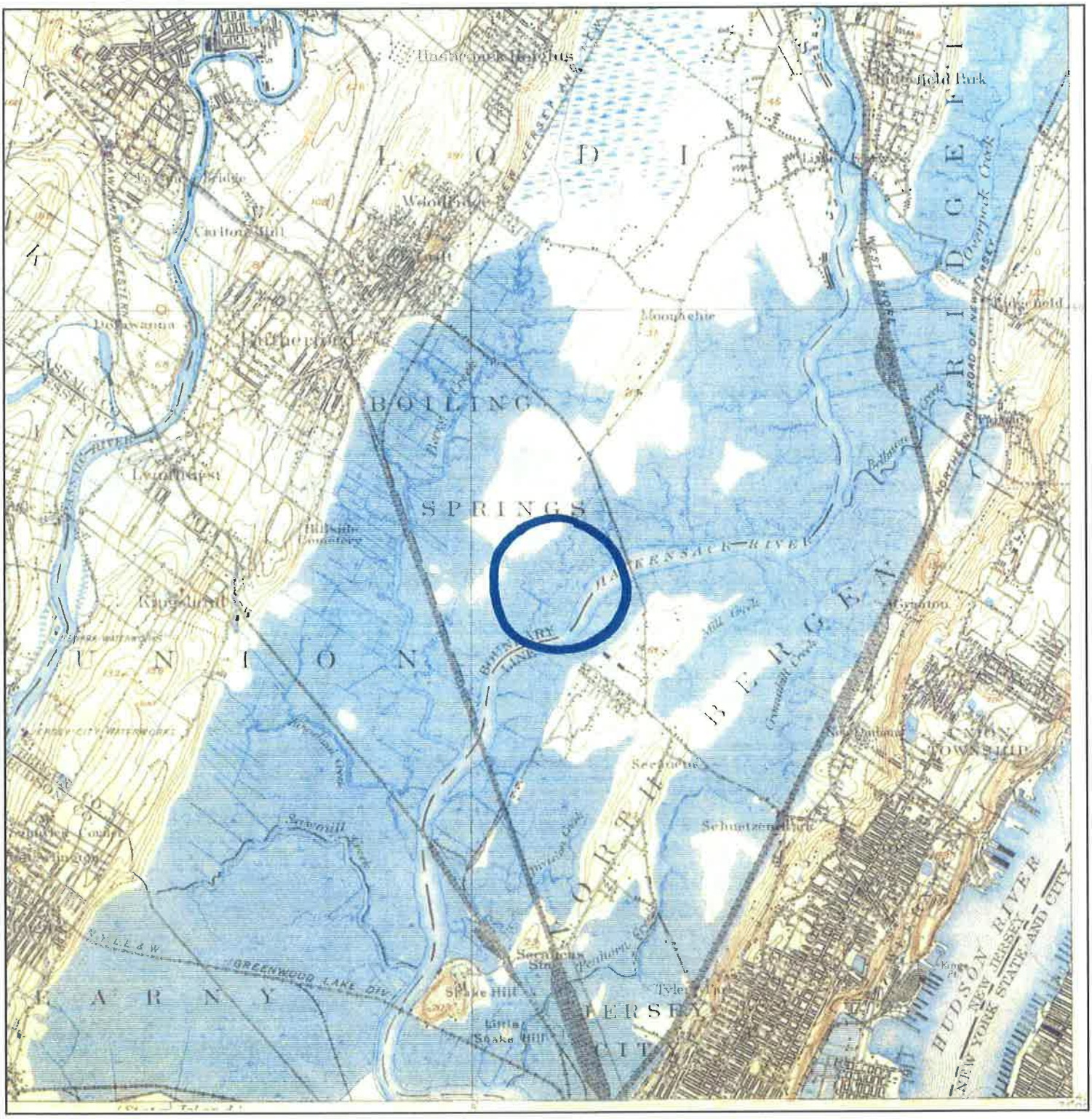
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Historical Topographic Map



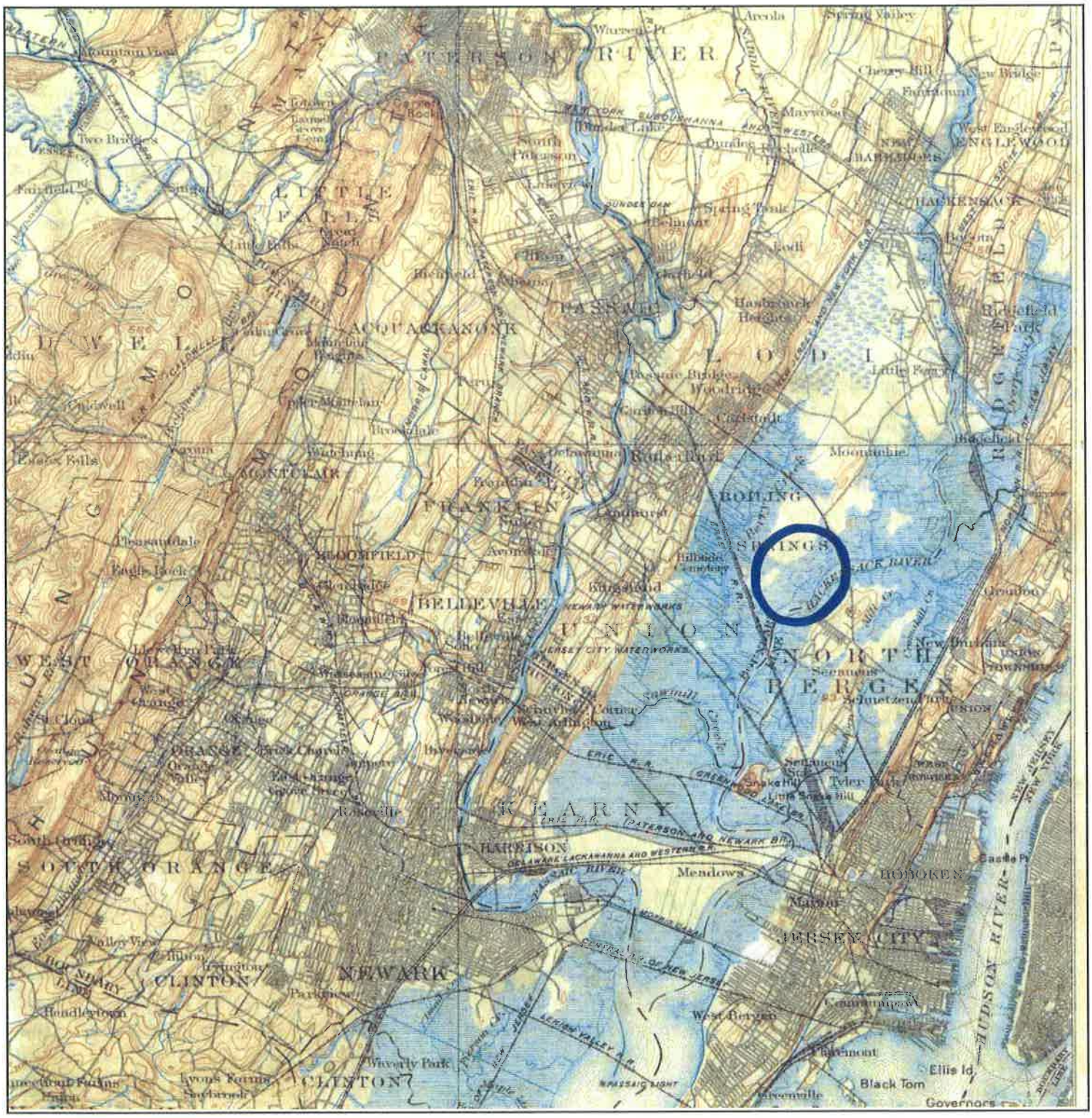
N	TARGET QUAD NAME: PASSAIC MAP YEAR: 1900 SERIES: 30 SCALE: 1:125000	SITE NAME: Block 107.02, Lot 3 ADDRESS: Bounded By NJ-120, I-95, & S. Connection Road East Rutherford, NJ 07073 LAT/LONG: 40.8069 / -74.0697	CLIENT: Langan Engineering CONTACT: Danielle Bisson INQUIRY#: 3145301.4 RESEARCH DATE: 08/11/2011

Historical Topographic Map



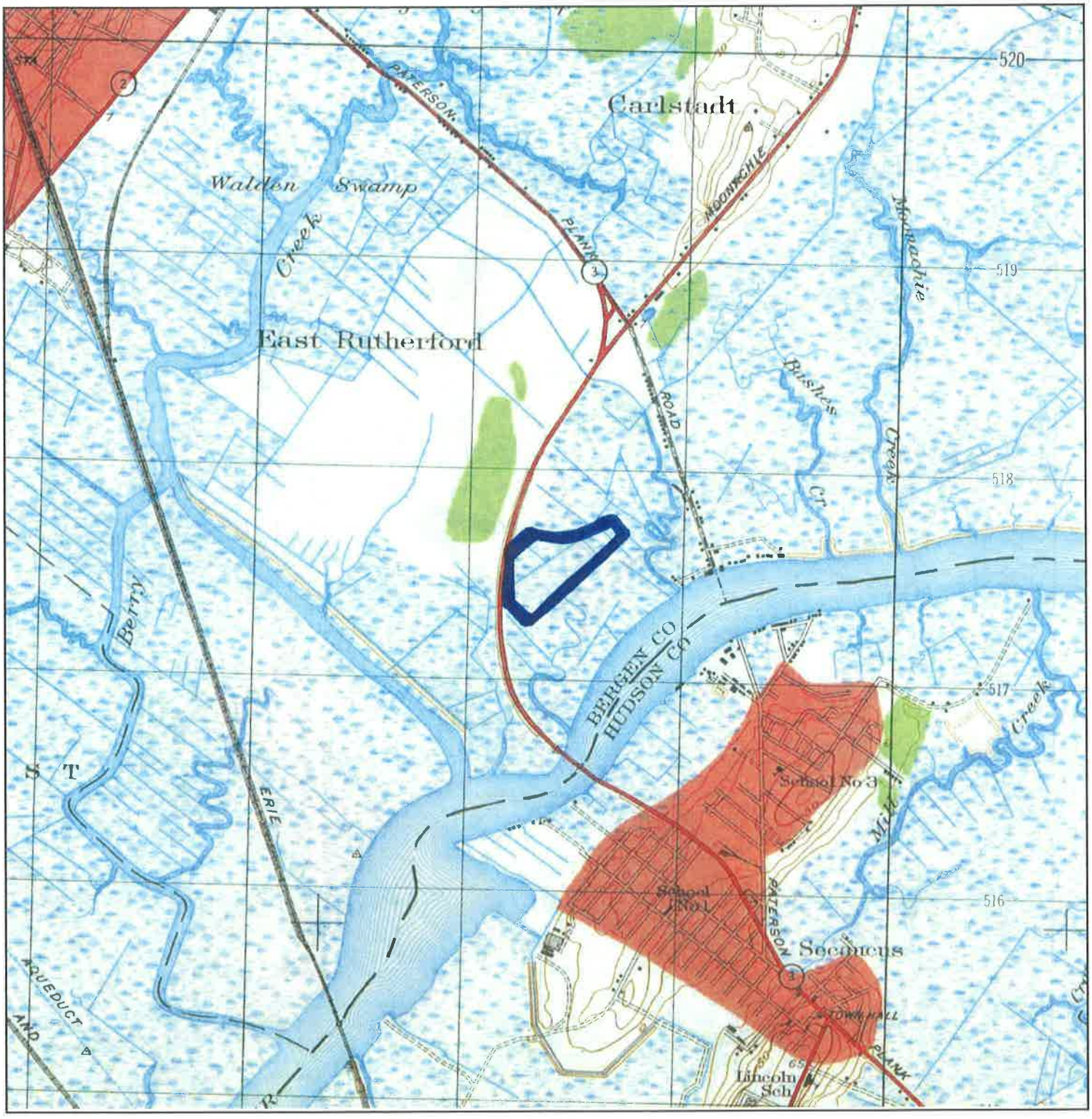
N	TARGET QUAD NAME: PATERSON MAP YEAR: 1903 SERIES: 15 SCALE: 1:62500	SITE NAME: Block 107.02, Lot 3 ADDRESS: Bounded By NJ-120, I-95, & S. Connection Road East Rutherford, NJ 07073 LAT/LONG: 40.8069 / -74.0697	CLIENT: Langan Engineering CONTACT: Danielle Bisson INQUIRY#: 3145301.4 RESEARCH DATE: 08/11/2011

Historical Topographic Map



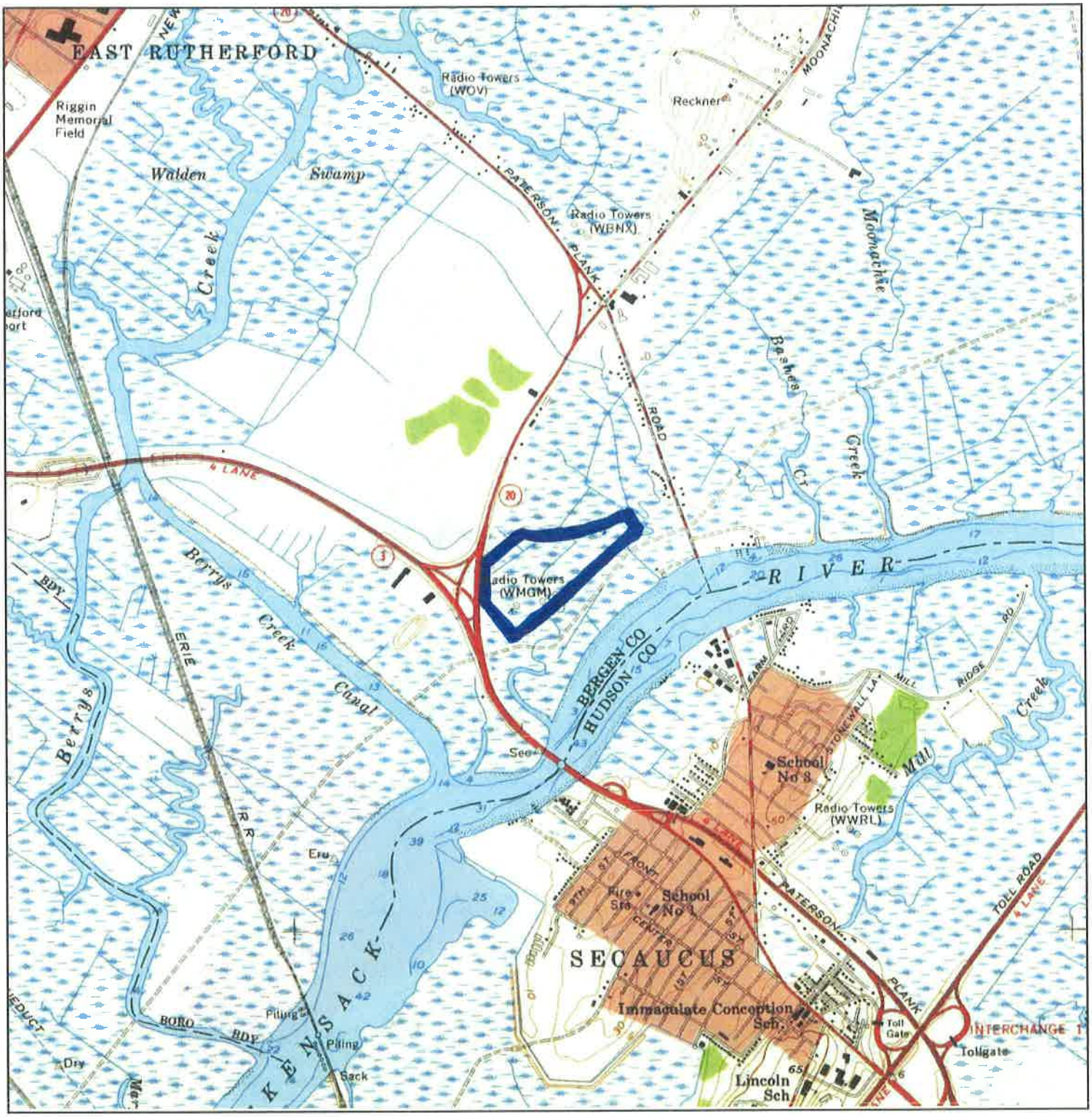
N	TARGET QUAD NAME: PASSAIC MAP YEAR: 1905 SERIES: 30 SCALE: 1:125000	SITE NAME: Block 107.02, Lot 3 ADDRESS: Bounded By NJ-120, I-95, & S. Connection Road East Rutherford, NJ 07073 LAT/LONG: 40.8069 / -74.0697	CLIENT: Langan Engineering CONTACT: Danielle Bisson INQUIRY#: 3145301.4 RESEARCH DATE: 08/11/2011

Historical Topographic Map



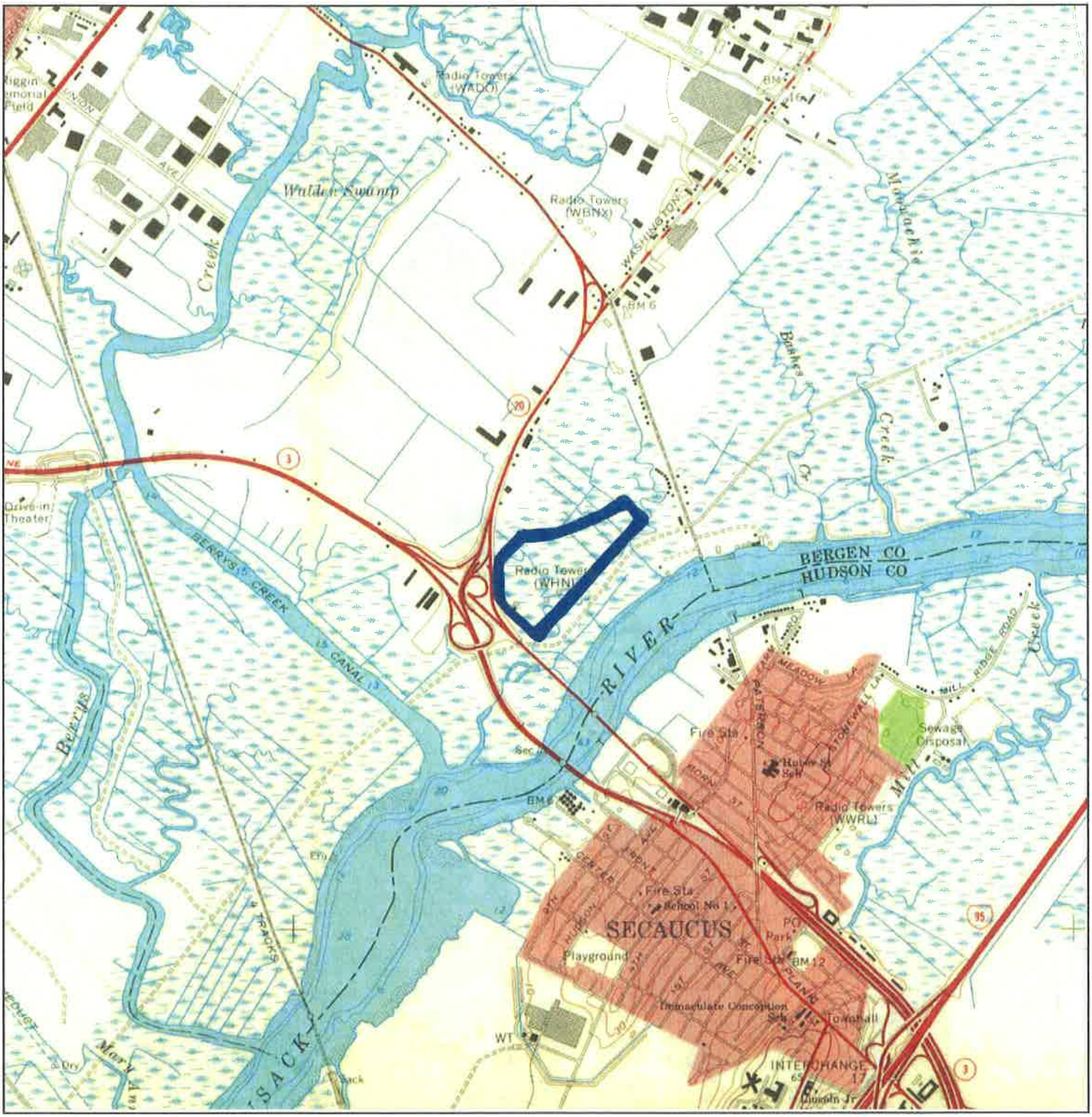
N	TARGET QUAD NAME: WEEHAWKEN MAP YEAR: 1947 SERIES: 7.5 SCALE: 1:25000	SITE NAME: Block 107.02, Lot 3 ADDRESS: Bounded By NJ-120, I-95, & S. Connection Road East Rutherford, NJ 07073 LAT/LONG: 40.8069 / -74.0697	CLIENT: Langan Engineering CONTACT: Danielle Bisson INQUIRY#: 3145301.4 RESEARCH DATE: 08/11/2011

Historical Topographic Map



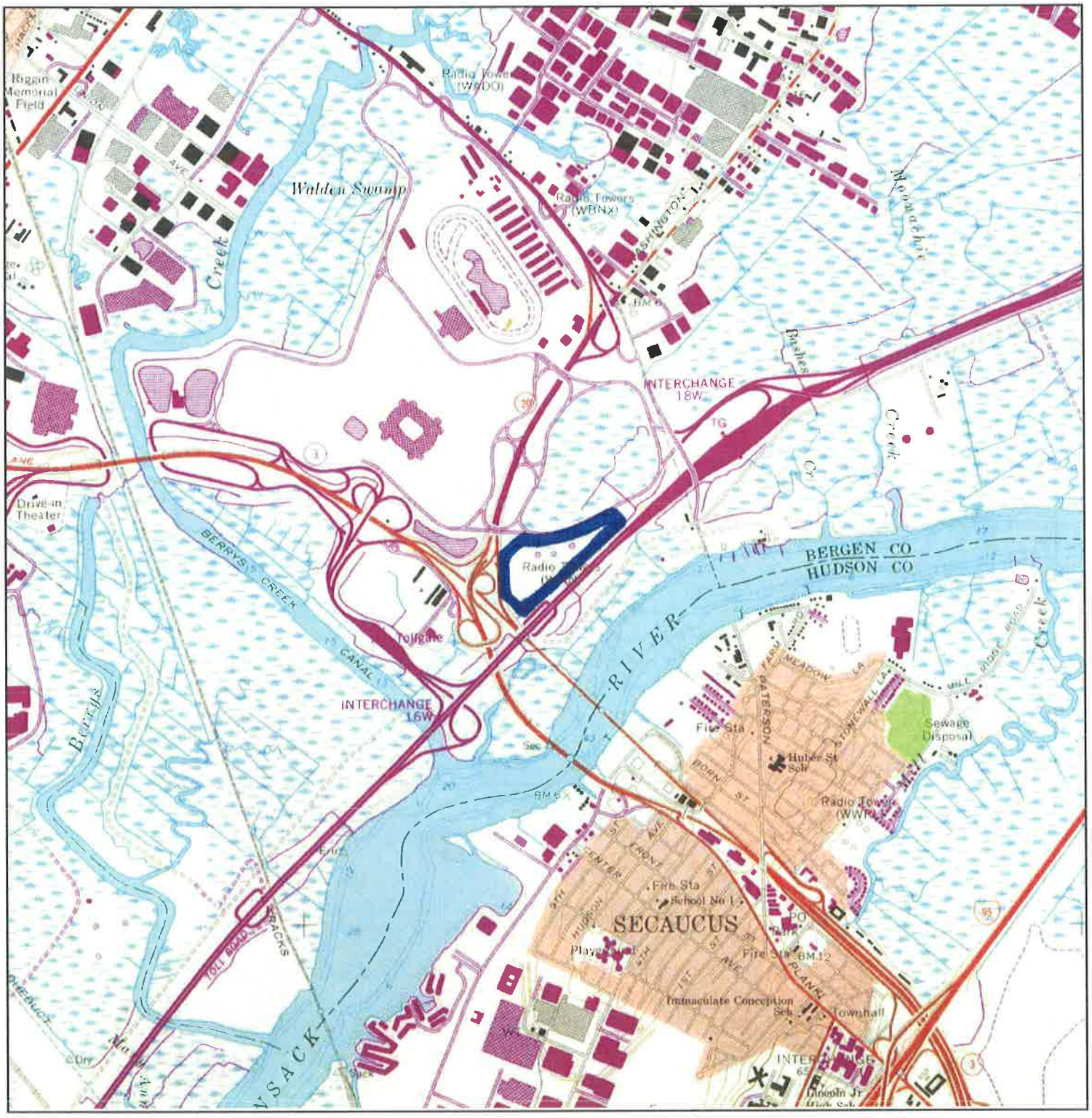
N	TARGET QUAD NAME: PATERSON AND VICINITY MAP YEAR: 1955 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Block 107.02, Lot 3 ADDRESS: Bounded By NJ-120, I-95, & S. Connection Road East Rutherford, NJ 07073 LAT/LONG: 40.8069 / -74.0697	CLIENT: Langan Engineering CONTACT: Danielle Bisson INQUIRY#: 3145301.4 RESEARCH DATE: 08/11/2011

Historical Topographic Map



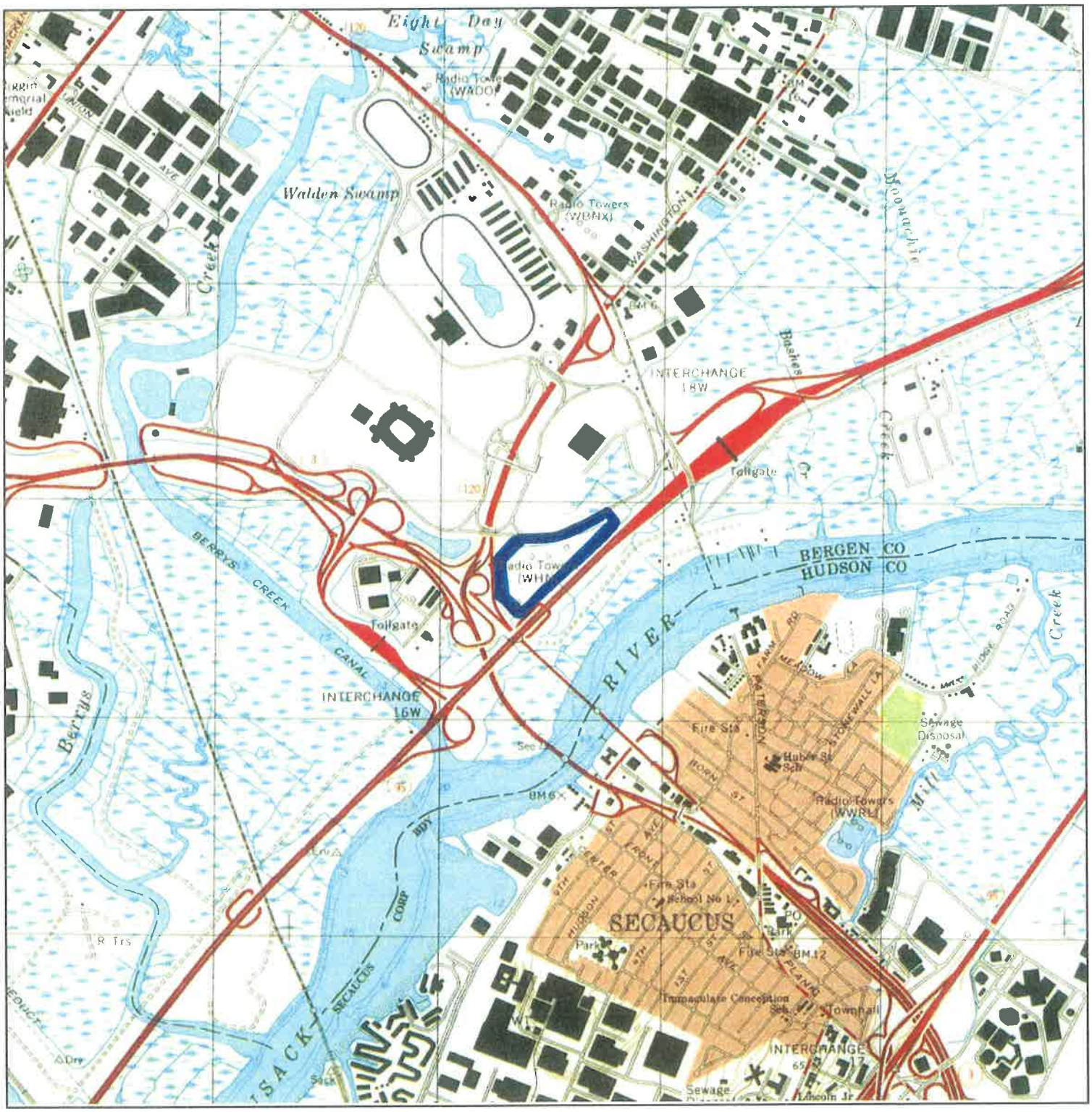
N	TARGET QUAD NAME: WEEHAWKEN MAP YEAR: 1967 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Block 107.02, Lot 3 ADDRESS: Bounded By NJ-120, I-95, & S. Connection Road East Rutherford, NJ 07073 LAT/LONG: 40.8069 / -74.0697	CLIENT: Langan Engineering CONTACT: Danielle Bisson INQUIRY#: 3145301.4 RESEARCH DATE: 08/11/2011

Historical Topographic Map



N	TARGET QUAD NAME: WEEHAWKEN MAP YEAR: 1981 PHOTOREVISED:1967 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Block 107.02, Lot 3 ADDRESS: Bounded By NJ-120, I-95, & S. Connection Road East Rutherford, NJ 07073 LAT/LONG: 40.8069 / -74.0697	CLIENT: Langan Engineering CONTACT: Danielle Bisson INQUIRY#: 3145301.4 RESEARCH DATE: 08/11/2011

Historical Topographic Map



N	TARGET QUAD NAME: WEEHAWKEN MAP YEAR: 1995 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Block 107.02, Lot 3 ADDRESS: Bounded By NJ-120, I-95, & S. Connection Road East Rutherford, NJ 07073 LAT/LONG: 40.8069 / -74.0697	CLIENT: Langan Engineering CONTACT: Danielle Bisson INQUIRY#: 3145301.4 RESEARCH DATE: 08/11/2011

APPENDIX C

Historical Aerial Photographs

APPENDIX C – HISTORICAL AERIAL PHOTOGRAPHS

Historical aerial photographs were obtained and reviewed for this Preliminary Assessment. The available years of map coverage include the years 1933, 1954, 1966, 1976, 1985, 1995, 2006, and 2008. These photographs are provided in this appendix and are described separately below.

1933 Aerial Photograph; Scale of 1" = 604'

The subject property appears to consist of undeveloped wetlands with open water ditches. The ditches appear to be connected to the Hackensack River. Route 3 is noted along the northwest boundary of the property and the Hackensack River is noted to the southeast. The surrounding land use is vegetated land.

1954 Aerial Photograph; Scale of 1" = 750'

A small building, roadway, and three radio towers are noted on the eastern portion of the subject property. Note two of the three towers are located east of the property. The subject property consists of wetlands and ditches. The surrounding land use is mainly wetlands with some buildings located east and west of Route 20. An unpaved roadway, observed in the topographical maps, can also be seen in the aerial photograph, to the east of the property.

1966 Aerial Photograph; Scale 1" = 500'

Roadway improvements are noted relative to the location of the towers. An area of disturbance is noted on the northeastern portion of the property. As such, ditches previously noted in this area have been redirected or are not present. Roadway improvements are noted for Route 3 and Route 20. The land, north of the property has been developed and additional buildings are located east and west of Route 20.

1976 Aerial Photograph; Scale of 1" = 1,000'

The 1976 photograph is of poor quality; however, there are areas of disturbance noted on the property. The western spur of the New Jersey Turnpike, Routes 3 and 20, former Giants Stadium, and the Meadowlands Racetrack have been constructed Though not clearly visible on the aerial, the location of the radio towers to the southeast of the subject property was most likely relocated to their current locations during the construction of the New Jersey Turnpike.

1985 Aerial Photograph; Scale of 1" = 1,000'

The subject property contains three radio tower antennas and the existing transmitter building, in their current locations. The arena is shown in the photograph north of the subject property.

1995 Aerial Photograph; Scale of 1" = 750'

There are no changes to the subject property, since the 1985 aerial photograph.

2006 Aerial Photograph; Scale of 1" = 604'

There are no changes to the subject property, since the 1995 aerial photograph. Construction around the arena, to the north of the property, is observed in an area that was previously undeveloped wetlands and a parking lot. No other significant changes in the surrounding properties were noted.

2008 Aerial Photograph; Scale of 1" = 604'

The subject property remains unchanged from the 2006 aerial photograph, with the exception of a new entrance roadway from Route 120 (formerly Route 20). Further development around the arena is observed to the north of the property. Construction for the new Stadium, northwest of property, is also observed. No other significant changes in the surrounding properties were noted from the 2006 aerial photograph.

Block 107.02, Lot 3
Bounded By NJ-120, I-95, & S. Connection Road
East Rutherford, NJ 07073

Inquiry Number: 3145301.5
August 12, 2011

The EDR Aerial Photo Decade Package

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

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Date EDR Searched Historical Sources:

Aerial Photography August 12, 2011

Target Property:

Bounded By NJ-120, I-95, & S. Connection Road
East Rutherford, NJ 07073

Year	*Scale*	*Details*	*Source*
1933	Aerial Photograph. Scale: 1"=604'	Panel #: 40074-G1, Weehawken, NJ;/Flight Date: January 01, 1933	EDR
1954	Aerial Photograph. Scale: 1"=750'	Panel #: 40074-G1, Weehawken, NJ;/Flight Date: December 01, 1954	EDR
1966	Aerial Photograph. Scale: 1"=500'	Panel #: 40074-G1, Weehawken, NJ;/Flight Date: June 21, 1966	EDR
1976	Aerial Photograph. Scale: 1"=1000'	Panel #: 40074-G1, Weehawken, NJ;/Flight Date: October 29, 1976	EDR
1985	Aerial Photograph. Scale: 1"=1000'	Panel #: 40074-G1, Weehawken, NJ;/Flight Date: March 16, 1985	EDR
1995	Aerial Photograph. Scale: 1"=750'	Panel #: 40074-G1, Weehawken, NJ;/Flight Date: March 29, 1995	EDR
1995	Aerial Photograph. Scale: 1"=604'	Panel #: 40074-G1, Weehawken, NJ;/Composite DOQQ - acquisition dates: March 29, 1995,March 13, 1995	EDR
2006	Aerial Photograph. Scale: 1"=604'	Panel #: 40074-G1, Weehawken, NJ;/Flight Year: 2006	EDR
2008	Aerial Photograph. Scale: 1"=604'	Panel #: 40074-G1, Weehawken, NJ;/Flight Year: 2008	EDR



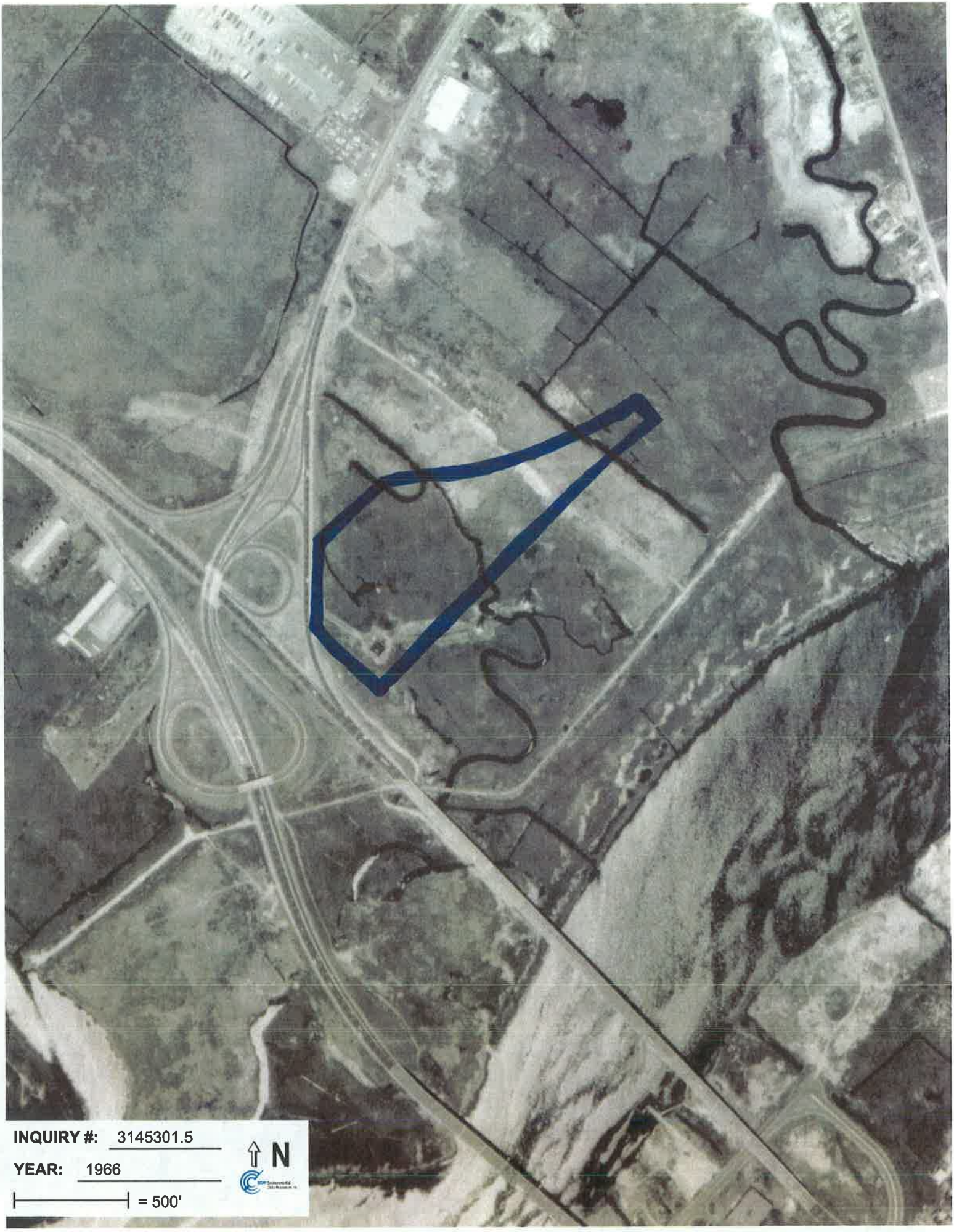
INQUIRY #: 3145301.5

YEAR: 1933

= 604'

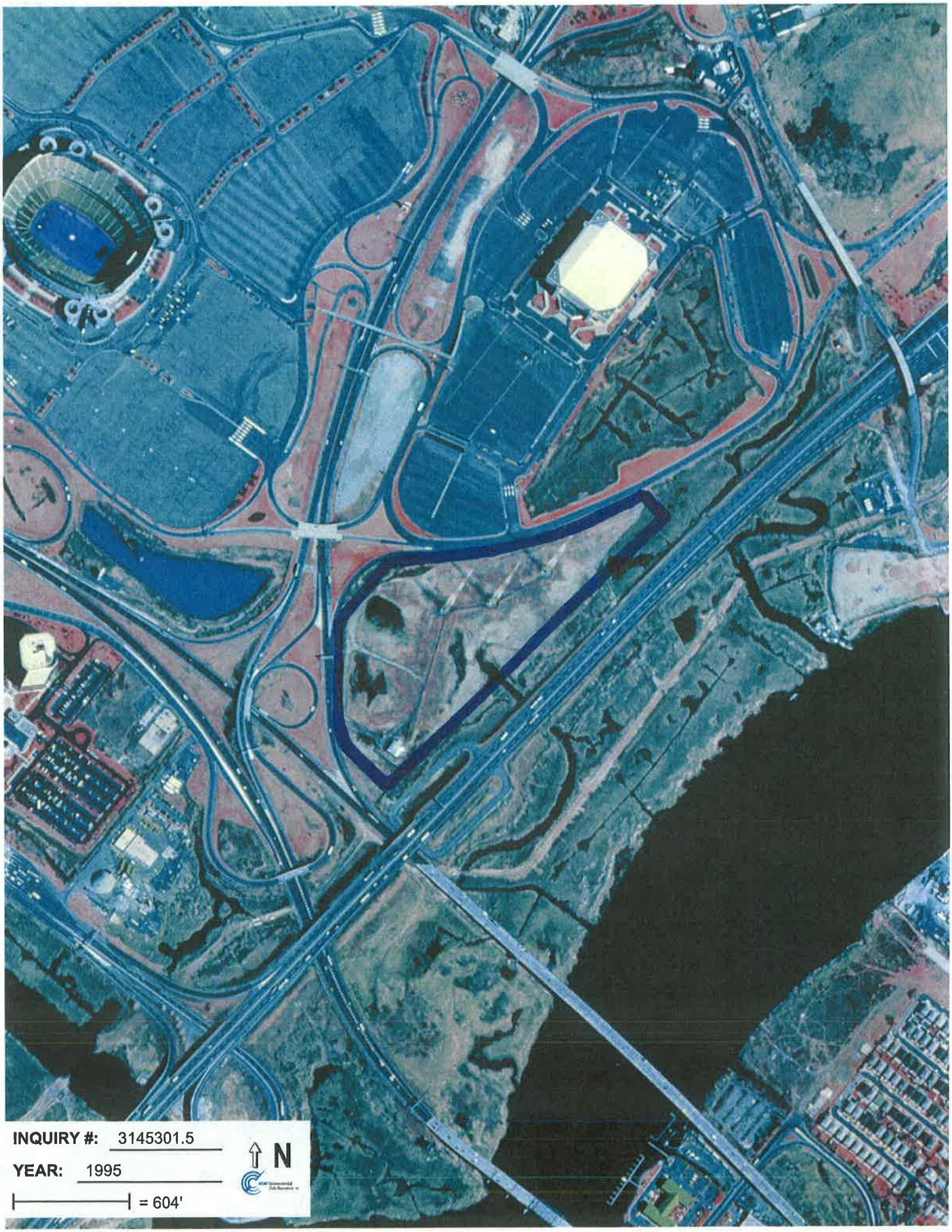
N


INQUIRY #: 3145301.5
YEAR: 1954
= 750'
N


INQUIRY #: 3145301.5
YEAR: 1966
= 500'
N


INQUIRY #: 3145301.5
YEAR: 1976
= 1000'
N


INQUIRY #: 3145301.5
YEAR: 1985
= 1000'
N



INQUIRY #: 3145301.5

YEAR: 1995

N

= 604'


INQUIRY #: 3145301.5
YEAR: 2006
= 604'
N


INQUIRY #: 3145301.5
YEAR: 2008
= 604'
N

APPENDIX D

City Directory

APPENDIX D – CITY DIRECTORY

A review of the city directory for the subject property did not provide additional information regarding the subject property.

\\langan.com\data\EP\data2\100234201\Office Data\Reports\Environmental\Preliminary Assessment Report\Appendix D City Directory.DOC

Block 107.02, Lot 3
Bounded By NJ-120, I-95, & S. Connection Road
East Rutherford, NJ 07073

Inquiry Number: 3145301.6
August 11, 2011

The EDR-City Directory Abstract

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION

Executive Summary

Findings

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EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Abstract is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Abstract includes a search and abstract of available city directory data. For each address, the directory lists the name of the corresponding occupant at five year intervals.

Business directories including city, cross reference and telephone directories were reviewed, if available, at approximately five year intervals for the years spanning 1920 through 2003. This report compiles information gathered in this review by geocoding the latitude and longitude of properties identified and gathering information about properties within 660 feet of the target property.

A summary of the information obtained is provided in the text of this report.

RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. An "X" indicates where information was identified in the source and provided in this report.

Year	Source	TP	Adjoining	Text Abstract	Source Image
2003	City Publishing Co	-	-	-	-
1989	Bell Atlantic Telephone Co	-	-	-	-
1986	New Jersey Bell Co	-	-	-	-
1981	New Jersey Bell Co	-	-	-	-
1976	New Jersey Bell Telephone Co	-	-	-	-
1972	New Jersey Bell Telephone Company	-	-	-	-
1971	New Jersery Bell Telephone Co	-	-	-	-
1966	New Jersey Bell Telephone Company	-	-	-	-
1960	New Jersey Bell Telephone Co.	-	-	-	-
1956	R.L. Polk & Co Publishers	-	-	-	-
1955	New Jersey Bell Telephone Company	-	-	-	-
1950	New Jersey Bell Telephone Co	-	-	-	-
1940	R. L. Polk & Co.	-	-	-	-
1938	R.L. Polk & Co Publishers	-	-	-	-
1937	R.L. Polk & Co Publishers	-	-	-	-
1928	R. L. Polk & Co Publishers	-	-	-	-
1926	Richmond Directory Publishers	-	-	-	-
1925	Richmond Directory Co.	-	-	-	-
1922	Richmond Directory Co.	-	-	-	-
1920	W. L. Richmond	-	-	-	-

FINDINGS

TARGET PROPERTY INFORMATION

ADDRESS

Bounded By NJ-120, I-95, & S. Connection Road
East Rutherford, NJ 07073

FINDINGS DETAIL

Target Property research detail.

No Addresses Found

FINDINGS

ADJOINING PROPERTY DETAIL

The following Adjoining Property addresses were researched for this report. Detailed findings are provided for each address.

No Addresses Found

APPENDIX E

Environmental Database Search
(Complete EDR Report on Enclosed CD)

APPENDIX E – ENVIRONMENTAL DATABASE SEARCH

To further evaluate the site history and to identify potential Areas of Concern (AOCs), an environmental database search was completed by Environmental Data Resources, Inc. (EDR) of Milford, CT. The purpose of the database search was to determine if the subject property is listed with State and Federal environmental agencies for hazardous material/petroleum operations, tanks, spills, releases, and/or environmental violations. The environmental database search report, summarizing the database information, is provided within this appendix. The full database report is included in this appendix as a Compact Disc. The following table is a summary of the State and Federal databases that were searched.

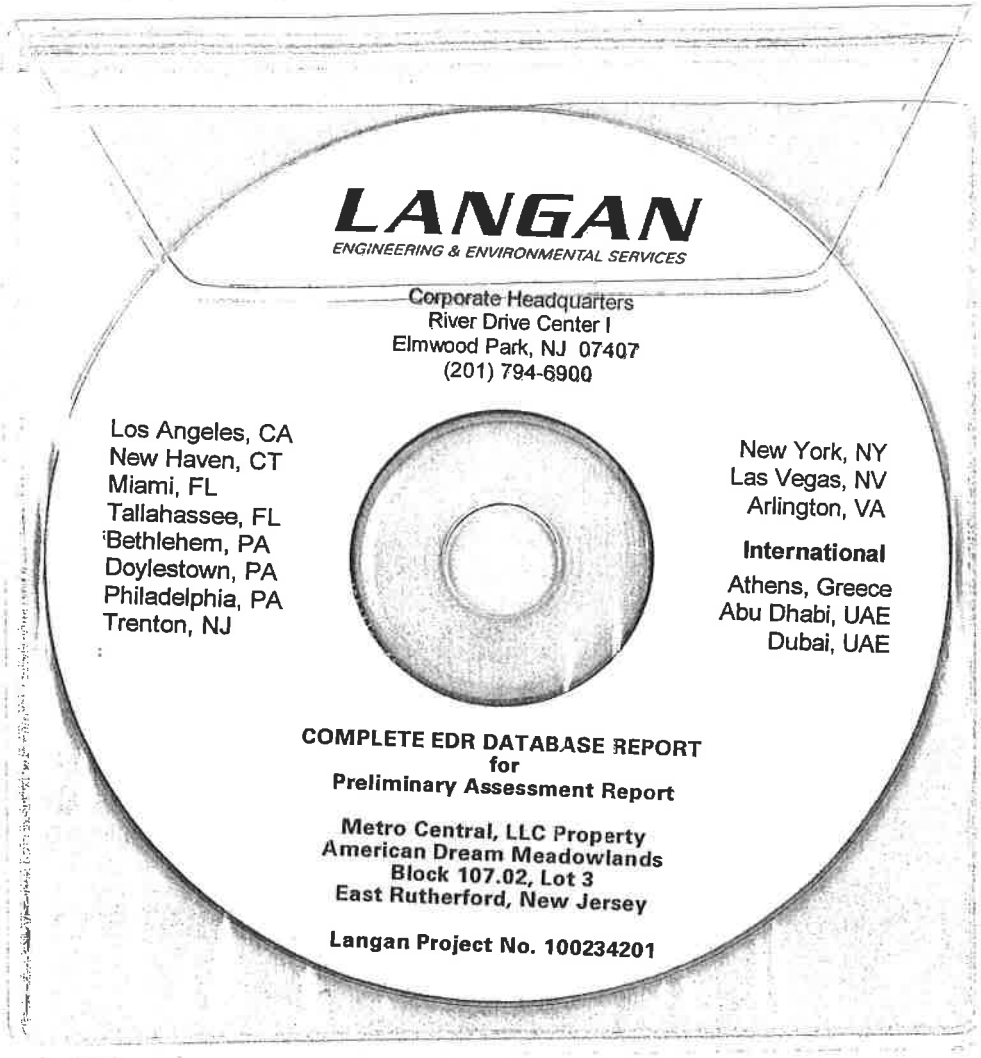
The subject property was identified in the RCRA Non-Gen (1000259157 and 1000306329) under two different names (WEVD and WFAN). The property was also noted in the FINDs (NJD982742181 and NJD986567766) database related to the generator information. The property names, under Non-Gen, were Radio Station WEVD and WFAN Transmitter C-O Emmis Broadcasting. The property was a large quantity generator under the name WFAN in 1988 and a small quantity generator in 1989 under WEVD. No violations were found. Since 2006/2007, the property did not generate hazardous waste.

DATABASE REVIEWED	MINIMUM SEARCH AREA	NUMBER OF SITES WITHIN AREA
Federal National Proprieties List (NPL), Proposed NPL, and Delisted NPL	1 Mile Radius	**1**
Comprehensive Environmental Reponses, Compensation, and Liability Information System (CERCLIS)	½ Mile Radius	0
CERCLIS designated "No Further Remedial Action Planned" (CERCLIS-NFRAP)	½ Mile Radius	**2**
Corrective Action Tracking System (CORRACTS)	1 Mile Radius	**1**
Federal Resources Conservation and Recovery Treatment, Storage, and Disposal (TSD) Facilities List	½ Mile Radius	0
Federal RCRA Generators	¼ Mile Radius	0
Federal Emergency Responses Notification System (ERNS) List	On-Site	0
Comprehensive Environmental Reponses, Compensation, and Liability Information System (FEDERAL FACILTIY)	1 Mile Radius	0
Engineering Controls Sites List (US ENG CONTROLS)	½ Mile Radius	0

DATABASE REVIEWED	MINIMUM SEARCH AREA	NUMBER OF SITES WITHIN AREA
Sites with Institutional Controls (US INST CONTROL)	½ Mile Radius	0
Department of Defense Sites (DOD)	1 Mile Radius	0
Formerly Used Defense Sites (FUDS)	1 Mile Radius	0
A List of Brownfields Sites (US BROWNFIELDS)	½ Mile Radius	0
Superfund (CERCLA) Consent Decrees (CONSENT)	1 Mile Radius	0
Records of Decision (ROD)	1 Mile Radius	**1**
Uranium Mill Tailings Sites (UMTRA)	½ Mile Radius	0
Open Dump Inventory (ODI)	½ Mile Radius	0
Toxic Chemical Release Inventory System (TRIS)	On-Site	0
Toxic Substance Control Act (TSCA)	On-Site	0
FIFRA/TSCA Tracking System (FTTS)	On-Site	0
Section 7 Tracking System (SSTS)	On-Site	0
Integrated Compliance Information System (ICIS)	On-Site	0
PCB Activity Database System (PADS)	On-Site	0
Material Licensing Tracking System (MLTS)	On-Site	0
Mines Master Index File (MINES)	¼ Mile Radius	0
Facility Index System/ Facility Registry System (FINDS)	On-Site	0
RCRA Administrative Action Tracking System (RAATS)	On-Site	0
State Hazardous Waste Sites (SHWS)	1 Mile Radius	**38**
Publicly Funded Cleanups Sites Status Report (NJ PF)	1 Mile Radius	0
Chromate Chemical Production Waste Sites (CHROME)	½ Mile Radius	0
Voluntary Cleanup Program (VCP)	½ Mile Radius	**2**
State Landfills or Solid Waste Facilities (SWF/LF)	½ Mile Radius	0
Solid Waste Facility Directory (HIST LF)	½ Mile Radius	0
Underground Storage Tank List (UST)	¼ Mile Radius	0
State Spills Database – Leaking Underground Storage Tanks (LUST)	½ Mile Radius	0
Historic LUST	½ Mile Radius	**5**
Approved Class B Recycling Facilities (SWRCY)	½ Mile Radius	0

DATABASE REVIEWED	MINIMUM SEARCH AREA	NUMBER OF SITES WITHIN AREA
Major Facilities & Historic Major Facilities (NJ Major Facilities & Hist Major facilities)	½ Mile Radius	0
RCRA-NonGen	¼ Mile Radius	**Target Property**
Hazardous Material Incident Database (NJ Release)	On-Site	0
Spills (NJ Spills)	On-Site	0
Declaration Environmental Restriction/Deed Notice Sites (ENG CONTROLS)	½ Mile Radius	0
Classification Exception Area Sites (INST CONTROL)	½ Mile Radius	**2**
Dry Cleaners List (DRYCLEANERS)	¼ Mile Radius	0
Brownfields	½ Mile Radius	**2**
New Jersey Pollutant Discharge Elimination System Dischargers (NJPDES)	On-Site	0
Environmental Liens Listing (LIENS)	On-Site	0
Industrial Site Recovery Act (ISRA)	½ Mile Radius	0
Manifest	¼ Mile Radius	0
HWS RE-EVAL	1 Mile	**1**

In addition to these environmental databases, EDR also performed searches of the following supplemental Federal databases: NPL Liens, DOT OPS, UIC, and HIST FTTS, as well as the following supplemental State and EDR proprietary databases including: Historical Auto Stations, Historical Cleaners and Manufactured Gas Plants. Refer to the following EDR Radius Map report furnished by EDR for a complete listing of all the databases searched.


LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES
Corporate Headquarters
River Drive Center I
Elmwood Park, NJ 07407
(201) 794-6900
Los Angeles, CA
New Haven, CT
Miami, FL
Tallahassee, FL
Bethlehem, PA
Doylestown, PA
Philadelphia, PA
Trenton, NJ
New York, NY
Las Vegas, NV
Arlington, VA
International
Athens, Greece
Abu Dhabi, UAE
Dubai, UAE
COMPLETE EDR DATABASE REPORT
for
Preliminary Assessment Report
Metro Central, LLC Property
American Dream Meadowlands
Block 107.02, Lot 3
East Rutherford, New Jersey
Langan Project No. 100234201

Block 107.02, Lot 3
Bounded By NJ-120, I-95, & S. Connection Road
East Rutherford, NJ 07073

Inquiry Number: 3145301.2s
August 11, 2011

The EDR Radius Map™ Report with GeoCheck®

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
Toll Free: 800.352.0050
www.edrnet.com

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-05) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

BOUNDED BY NJ-120, I-95, & S. CONNECTION ROAD
EAST RUTHERFORD, NJ 07073

COORDINATES

Latitude (North):	40.806900 - 40° 48' 24.8''
Longitude (West):	74.069700 - 74° 4' 10.9''
Universal Tranverse Mercator:	Zone 18
UTM X (Meters):	578470.2
UTM Y (Meters):	4517526.5
State Plane X (Feet):	611236.4
State Plane Y (Feet):	719141.1
Elevation:	6 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	40074-G1 WEEHAWKEN, NJ
Most Recent Revision:	1995

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	2006, 2008
Source:	USDA

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

Proposed NPL---------- Proposed National Priority List Sites

NPL LIENS ---- Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ---- National Priority List Deletions

Federal CERCLIS list

CERCLIS ---- Comprehensive Environmental Response, Compensation, and Liability Information System
FEDERAL FACILITY ---- Federal Facility Site Information listing

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ---- RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG ---- RCRA - Large Quantity Generators
RCRA-SQG ---- RCRA - Small Quantity Generators
RCRA-CESQG ---- RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

US ENG CONTROLS ---- Engineering Controls Sites List
US INST CONTROL ---- Sites with Institutional Controls

Federal ERNS list

ERNS ---- Emergency Response Notification System

State- and tribal - equivalent CERCLIS

HIST HWS ---- Known Contaminated Sites Listing

State and tribal landfill and/or solid waste disposal site lists

SWF/LF ---- Solid Waste Facility Directory

State and tribal leaking storage tank lists

LUST ---- UST Active Remediation Sites Listing
INDIAN LUST ---- Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

UST ---- Underground Storage Tank Data
MAJOR FACILITIES ---- List of Major Facilities
INDIAN UST ---- Underground Storage Tanks on Indian Land
FEMA UST ---- Underground Storage Tank Listing

State and tribal institutional control / engineering control registries

ENG CONTROLS ---- Declaration Environmental Restriction/Deed Notice Sites

State and tribal voluntary cleanup sites

NJ PF ---- Publicly Funded Cleanups Site Status Report

INDIAN VCP ---- Voluntary Cleanup Priority Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ---- A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

DEBRIS REGION 9 ---- Torres Martinez Reservation Illegal Dump Site Locations
ODI ---- Open Dump Inventory
SWRCY ---- Approved Class B Recycling Facilities
HIST LF ---- Solid Waste Facility Directory
INDIAN ODI ---- Report on the Status of Open Dumps on Indian Lands

Local Lists of Hazardous waste / Contaminated Sites

US CDL ---- Clandestine Drug Labs
US HIST CDL ---- National Clandestine Laboratory Register

Local Land Records

LIENS 2 ---- CERCLA Lien Information
LUCIS ---- Land Use Control Information System
LIENS ---- Environmental LIENS

Records of Emergency Release Reports

HMIRS ---- Hazardous Materials Information Reporting System
NJ Release ---- Hazardous Material Incident Database
SPILLS ---- Spills

Other Ascertainable Records

DOT OPS ---- Incident and Accident Data
DOD ---- Department of Defense Sites
FUDS ---- Formerly Used Defense Sites
CONSENT ---- Superfund (CERCLA) Consent Decrees
UMTRA ---- Uranium Mill Tailings Sites
MINES ---- Mines Master Index File
TRIS ---- Toxic Chemical Release Inventory System
TSCA ---- Toxic Substances Control Act
FTTS ---- FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
HIST FTTS ---- FIFRA/TSCA Tracking System Administrative Case Listing
SSTS ---- Section 7 Tracking Systems
ICIS ---- Integrated Compliance Information System
PADS ---- PCB Activity Database System
MLTS ---- Material Licensing Tracking System
RADINFO ---- Radiation Information Database
FINDS ---- Facility Index System/Facility Registry System
RAATS ---- RCRA Administrative Action Tracking System
CHROME ---- Chromate Chemical Production Waste Sites

UIC ..... Underground Injection Wells Database
HIST MAJOR FACILITIES ... List of Major Facilities
MANIFEST ..... Hazardous Waste Manifest Data
DRYCLEANERS ..... Drycleaner List
ISRA ..... ISRA Database
NPDES ..... New Jersey Pollutant Discharge Elimination System Dischargers
INDIAN RESERV ..... Indian Reservations
SCRD DRYCLEANERS ..... State Coalition for Remediation of Drycleaners Listing
COAL ASH EPA ..... Coal Combustion Residues Surface Impoundments List
FINANCIAL ASSURANCE ... Financial Assurance Information Listing
PCB TRANSFORMER ..... PCB Transformer Registration Database
COAL ASH DOE ..... Sleam-Electric Plan Operation Data

EDR PROPRIETARY RECORDS

EDR Proprietary Records

Manufactured Gas Plants .... EDR Proprietary Manufactured Gas Plants
EDR Historical Auto Stations .. EDR Proprietary Historic Gas Stations
EDR Historical Cleaners ..... EDR Proprietary Historic Dry Cleaners

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: Also known as Superfund, the National Priority List database is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund program. The source of this database is the U.S. EPA.

A review of the NPL list, as provided by EDR, and dated 03/31/2011 has revealed that there is 1 NPL site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
VENTRON/VELSICOL	***ETHYL BOULEVARD***	***SW 1/2 - 1 (0.558 mi.)***	***0***	***7***

EXECUTIVE SUMMARY

Federal CERCLIS NFRAP site List

CERC-NFRAP: Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

A review of the CERC-NFRAP list, as provided by EDR, and dated 02/25/2011 has revealed that there are 2 CERC-NFRAP sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
TRANSCONTINENTAL GAS PIPE LINE	***718 PATERSON PLANK RD***	***ENE 1/4 - 1/2 (0.424 mi.)***	***D11***	***58***
MARIO'S SERVICE INC	288 PATERSON PLANK RD	ENE 1/4 - 1/2 (0.456 mi.)	E15	121

Federal RCRA CORRACTS facilities list

CORRACTS: CORRACTS is a list of handlers with RCRA Corrective Action Activity. This report shows which nationally-defined corrective action core events have occurred for every handler that has had corrective action activity.

A review of the CORRACTS list, as provided by EDR, and dated 03/09/2011 has revealed that there is 1 CORRACTS site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
J LANDAU & CO. INC.	***214 WASHINGTON AVENUE***	***NNE 1/2 - 1 (0.806 mi.)***	***I36***	***155***

State- and tribal - equivalent CERCLIS

SHWS: Known contaminated sites in New Jersey except those associated with Bureau of Underground Storage Sites (BUST)

A review of the SHWS list, as provided by EDR, and dated 05/04/2011 has revealed that there are 38 SHWS sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
AN CORP REALTY Status: CLOSED	***300 RT 3***	***WSW 1/4 - 1/2 (0.312 mi.)***	***A2***	***40***
HARMON COVE TOWERS CONDO ASSOC Status: ACTIVE	1 MEADOWLANDS PKWY	SSE 1/2 - 1 (0.575 mi.)	16	122
RED ROOF INN Status: CLOSED	15 MEADOWLANDS PKWY	SSE 1/2 - 1 (0.596 mi.)	18	127
Not reported Status: CLOSED	***288 GRACE AVE***	***SE 1/2 - 1 (0.616 mi.)***	***F20***	***132***
286 GRACE AVENUE Status: CLOSED	***286 GRACE AVE***	***SE 1/2 - 1 (0.626 mi.)***	***F21***	***133***
293 JULANNE TERRACE Status: CLOSED	***293 JULIANNE TER***	***SE 1/2 - 1 (0.638 mi.)***	***G22***	***134***

EXECUTIVE SUMMARY

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
292 JULIANNE TERRACE Status: CLOSED	292 JULIANNE TER	SE 1/2 - 1 (0.640 mi.)	G23	135
305 PAULANNE TERRACE Status: CLOSED	***305 PAULANNE TER***	***SE 1/2 - 1 (0.650 mi.)***	***H24***	***135***
280 GRACE AVE Status: CLOSED	280 GRACE AVE	SE 1/2 - 1 (0.658 mi.)	25	137
TILCON NEW JERSEY INC Status: ACTIVE	***1611 PATERSON PLANK RD***	***ESE 1/2 - 1 (0.660 mi.)***	***26***	***138***
287 PAULANNE TERRACE Status: CLOSED	287 PAULANNE TER	SE 1/2 - 1 (0.671 mi.)	H27	145
297 FRANKLIN STREET Status: CLOSED	297 FRANKLIN ST	SE 1/2 - 1 (0.745 mi.)	30	147
UNIMAC GRAPHICS Status: ACTIVE	***350 MICHELLE PL***	***NNE 1/2 - 1 (0.759 mi.)***	***31***	***147***
AMERADA HESS GARAGE Status: ACTIVE	35 MEADOWLANDS PKWY	S 1/2 - 1 (0.766 mi.)	32	148
THE RUG IMPORTER Status: ACTIVE	30 WOOD AVE	SSE 1/2 - 1 (0.786 mi.)	33	148
AMERADA HESS TRUCK SERVICE FAC Status: ACTIVE	***34 MEADOWLANDS PKWY***	***S 1/2 - 1 (0.787 mi.)***	***34***	***148***
JAKE & TOMS MEADOWLAND SERVICE Status: ACTIVE	***204 WASHINGTON AVE***	***NNE 1/2 - 1 (0.795 mi.)***	***I35***	***150***
816 9TH STREET Status: CLOSED	816 9TH ST	SSE 1/2 - 1 (0.815 mi.)	37	159
190 MEADOW LANE Status: CLOSED	***190 MEADOW LN***	***ESE 1/2 - 1 (0.863 mi.)***	***38***	***159***
310 CLARENDON STREET Status: CLOSED	310 CLARENDON ST	SSE 1/2 - 1 (0.871 mi.)	39	160
ROLLS OFFSET GROUP INC Status: CLOSED	***380 PATERSON PLANK RD***	***N 1/2 - 1 (0.886 mi.)***	***40***	***160***
851 7TH STREET Status: CLOSED	***851 7TH ST***	***SSE 1/2 - 1 (0.889 mi.)***	***41***	***165***
737 9TH STREET Status: CLOSED	737 9TH ST	S 1/2 - 1 (0.902 mi.)	42	166
164 FRANKLIN STREET Status: CLOSED	***164 FRANKLIN ST***	***SE 1/2 - 1 (0.907 mi.)***	***J43***	***166***
158 FRANKLIN STREET Status: CLOSED	***158 FRANKLIN ST***	***SE 1/2 - 1 (0.921 mi.)***	***J45***	***167***
840 6TH ST Status: PENDING	***840 6TH ST***	***SSE 1/2 - 1 (0.933 mi.)***	***K46***	***168***
834 6TH STREET Status: CLOSED	***834 6TH ST***	***SSE 1/2 - 1 (0.936 mi.)***	***K47***	***170***
177 HUBER STREET Status: CLOSED	177 HUBER ST	SE 1/2 - 1 (0.955 mi.)	48	170

Lower Elevation	Address	Direction / Distance	Map ID	Page
TGPL STATION 0240 Status: ACTIVE	***718 PATERSON PLANK RD***	***ENE 1/4 - 1/2 (0.424 mi.)***	***D10***	***49***

Lower Elevation	Address	Direction / Distance	Map ID	Page
MEADOWLAND TRUCK STOP INC Status: ACTIVE	***288 PATERSON PLANK RD***	***ENE 1/4 - 1/2 (0.456 mi.)***	***E13***	***115***
SCHMITT CONCRETE EQUIP CO Status: ACTIVE	***1631 PATERSON PLANK RD***	***ESE 1/2 - 1 (0.589 mi.)***	***17***	***123***
AMERICAN ALLOYS Status: CLOSED	***1625 PATERSON PLANK RD***	***ESE 1/2 - 1 (0.609 mi.)***	***19***	***127***
KIRK'S TRANSMISSIONINC Status: CLOSED	***20 RIVER RD***	***ESE 1/2 - 1 (0.689 mi.)***	***28***	***145***
BOULEVARD TIRE Status: CLOSED	1159 FARM RD	ESE 1/2 - 1 (0.740 mi.)	29	146
VORAC CO DIV OF SEAGRAVE COATI Status: CLOSED	***320 PATERSON PLANK RD***	***N 1/2 - 1 (0.921 mi.)***	***44***	***166***
SEAGRAVE COATINGS CORP Status: ACTIVE	320 PATERSON PLANK RD	N 1/2 - 1 (0.984 mi.)	L49	171
UNITED RENTALS HWY TECHNOLOGIE Status: CLOSED	316 PATERSON PLANK RD	N 1/2 - 1 (0.990 mi.)	L50	171
304 PATERSON PLANK ROAD Status: ACTIVE	***304 PATERSON PLANK RD***	***N 1/2 - 1 (0.993 mi.)***	***L51***	***171***

HWS RE-EVAL: The locations were removed from the Known Contaminated Sites list for a variety of reasons. Some of the sites were taken off the list because they were inactive, some were not assigned a case worker and some were no longer contaminated. Inspectors from the DEP are now undertaking a full re-evaluation of each of the locations statewide. That includes visual and environmental tests to see whether contamination still exists.

A review of the HWS RE-EVAL list, as provided by EDR, and dated 09/20/2007 has revealed that there is 1 HWS RE-EVAL site within approximately 1 mile of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
USED CAR DEALERSHIP	***288 PATERSON PLANK ROAD***	***ENE 1/4 - 1/2 (0.456 mi.)***	***E14***	***120***

State and tribal leaking storage tank lists

HIST LUST: This listing is no longer updated or maintained by the DEP.

A review of the HIST LUST list, as provided by EDR, and dated 09/17/2002 has revealed that there are 5 HIST LUST sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
Not reported Facility Status: Site Issued Letter of No Further Action for Area(s) Of Concern	***2 MEADOWLANDS PLAZA***	***W 1/4 - 1/2 (0.374 mi.)***	***B4***	***41***
PETER PAN MOTEL SITE Facility Status: Site Issued Letter of No Further Action for Area(s) Of Concern	***1 MEADOWLANDS PLAZA***	***W 1/4 - 1/2 (0.376 mi.)***	***B5***	***43***

Lower Elevation	Address	Direction / Distance	Map ID	Page
TURNPIKE PUMP STATION #2 Facility Status: Site Issued Letter of No Further Action for Area(s) Of Concern	TURNPIKE & PATERSON PLA	E 1/4 - 1/2 (0.399 mi.)	C6	47

Lower Elevation	Address	Direction / Distance	Map ID	Page
NEW JERSEY TURNPIKE AUTHORITY	INTERCHANGE 18W TOLL PL	E 1/4 - 1/2 (0.399 mi.)	C7	48
Facility Status: Site Issued Letter of No Further Action for Area(s) Of Concern				
TRANSCONT GAS PIPELINE CORP ST	718 PATERSON PLANK RD	ENE 1/4 - 1/2 (0.424 mi.)	D9	48
Facility Status: Assigned to a Program				

State and tribal institutional control / engineering control registries

INST CONTROL: Sites where engineering and/or institutional controls remain in place as part of a remedial action to address soil and/or groundwater contamination. These restrictions ensure protection of human health and the environment as long as they are maintained.

A review of the INST CONTROL list, as provided by EDR, and dated 06/08/2011 has revealed that there are 2 INST CONTROL sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
AN CORP REALTY	***300 RT 3***	***WSW 1/4 - 1/2 (0.312 mi.)***	***A2***	***40***
Lower Elevation	**Address**	**Direction / Distance**	**Map ID**	**Page**
VALVE 200A120-PATERSON TAKEOFF	***718 PATERSON PLANK RD***	***ENE 1/4 - 1/2 (0.424 mi.)***	***D12***	***77***

State and tribal voluntary cleanup sites

VCP: Through the VCP, responsible parties, developers, local officials, or individuals may work with the department to remediate non-priority contaminated sites that pose no immediate threat to human health or the environment.

A review of the VCP list, as provided by EDR, and dated 10/18/2010 has revealed that there are 2 VCP sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
AN CORP REALTY	300 RT 3	WSW 1/4 - 1/2 (0.312 mi.)	A3	41
Lower Elevation	**Address**	**Direction / Distance**	**Map ID**	**Page**
VALVE 200A120-PATERSON TAKEOFF	***718 PATERSON PLANK RD***	***ENE 1/4 - 1/2 (0.424 mi.)***	***D12***	***77***

State and tribal Brownfields sites

BROWNFIELDS: Brownfields are identified as formter or current commmercial or industrial use sites that are presently vacant or underutilized, on which there is suspected to have been a discharge of a contamination to the soil or groundwater at concentra tions greater than applicable cleanup criteria.

A review of the BROWNFIELDS list, as provided by EDR, and dated 08/04/2011 has revealed that there are 2 BROWNFIELDS sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
200 PATERSON PLANK ROAD	200 PATERSON PLANK ROAD	ENE 1/4 - 1/2 (0.423 mi.)	D8	48
USED CAR DEALERSHIP	***288 PATERSON PLANK ROAD***	***ENE 1/4 - 1/2 (0.456 mi.)***	***E14***	***120***

ADDITIONAL ENVIRONMENTAL RECORDS

Other Ascertainable Records

RCRA-NonGen: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

A review of the RCRA-NonGen list, as provided by EDR, and dated 06/15/2011 has revealed that there is 1 RCRA-NonGen site within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
RADIO STATION WEVD	***RTE 3W & 120N INTERSECT***	***SW 1/8 - 1/4 (0.235 mi.)***	***1***	***38***

ROD: Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid the cleanup.

A review of the ROD list, as provided by EDR, and dated 02/25/2011 has revealed that there is 1 ROD site within approximately 1 mile of the target property.

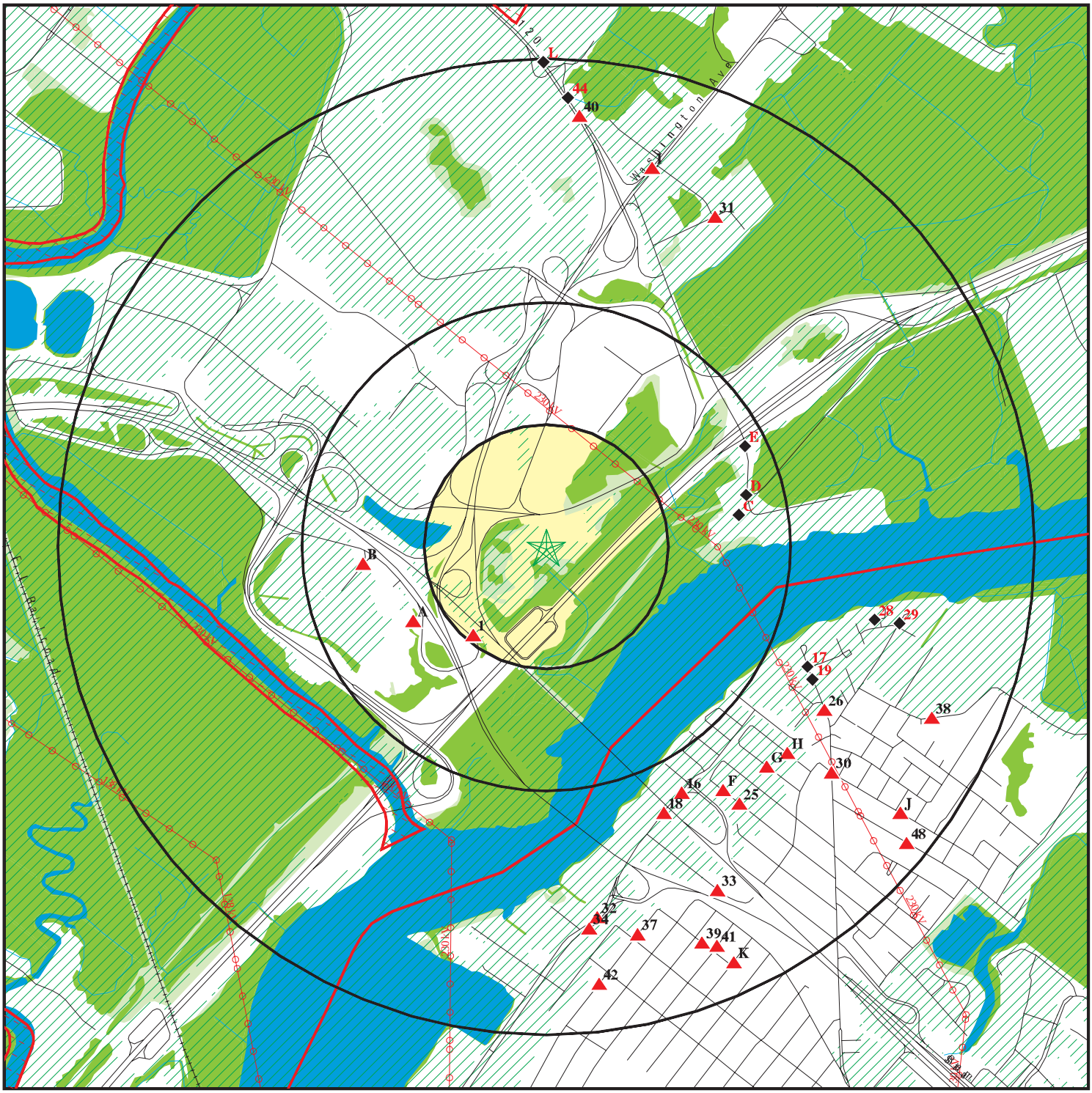
Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
VENTRON/VELSICOL	***ETHYL BOULEVARD***	***SW 1/2 - 1 (0.558 mi.)***	***0***	***7***

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 20 records.

Site Name	Database(s)
NJ DOT ROUTE 3 PARCEL R12	HIST HWS
ARSYNCO INC - ACETO CHEMICAL COMPA	CORRACTS,MANIFEST,RELEASE,RCRA-NLR,ENG CONTROLS,I
FORMER MOTOR FREIGHT FACILITY	VCP
MODERN TRANSPORTATION	CERCLIS-NFRAP
ALLIED BUILDING PRODUCTS CORP	RCRA-SQG
BEST KITCHENS & BATHS INC	FINDS,RCRA-NLR
WFAN TRANSMITTER C-O EMMIS BROADCA	FINDS,RCRA-NLR
NJDOT	FINDS,RCRA-NLR
MERIT OIL CORP	FINDS,RCRA-NLR
NJDOT	RCRA-NLR
SUNOCO SERVICE STATION	RCRA-NLR
BJS WHOLESALE CLUB #0008	RCRA-CESQG
MARINE ELECTRIC SYSTEMS INC	FINDS,RCRA-CESQG
UNIVERSAL OIL PRODUCTS	BROWNFIELDS
LOWE'S HOME IMPROVEMENT	BROWNFIELDS
ROUTE 17/UOP TRACT	BROWNFIELDS
NJDOT ROUTE 3 IMPROVEMENTS	FINDS
MUNFITTRICK TRANSPORT	MANIFEST
NEW JERSEY SPORTS & EXPOSITION AUT	MANIFEST
SHELL OIL CO	MANIFEST

OVERVIEW MAP - 3145301.2s



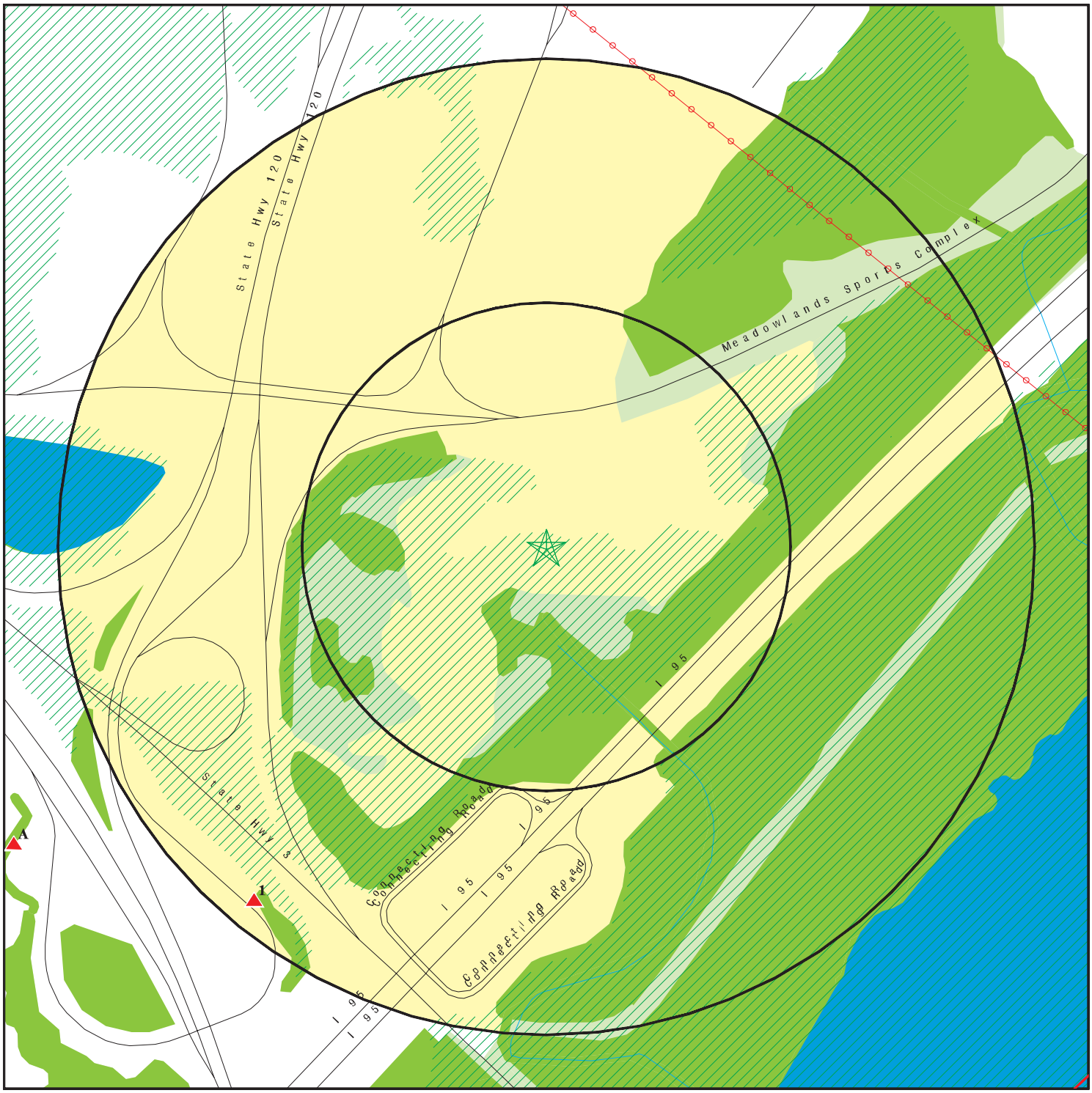
- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- County Boundary
- Power transmission lines
- Oil & Gas pipelines from USGS
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Block 107.02, Lot 3	CLIENT:	Langan Engineering
ADDRESS:	Bounded By NJ-120, I-95, & S. Connection Road East Rutherford NJ 07073	CONTACT:	Danielle Bisson
		INQUIRY #:	3145301.2s
LAT/LONG:	40.8069 / 74.0697	DATE:	August 11, 2011 3:25 pm

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DETAIL MAP - 3145301.2s



0 1/16 1/8 1/4 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- County Boundary
- Power transmission lines
- Oil & Gas pipelines from USGS
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
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SITE NAME:	Block 107.02, Lot 3	CLIENT:	Langan Engineering
ADDRESS:	Bounded By NJ-120, I-95, & S. Connection Road East Rutherford NJ 07073	CONTACT:	Danielle Bisson
		INQUIRY #:	3145301.2s
LAT/LONG:	40.8069 / 74.0697	DATE:	August 11, 2011 3:25 pm

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MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL		1.000	0	0	0	1	NR	1
Proposed NPL		1.000	0	0	0	0	NR	0
NPL LIENS		TP	NR	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL		1.000	0	0	0	0	NR	0
Federal CERCLIS list								
CERCLIS		0.500	0	0	0	NR	NR	0
FEDERAL FACILITY		1.000	0	0	0	0	NR	0
Federal CERCLIS NFRAP site List								
CERC-NFRAP		0.500	0	0	2	NR	NR	2
Federal RCRA CORRACTS facilities list								
CORRACTS		1.000	0	0	0	1	NR	1
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF		0.500	0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG		0.250	0	0	NR	NR	NR	0
RCRA-SQG		0.250	0	0	NR	NR	NR	0
RCRA-CESQG		0.250	0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
US ENG CONTROLS		0.500	0	0	0	NR	NR	0
US INST CONTROL		0.500	0	0	0	NR	NR	0
Federal ERNS list								
ERNS		TP	NR	NR	NR	NR	NR	0
State- and tribal - equivalent CERCLIS								
SHWS		1.000	0	0	3	35	NR	38
HWS RE-EVAL		1.000	0	0	1	0	NR	1
HIST HWS		TP	NR	NR	NR	NR	NR	0
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF		0.500	0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST		0.500	0	0	0	NR	NR	0
HIST LUST		0.500	0	0	5	NR	NR	5
INDIAN LUST		0.500	0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
State and tribal registered storage tank lists								
UST		0.250	0	0	NR	NR	NR	0
MAJOR FACILITIES		0.500	0	0	0	NR	NR	0
INDIAN UST		0.250	0	0	NR	NR	NR	0
FEMA UST		0.250	0	0	NR	NR	NR	0
State and tribal institutional control / engineering control registries								
ENG CONTROLS		0.500	0	0	0	NR	NR	0
INST CONTROL		0.500	0	0	2	NR	NR	2
State and tribal voluntary cleanup sites								
NJ PF		1.000	0	0	0	0	NR	0
VCP		0.500	0	0	2	NR	NR	2
INDIAN VCP		0.500	0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS		0.500	0	0	2	NR	NR	2
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS		0.500	0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
DEBRIS REGION 9		0.500	0	0	0	NR	NR	0
ODI		0.500	0	0	0	NR	NR	0
SWRCY		0.500	0	0	0	NR	NR	0
HIST LF		0.500	0	0	0	NR	NR	0
INDIAN ODI		0.500	0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US CDL		TP	NR	NR	NR	NR	NR	0
US HIST CDL		TP	NR	NR	NR	NR	NR	0
Local Land Records								
LIENS 2		TP	NR	NR	NR	NR	NR	0
LUCIS		0.500	0	0	0	NR	NR	0
LIENS		TP	NR	NR	NR	NR	NR	0
Records of Emergency Release Reports								
HMIRS		TP	NR	NR	NR	NR	NR	0
NJ Release		TP	NR	NR	NR	NR	NR	0
SPILLS		TP	NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA-NonGen		0.250	0	1	NR	NR	NR	1

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
DOT OPS		TP	NR	NR	NR	NR	NR	0
DOD		1.000	0	0	0	0	NR	0
FUDS		1.000	0	0	0	0	NR	0
CONSENT		1.000	0	0	0	0	NR	0
ROD		1.000	0	0	0	1	NR	1
UMTRA		0.500	0	0	0	NR	NR	0
MINES		0.250	0	0	NR	NR	NR	0
TRIS		TP	NR	NR	NR	NR	NR	0
TSCA		TP	NR	NR	NR	NR	NR	0
FTTS		TP	NR	NR	NR	NR	NR	0
HIST FTTS		TP	NR	NR	NR	NR	NR	0
SSTS		TP	NR	NR	NR	NR	NR	0
ICIS		TP	NR	NR	NR	NR	NR	0
PADS		TP	NR	NR	NR	NR	NR	0
MLTS		TP	NR	NR	NR	NR	NR	0
RADINFO		TP	NR	NR	NR	NR	NR	0
FINDS		TP	NR	NR	NR	NR	NR	0
RAATS		TP	NR	NR	NR	NR	NR	0
CHROME		0.500	0	0	0	NR	NR	0
UIC		TP	NR	NR	NR	NR	NR	0
HIST MAJOR FACILITIES		0.500	0	0	0	NR	NR	0
MANIFEST		0.250	0	0	NR	NR	NR	0
DRYCLEANERS		0.250	0	0	NR	NR	NR	0
ISRA		0.500	0	0	0	NR	NR	0
NPDES		TP	NR	NR	NR	NR	NR	0
INDIAN RESERV		1.000	0	0	0	0	NR	0
SCRD DRYCLEANERS		0.500	0	0	0	NR	NR	0
COAL ASH EPA		0.500	0	0	0	NR	NR	0
FINANCIAL ASSURANCE		TP	NR	NR	NR	NR	NR	0
PCB TRANSFORMER		TP	NR	NR	NR	NR	NR	0
COAL ASH DOE		TP	NR	NR	NR	NR	NR	0

EDR PROPRIETARY RECORDS

EDR Proprietary Records

Manufactured Gas Plants	1.000	0	0	0	0	NR	0
EDR Historical Auto Stations	0.250	0	0	NR	NR	NR	0
EDR Historical Cleaners	0.250	0	0	NR	NR	NR	0

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

NPL **VENTRON/VELSICOL** **NPL** **1000420131**
Region **ETHYL BOULEVARD** **CERCLIS** **NJD980529879**
SW **WOOD RIDGE BOROUGH, NJ 07075** **RCRA-LQG**
1/2-1 **US ENG CONTROLS**
2944 ft. **US INST CONTROL**
ROD
FINDS
MANIFEST

NPL:
EPA ID: NJD980529879
EPA Region: 02
Federal: N
Final Date: 1984-09-21 00:00:00

Category Details:
NPL Status: Currently on the Final NPL
Category Description: Depth To Aquifer-<= 10 Feet
Category Value: 10

NPL Status: Currently on the Final NPL
Category Description: Distance To Nearest Population-> 0 And <= 1/4 Mile
Category Value: 50

Site Details:
Site Name: VENTRON/VELSICOL
Site Status: Final
Site Zip: 07075
Site City: WOOD RIDGE BOROUGH
Site State: NJ
Federal Site: No
Site County: BERGEN
EPA Region: 02
Date Proposed: 09/08/83
Date Deleted: Not reported
Date Finalized: 09/21/84

Substance Details:
NPL Status: Currently on the Final NPL
Substance ID: Not reported
Substance: Not reported
CAS #: Not reported
Pathway: Not reported
Scoring: Not reported

NPL Status: Currently on the Final NPL
Substance ID: A038
Substance: NICKEL AND COMPOUNDS
CAS #: Not reported
Pathway: GROUND WATER PATHWAY
Scoring: 2

NPL Status: Currently on the Final NPL
Substance ID: C247
Substance: ZINC AND COMPOUNDS
CAS #: Not reported
Pathway: GROUND WATER PATHWAY
Scoring: 2

VENTRON/VELSICOL (Continued) **1000420131**

NPL Status: Currently on the Final NPL
Substance ID: C460
Substance: MERCURY
CAS #: 7439-97-6
Pathway: AIR PATHWAY
Scoring: 2

NPL Status: Currently on the Final NPL
Substance ID: C460
Substance: MERCURY
CAS #: 7439-97-6
Pathway: GROUND WATER PATHWAY
Scoring: 4

NPL Status: Currently on the Final NPL
Substance ID: C460
Substance: MERCURY
CAS #: 7439-97-6
Pathway: SURFACE WATER PATHWAY
Scoring: 4

NPL Status: Currently on the Final NPL
Substance ID: D004
Substance: ARSENIC
CAS #: 7440-38-2
Pathway: GROUND WATER PATHWAY
Scoring: 4

NPL Status: Currently on the Final NPL
Substance ID: D004
Substance: ARSENIC
CAS #: 7440-38-2
Pathway: SURFACE WATER PATHWAY
Scoring: 4

NPL Status: Currently on the Final NPL
Substance ID: D006
Substance: CADMIUM (CD)
CAS #: 7440-43-9
Pathway: NO PATHWAY INDICATED
Scoring: 1

NPL Status: Currently on the Final NPL
Substance ID: D008
Substance: LEAD (PB)
CAS #: 7439-92-1
Pathway: GROUND WATER PATHWAY
Scoring: 2

Summary Details:

Conditions at listing September 1983): The Ventron/Velsicol Site was a chemical-processing operation from before 1953 until it closed in l974. The site is on l9 acres bordering Berry s Creek and the Hackensack Meadowlands in Wood-Ridge Borough, Bergen County, New Jersey. The region is densely populated and industriali ed. Heavy metals are leaving the site in ground water and air, threatening extensive wetlands and a very large population, according to the State. There is alsoa significant direct contact ha ard from

VENTRON/VELSICOL (Continued) **1000420131**

wastes dumped on the ground. The State filed suit in l976 against the company seeking a judgment of liability and funds to clean up the site. The Chancery Division found for the State in l979. Following appeal by the defendants, the Appellate Division found for the State in l98l. The case is now before the Supreme Court of New Jersey. The State is considering various remedial actions; costs are expected to be at least 4 million.Status June 1984): EPA is planning a remedial investigation/ feasibility study to determine the type and extent of contamination at the site and identify alternatives for remedial action.

Site Status Details:

NPL Status:	Final
Proposed Date:	09/08/1983
Final Date:	09/21/1984
Deleted Date:	Not reported

Narratives Details:

NPL Name:	VENTRON/VELSICOL
City:	WOOD RIDGE BOROUGH
State:	NJ

CERCLIS:

Site ID:	0200674
EPA ID:	NJD980529879
Facility County:	BERGEN
Short Name:	VENTRON/VELSICOL
Congressional District:	09
IFMS ID:	02C7
SMSA Number:	5600
USGC Hydro Unit:	02030103
Federal Facility:	Not a Federal Facility
DMNSN Number:	40.00000
Site Orphan Flag:	N
RCRA ID:	Not reported
USGS Quadrangle:	Not reported
Site Init By Prog:	Not reported
NFRAP Flag:	Not reported
Parent ID:	Not reported
RST Code:	Not reported
EPA Region:	02
Classification:	Chemical Plant
Site Settings Code:	UR
NPL Status:	Currently on the Final NPL
DMNSN Unit Code:	ACRE
RBRAC Code:	Not reported
RResp Fed Agency Code:	Not reported
Non NPL Status:	Not reported
Non NPL Status Date:	Not reported
Site Fips Code:	34003
CC Concurrence Date:	Not reported
CC Concurrence FY:	Not reported
Alias EPA ID:	Not reported
Site FUDS Flag:	Not reported

CERCLIS Site Contact Name(s):

VENTRON/VELSICOL (Continued) **1000420131**

Contact ID: 2000182.00000
Contact Name: DOUGLAS TOMCHUK
Contact Tel: (212) 637-3956
Contact Title: Remedial Project Manager (RPM)
Contact Email: DOUGLAS.TOMCHUK@EPA.GOV

CERCLIS Site Alias Name(s):
Alias ID: 101
Alias Name: BERRY'S CREEK
Alias Address: Not reported
NJ
Alias ID: 201
Alias Name: WOOD-RIDGE CHEM
Alias Address: Not reported
NJ
Alias ID: 301
Alias Name: THIOKOL CHEM
Alias Address: Not reported
NJ
Alias ID: 401
Alias Name: VENTRON/VELSICOL
Alias Address: Not reported
BERGEN, NJ
Alias ID: 402
Alias Name: VENTRON/VELSICOL
Alias Address: ETHEL BLVD
WOOD-RIDGE BORO, NJ 07075
Alias ID: 403
Alias Name: VENTRON/VELSICOL
Alias Address: ETHYL BOULEVARD
WOOD RIDGE BOROUGH, NJ 07075
Alias ID: 404
Alias Name: VENTRON/VELSICOL
Alias Address: ETHYL BOULEVARD
WOODRIDGE BOROUGH, NJ 07075
Alias ID: 405
Alias Name: VENTRON/VELSICOL
Alias Address: ETHYL BOULEVARD
WOODRIDGE BOROUGH, NJ 07075
Alias Comments: Not reported
Site Description: The Ventron/Velsicol site is located in the boroughs of Wood-Ridge and Carlstadt, Bergen County, New Jersey. The site is irregularly shaped and consists of 38.3 acres; approximately 15.7 of the 38 acres are within the Borough of Wood-Ridge and the remaining 22.6 acres are within the Borough of Carlstadt. The site is bordered to the east by Berry's Creek, to the west by the Diamond Shamrock/Henkel and Randolph Products properties and Park Place East, to the south by Diamond Shamrock/Henkel Ditch (south) and Nevertouch Creek, and to the north by Ethel Boulevard and a railroad track. The portion of the site that is identified as Operable Unit 1 (OU1) is divided into three areas. The area defined as the "developed" portion is approximately 7 acres in size and is the northernmost portion of the site. Two active warehouses, referred to as the Wolf Warehouse and the U.S. Life Warehouse, are located on this portion. The former mercury processing facility was located on the area of the site that is now occupied by these warehouses. Approximately 19 acres of land that were filled but not developed lie generally south of the developed portion of the site. This portion of the site is bordered to the north by the railroad track, to the south by Diamond Shamrock/Henkel Ditch (north), and to

VENTRON/VELSICOL (Continued) **1000420131**

the east by Berry's Creek. This area is referred to as the "undeveloped" portion of the site. The area referred to as the "off-site" portion consists of the following properties: the Blum Property, the Prince Packing property, the EJB property, the Lin-Mor property, Ethel Boulevard, and the railroad property. The Borough of Wood-Ridge owns Ethel Boulevard and Norfolk Southern owns the railroad property. The remaining 12 acres of the site, south of the undeveloped area, are generally marsh, except for a fringe of fill along the western border. This portion of the site is not a part of OU1. This portion will be handled with Operable Unit 2, which is also referred to as the Berry's Creek Study Area; The Berry's Creek Study Area consists of the marsh, Berry's Creek, and other wetland areas adjacent to Berry's Creek. Prior to 1927, most of the site was marshland. From 1927 to 1974, various parties constructed and operated a mercury processing plant on the developed portion of the site. In 1929 F.W. Berk and Company, Inc. (Berk) began operating a processing plant and manufacturing mercury products near the current location of the Wolf Warehouse. Berk continued to operate the plant until 1960, when the corporation dissolved and the plant and property were sold to the Wood Ridge Chemical Corporation (WRCC), a wholly owned subsidiary of the Velsicol Chemical Corporation (Velsicol). The main operations of the mercury processing plant included the manufacture of red oxide of mercury, yellow oxide of mercury, phenyl mercuric acetate, and other organic and inorganic mercury compounds. The plant also reclaimed mercury from both in-house and customer waste products (amalgams, batteries, thermometers, impure mercury, etc.). Velsicol continued to operate the plant until 1968, when the Ventron Corporation (Ventron), a predecessor to Morton, purchased WRCC and the approximately 7-acre parcel on which the plant was located from Velsicol. Velsicol retained ownership of the rest of the site property until transferring ownership to NWI Land Management, Inc., in 1986. Ventron operated the plant until it was closed in 1974. In 1974, the parcel of land where the plant was located was sold to Robert and Rita Wolf (Wolf). Wolf demolished the plant in 1974 and in 1975, subdivided the land and transferred title of the westernmost parcel to U.S. Life Insurance Company. Two warehouses were constructed, one on each parcel. The warehouse on the western portion of the site (U.S. Life [Jerbil] Warehouse) was built first, after removal of the upper layer of contaminated soil to the eastern portion of the site. Construction of the Wolf Warehouse on the eastern portion of the site was apparently meant to contain mercury-contaminated soils under the foundation and/or the asphalt pavement surrounding the building. However, no post construction documentation of this containment structure is available. The approximately 19-acre portion of the site between the developed area and Berry's Creek (i.e., the undeveloped area) was used as a dumping area for various materials including demolition material and domestic solid waste subsequent to 1960. At present, three parties own property on the site. Jerbil Incorporated owns the U.S. Life Warehouse property (approximately 4.2 acres), Jonathan and Roni Blonde own the Wolf Warehouse property (approximately 2.3 acres), and the LePetomane III, Inc. Custodial Trust owns the undeveloped (approximately 19 acres) and marsh (approximately 12 acres) areas. The LePetomane III, Inc. Custodial Trust is the successor to NWI Land Management, Inc. following the discharge in bankruptcy of NWI's parent, Fruit of the Loom, Inc. The New Jersey Department of Environmental Protection (NJDEP) has overseen various investigations of soil, ground water, surface water, sediment and air quality beginning in the 1970's. EPA placed the site on the National Priorities List (NPL) in 1984. In that same year, the Superior Court of New Jersey issued the "Stipulation and Supplementary Order Approving Cooperative Agreement for Remedial Investigation and Feasibility Study and Amending Procedural Order Involving Remedy" in which Ventron and Velsicol agreed to investigate the site. In 1990, NJDEP performed a removal action for soil in residential areas of Wood-Ridge and Moonachie near the site.

VENTRON/VELSICOL (Continued) **1000420131**

The removal actions were conducted at ten properties in Wood-Ridge and one property in Moonachie. The work included excavation of mercury-contaminated soil, placement of clean back-fill, revegetation, and general restoration of the properties to their original condition. The Stipulation was amended in 1996 by the Resolution of the Berry's Creek /Wood-Ridge Site Action Committee. This resolution specified that Velsicol and Morton would conduct a Remedial Investigation and Feasibility Study pursuant to an NJDEP-approved Scope of Work. Beginning in 1996, Morton International, Inc., in consultation with NJDEP and EPA, began further investigation of the site. The resulting documents were: - Operable Unit 1 Remedial Investigation Report (June 2004) - Ecological Risk Assessment (April 2001) - Human Health Risk Assessment (July 2005) - Feasibility Study (April 2006) The area is zoned commercial/industrial and future use of the property is expected to remain consistent with the current zoning and land use. Warehouses exist on the developed portion of the property, and there are preliminary plans to construct another warehouse on the undeveloped portion. Ground water underlying the site is considered Class II-A, a source of potable water. A recent survey indicated there are numerous wells within a half mile of the site. However, only three are identified in NJDEP well records as being used for possible drinking water purposes. Since the ground water plume related to this site is contained within the site boundaries, this site has not impacted off-site wells. A Record of Decision addressing OU1 of the site was completed in October 2006.

CERCLIS Assessment History:

Action Code:	001
Action:	DISCOVERY
Date Started:	Not reported
Date Completed:	06/01/1974
Priority Level:	Not reported
Operable Unit:	SITEWIDE
Primary Responsibility:	EPA Fund-Financed
Planning Status:	Not reported
Urgency Indicator:	Not reported
Action Anomaly:	Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code:	001
Action:	SITE INSPECTION
Date Started:	08/01/1983
Date Completed:	09/01/1983
Priority Level:	Higher priority for further assessment
Operable Unit:	SITEWIDE
Primary Responsibility:	EPA Fund-Financed
Planning Status:	Not reported
Urgency Indicator:	Not reported
Action Anomaly:	Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code:	001
Action:	PRELIMINARY ASSESSMENT
Date Started:	Not reported
Date Completed:	09/01/1983
Priority Level:	Low priority for further assessment

VENTRON/VELSICOL (Continued) **1000420131**

Operable Unit: SITEWIDE
Primary Responsibility: EPA Fund-Financed
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: PROPOSAL TO NATIONAL PRIORITIES LIST
Date Started: Not reported
Date Completed: 09/08/1983
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: EPA Fund-Financed
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: FINAL LISTING ON NATIONAL PRIORITIES LIST
Date Started: Not reported
Date Completed: 09/21/1984
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: EPA Fund-Financed
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: REMOVAL ASSESSMENT
Date Started: 03/27/1990
Date Completed: 09/06/1990
Priority Level: Stabilized
Operable Unit: SITEWIDE
Primary Responsibility: EPA Fund-Financed
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 002
Action: REMOVAL ASSESSMENT
Date Started: 06/11/1991
Date Completed: 04/13/1992
Priority Level: Stabilized
Operable Unit: SITEWIDE
Primary Responsibility: EPA Fund-Financed
Planning Status: Primary

VENTRON/VELSICOL (Continued) **1000420131**

Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: NATIONAL PRIORITIES LIST RESPONSIBLE PARTY SEARCH
Date Started: 12/11/1992
Date Completed: 11/15/1993
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: Federal Enforcement
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: AERIAL SURVEY
Date Started: Not reported
Date Completed: 04/30/1994
Priority Level: Not reported
Operable Unit: GW/SOILS/WETLANDS
Primary Responsibility: EPA Fund-Financed
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: SETTLEMENT (GENERIC)
Date Started: Not reported
Date Completed: 04/12/2002
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: Federal Enforcement
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: COST RECOVERY NEGOTIATIONS
Date Started: 03/14/2002
Date Completed: 09/30/2002
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: Federal Enforcement
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

VENTRON/VELSICOL (Continued) **1000420131**

Action Code:	001
Action:	CONSENT AGREEMENT (ADMINISTRATIVE)
Date Started:	Not reported
Date Completed:	09/30/2002
Priority Level:	Not reported
Operable Unit:	SITEWIDE
Primary Responsibility:	Federal Enforcement
Planning Status:	Not reported
Urgency Indicator:	Not reported
Action Anomaly:	Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code:	001
Action:	POTENTIALLY RESPONSIBLE PARTY REMEDIAL INVESTIGATION/FEASIBILITY STUDY
Date Started:	03/20/1997
Date Completed:	10/30/2006
Priority Level:	Not reported
Operable Unit:	GW/SOILS/WETLANDS
Primary Responsibility:	PRP Response Under State
Planning Status:	Not reported
Urgency Indicator:	Not reported
Action Anomaly:	Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code:	001
Action:	RECORD OF DECISION
Date Started:	Not reported
Date Completed:	10/30/2006
Priority Level:	Not reported
Operable Unit:	GW/SOILS/WETLANDS
Primary Responsibility:	State, with EPA Concurrence
Planning Status:	Primary
Urgency Indicator:	Not reported
Action Anomaly:	Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code:	001
Action:	REMEDIAL INVESTIGATION/FEASIBILITY STUDY NEGOTIATIONS
Date Started:	03/09/2006
Date Completed:	07/02/2007
Priority Level:	Not reported
Operable Unit:	BERRY'S CREEK
Primary Responsibility:	Federal Enforcement
Planning Status:	Not reported
Urgency Indicator:	Not reported
Action Anomaly:	Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code:	001
Action:	ADMINISTRATIVE ORDER ON CONSENT

VENTRON/VELSICOL (Continued) **1000420131**

Date Started: Not reported
Date Completed: 07/02/2007
Priority Level: Not reported
Operable Unit: BERRY'S CREEK
Primary Responsibility: Federal Enforcement
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 002
Action: POTENTIALLY RESPONSIBLE PARTY REMEDIAL INVESTIGATION/FEASIBILITY STUDY
Date Started: 07/02/2007
Date Completed: Not reported
Priority Level: Not reported
Operable Unit: BERRY'S CREEK
Primary Responsibility: Responsible Party
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: New Action Resulting from Take Over

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: COMBINED REMEDIAL INVESTIGATION/FEASIBILITY STUDY
Date Started: 12/27/2002
Date Completed: 07/02/2007
Priority Level: Not reported
Operable Unit: BERRY'S CREEK
Primary Responsibility: EPA Fund-Financed
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Original Action Take Over

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: ORDER (GENERIC)
Date Started: Not reported
Date Completed: 07/10/2007
Priority Level: Not reported
Operable Unit: BERRY'S CREEK
Primary Responsibility: Federal Enforcement
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 002
Action: ADMINISTRATIVE ORDER ON CONSENT
Date Started: Not reported
Date Completed: 05/01/2008
Priority Level: Not reported
Operable Unit: BERRY'S CREEK

VENTRON/VELSICOL (Continued) **1000420131**

Primary Responsibility: Federal Enforcement
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 002
Action: REMEDIAL INVESTIGATION/FEASIBILITY STUDY NEGOTIATIONS
Date Started: 03/09/2006
Date Completed: 05/01/2008
Priority Level: Not reported
Operable Unit: BERRY'S CREEK
Primary Responsibility: Federal Enforcement
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 002
Action: POTENTIALLY RESPONSIBLE PARTY REMEDIAL ACTION
Date Started: 07/03/2008
Date Completed: Not reported
Priority Level: Not reported
Operable Unit: GW/SOILS/WETLANDS
Primary Responsibility: Responsible Party
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: POTENTIALLY RESPONSIBLE PARTY REMEDIAL DESIGN
Date Started: 01/15/2007
Date Completed: 07/03/2008
Priority Level: Not reported
Operable Unit: GW/SOILS/WETLANDS
Primary Responsibility: PRP Response Under State
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: REMOVAL NEGOTIATIONS
Date Started: Not reported
Date Completed: 09/11/2009
Priority Level: Not reported
Operable Unit: BERRY'S CREEK
Primary Responsibility: Federal Enforcement
Planning Status: Not reported
Urgency Indicator: Not reported

VENTRON/VELSICOL (Continued) **1000420131**

Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 003
Action: ADMINISTRATIVE ORDER ON CONSENT
Date Started: Not reported
Date Completed: 09/11/2009
Priority Level: Not reported
Operable Unit: BERRY'S CREEK
Primary Responsibility: Federal Enforcement
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 003
Action: POTENTIALLY RESPONSIBLE PARTY REMEDIAL DESIGN
Date Started: 11/13/2008
Date Completed: 10/06/2009
Priority Level: Not reported
Operable Unit: GW/SOILS/WETLANDS
Primary Responsibility: Responsible Party
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: POTENTIALLY RESPONSIBLE PARTY REMEDIAL ACTION
Date Started: 10/06/2009
Date Completed: Not reported
Priority Level: Not reported
Operable Unit: GW/SOILS/WETLANDS
Primary Responsibility: Responsible Party
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: POTENTIALLY RESPONSIBLE PARTY REMOVAL
Date Started: 09/11/2009
Date Completed: 01/14/2010
Priority Level: Stabilized
Operable Unit: BERRY'S CREEK
Primary Responsibility: Responsible Party
Planning Status: Not reported
Urgency Indicator: Time Critical
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

VENTRON/VELSICOL (Continued) **1000420131**

Federal Register Details:
Fed Register Date: 09/21/1984
Fed Register Volume: 49
Page Number: 37070

Fed Register Date: 09/08/1983
Fed Register Volume: 48
Page Number: 40674

Click this hyperlink while viewing on your computer to access
278 additional US CERCLIS Financial: record(s) in the EDR Site Report.

RCRA-LQG:
Date form received by agency: 04/16/2010
Facility name: VENTRON/VELSICOL SUPERFUND SITE OPERABLE UNIT ONE (OU-1)
Facility address: 5 ETHEL BLVD
WOOD RIDGE, NJ 07075
EPA ID: NJD980529879
Mailing address: PARK PLACE E
WOOD RIDGE, NJ 07075
Contact: ROBERT L CASSELBERRY JR
Contact address: STATE ST
CROYDON, PA 19021
Contact country: US
Contact telephone: (215) 785-7917
Contact email: RCASSELBERRY@DOW.COM
EPA Region: 02
Classification: Large Quantity Generator
Description: Handler: generates 1,000 kg or more of hazardous waste during any calendar month; or generates more than 1 kg of acutely hazardous waste during any calendar month; or generates more than 100 kg of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month; or generates 1 kg or less of acutely hazardous waste during any calendar month, and accumulates more than 1 kg of acutely hazardous waste at any time; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates more than 100 kg of that material at any time

Owner/Operator Summary:
Owner/operator name: US ENVIRONMENTAL PROTECTION AGENCY SF
Owner/operator address: Not reported
Not reported
Owner/operator country: Not reported
Owner/operator telephone: (212) 637-3956
Legal status: Federal
Owner/Operator Type: Owner
Owner/Op start date: 02/23/2009
Owner/Op end date: Not reported

Owner/operator name: THE FTL CUSTODIAL TRUST
Owner/operator address: W WACKER DR
CHICAGO, IL 60601

VENTRON/VELSICOL (Continued) **1000420131**

Owner/operator country: US
Owner/operator telephone: (312) 288-3823
Legal status: Other
Owner/Operator Type: Owner
Owner/Op start date: 08/09/2002
Owner/Op end date: Not reported

Owner/operator name: MORTON INTERNATIONAL INC
Owner/operator address: Not reported
Not reported
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: 08/09/2002
Owner/Op end date: Not reported

Owner/operator name: THE FTL CUSTODIAL TRUST
Owner/operator address: W WACKER DRIVER
CHICAGO, IL 60601
Owner/operator country: US
Owner/operator telephone: (312) 288-3823
Legal status: Other
Owner/Operator Type: Owner
Owner/Op start date: 08/09/2002
Owner/Op end date: Not reported

Owner/operator name: VENTRON VELSICOL PRP
Owner/operator address: Not reported
Not reported
Owner/operator country: Not reported
Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: 02/23/2009
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:
Date form received by agency: 04/07/2010

VENTRON/VELSICOL (Continued) **1000420131**

Facility name: VENTRON/VELSICOL SUPERFUND SITE OPERABLE UNIT ONE (OU-1)
Site name: VENTRON-VELSICOL SUPERFUND SITE OPERABLE UNIT ONE (OU-1)
Classification: Large Quantity Generator

Date form received by agency: 02/25/2009
Facility name: VENTRON/VELSICOL SUPERFUND SITE OPERABLE UNIT ONE (OU-1)
Site name: VENTRON VELSICOL SUPERFUND SITE CERCLA CLEANUP
Classification: Large Quantity Generator

Hazardous Waste Summary:

Waste code: D001
Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.

Waste code: D008
Waste name: LEAD

Waste code: D009
Waste name: MERCURY

Waste code: D001
Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.

Waste code: D002
Waste name: A WASTE WHICH HAS A PH OF LESS THAN 2 OR GREATER THAN 12.5 IS CONSIDERED TO BE A CORROSIVE HAZARDOUS WASTE. SODIUM HYDROXIDE, A CAUSTIC SOLUTION WITH A HIGH PH, IS OFTEN USED BY INDUSTRIES TO CLEAN OR DEGREASE PARTS. HYDROCHLORIC ACID, A SOLUTION WITH A LOW PH, IS USED BY MANY INDUSTRIES TO CLEAN METAL PARTS PRIOR TO PAINTING. WHEN THESE CAUSTIC OR ACID SOLUTIONS BECOME CONTAMINATED AND MUST BE DISPOSED, THE WASTE WOULD BE A CORROSIVE HAZARDOUS WASTE.

Waste code: D003
Waste name: A MATERIAL IS CONSIDERED TO BE A REACTIVE HAZARDOUS WASTE IF IT IS NORMALLY UNSTABLE, REACTS VIOLENTLY WITH WATER, GENERATES TOXIC GASES WHEN EXPOSED TO WATER OR CORROSIVE MATERIALS, OR IF IT IS CAPABLE OF DETONATION OR EXPLOSION WHEN EXPOSED TO HEAT OR A FLAME. ONE EXAMPLE OF SUCH WASTE WOULD BY WASTE GUNPOWDER.

Waste code: D009
Waste name: MERCURY

Waste code: F039
Waste name: LEACHATE (LIQUIDS THAT HAVE PERCOLATED THROUGH LAND DISPOSED WASTES) RESULTING FROM THE DISPOSAL OF MORE THAN ONE RESTRICTED WASTE CLASSIFIED AS HAZARDOUS UNDER SUBPART D OF THIS PART. (LEACHATE

VENTRON/VELSICOL (Continued) **1000420131**

RESULTING FROM THE DISPOSAL OF ONE OR MORE OF THE FOLLOWING EPA HAZARDOUS WASTES AND NO OTHER HAZARDOUS WASTES RETAINS ITS EPA HAZARDOUS WASTES NUMBER(S): F020, F021, F022, F026, F027, AND/OR F028).

Waste code: D001
Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.

Waste code: D002
Waste name: A WASTE WHICH HAS A PH OF LESS THAN 2 OR GREATER THAN 12.5 IS CONSIDERED TO BE A CORROSIVE HAZARDOUS WASTE. SODIUM HYDROXIDE, A CAUSTIC SOLUTION WITH A HIGH PH, IS OFTEN USED BY INDUSTRIES TO CLEAN OR DEGREASE PARTS. HYDROCHLORIC ACID, A SOLUTION WITH A LOW PH, IS USED BY MANY INDUSTRIES TO CLEAN METAL PARTS PRIOR TO PAINTING. WHEN THESE CAUSTIC OR ACID SOLUTIONS BECOME CONTAMINATED AND MUST BE DISPOSED, THE WASTE WOULD BE A CORROSIVE HAZARDOUS WASTE.

Waste code: D003
Waste name: A MATERIAL IS CONSIDERED TO BE A REACTIVE HAZARDOUS WASTE IF IT IS NORMALLY UNSTABLE, REACTS VIOLENTLY WITH WATER, GENERATES TOXIC GASES WHEN EXPOSED TO WATER OR CORROSIVE MATERIALS, OR IF IT IS CAPABLE OF DETONATION OR EXPLOSION WHEN EXPOSED TO HEAT OR A FLAME. ONE EXAMPLE OF SUCH WASTE WOULD BY WASTE GUNPOWDER.

Waste code: D008
Waste name: LEAD

Waste code: D009
Waste name: MERCURY

Waste code: F039
Waste name: LEACHATE (LIQUIDS THAT HAVE PERCOLATED THROUGH LAND DISPOSED WASTES) RESULTING FROM THE DISPOSAL OF MORE THAN ONE RESTRICTED WASTE CLASSIFIED AS HAZARDOUS UNDER SUBPART D OF THIS PART. (LEACHATE RESULTING FROM THE DISPOSAL OF ONE OR MORE OF THE FOLLOWING EPA HAZARDOUS WASTES AND NO OTHER HAZARDOUS WASTES RETAINS ITS EPA HAZARDOUS WASTES NUMBER(S): F020, F021, F022, F026, F027, AND/OR F028).

Biennial Reports:

Last Biennial Reporting Year: 2011

Annual Waste Handled:
Waste code: D001
Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.

VENTRON/VELSICOL (Continued) **1000420131**

Amount (Lbs): 15804

Waste code: D008
Waste name: LEAD
Amount (Lbs): 42440

Waste code: D009
Waste name: MERCURY
Amount (Lbs): 5969

Violation Status: No violations found

US ENG CONTROLS:
EPA ID: NJD980529879
Site ID: 0200674
Name: VENTRON/VELSICOL
Address: ETHYL BOULEVARD
WOOD RIDGE BOROUGH, NJ 07075
EPA Region: 02
County: BERGEN
Event Code: Not reported
Actual Date: Not reported

Action ID: 001
Action Name: RECORD OF DECISION
Action Completion date: 10/30/2006
Planned Complet. date: 12/30/2006
Operable Unit: 01
Contaminated Media : Groundwater
Engineering Control: Impermeable Barrier

Action ID: 001
Action Name: RECORD OF DECISION
Action Completion date: 10/30/2006
Planned Complet. date: 12/30/2006
Operable Unit: 01
Contaminated Media : Groundwater
Engineering Control: Monitoring

Action ID: 001
Action Name: RECORD OF DECISION
Action Completion date: 10/30/2006
Planned Complet. date: 12/30/2006
Operable Unit: 01
Contaminated Media : Groundwater
Engineering Control: Operations & Maintenance (O&M)

Action ID: 001
Action Name: RECORD OF DECISION
Action Completion date: 10/30/2006
Planned Complet. date: 12/30/2006
Operable Unit: 01
Contaminated Media : Soil
Engineering Control: Cap

Action ID: 001
Action Name: RECORD OF DECISION

VENTRON/VELSICOL (Continued) **1000420131**

Action Completion date: 10/30/2006
Planned Complet. date: 12/30/2006
Operable Unit: 01
Contaminated Media : Soil
Engineering Control: Disposal

Action ID: 001
Action Name: RECORD OF DECISION
Action Completion date: 10/30/2006
Planned Complet. date: 12/30/2006
Operable Unit: 01
Contaminated Media : Soil
Engineering Control: Excavation

US INST CONTROL:
EPA ID: NJD980529879
Site ID: 0200674
Name: VENTRON/VELSICOL
Action Name: RECORD OF DECISION
Address: ETHYL BOULEVARD
WOOD RIDGE BOROUGH, NJ 07075
EPA Region: 02
County: BERGEN
Event Code: Not reported
Inst. Control: Groundwater use/well drilling regulation
Actual Date: Not reported
Complet. Date: 10/30/2006
Operable Unit: 01
Contaminated Media : Groundwater

EPA ID: NJD980529879
Site ID: 0200674
Name: VENTRON/VELSICOL
Action Name: RECORD OF DECISION
Address: ETHYL BOULEVARD
WOOD RIDGE BOROUGH, NJ 07075
EPA Region: 02
County: BERGEN
Event Code: Not reported
Inst. Control: Deed Notices
Actual Date: Not reported
Complet. Date: 10/30/2006
Operable Unit: 01
Contaminated Media : Soil

ROD:
Full-text of USEPA Record of Decision(s) is available from EDR.

FINDS:

Registry ID: 110009299936

Environmental Interest/Information System
CERCLIS (Comprehensive Environmental Response, Compensation, and Liability Information System) is the Superfund database that is used

VENTRON/VELSICOL (Continued) **1000420131**

to support management in all phases of the Superfund program. The system contains information on all aspects of hazardous waste sites, including an inventory of sites, planned and actual site activities, and financial information.

NJ MANIFEST:

Manifest Code:	000212308VES
EPA ID:	NJD980529879
Date Shipped:	05/12/09
TSDF EPA ID:	NJD980536593
Transporter EPA ID:	NJD080631369
Transporter 2 EPA ID:	Not reported
Transporter 3 EPA ID:	Not reported
Transporter 4 EPA ID:	Not reported
Transporter 5 EPA ID:	Not reported
Transporter 6 EPA ID:	Not reported
Transporter 7 EPA ID:	Not reported
Transporter 8 EPA ID:	Not reported
Transporter 10 EPA ID:	Not reported
Date Trans1 Transported Waste:	05/12/09
Date Trans2 Transported Waste:	Not reported
Date Trans3 Transported Waste:	Not reported
Date Trans4 Transported Waste:	Not reported
Date Trans5 Transported Waste:	Not reported
Date Trans6 Transported Waste:	Not reported
Date Trans7 Transported Waste:	Not reported
Date Trans8 Transported Waste:	Not reported
Date Trans9 Transported Waste:	Not reported
Date Trans10 Transported Waste:	Not reported
Date TSDF Received Waste:	05/12/09
Tranporter 1 Decal:	Not reported
Tranporter 2 Decal:	Not reported
Data Entry Number:	Not reported
Reference Manifest Number:	Not reported
Was Load Rejected (Y/N):	No
Reason Load Was Rejected:	Not reported
Waste Code:	D009
Manifest Year:	2009 New Jersey Manifest Data
Quantity:	48
Unit:	K
Hand Code:	H141

Waste Code:	D001
Manifest Year:	2009 New Jersey Manifest Data
Quantity:	1350
Unit:	P
Hand Code:	H141

Manifest Code:	000161412VES
EPA ID:	NJD980529879
Date Shipped:	1/29/2008
TSDF EPA ID:	NJD980536593
Transporter EPA ID:	NJD000692061
Transporter 2 EPA ID:	Not reported

VENTRON/VELSICOL (Continued) **1000420131**

Transporter 3 EPA ID:	Not reported
Transporter 4 EPA ID:	Not reported
Transporter 5 EPA ID:	Not reported
Transporter 6 EPA ID:	Not reported
Transporter 7 EPA ID:	Not reported
Transporter 8 EPA ID:	Not reported
Transporter 10 EPA ID:	Not reported
Date Trans1 Transported Waste:	1/29/2008
Date Trans2 Transported Waste:	Not reported
Date Trans3 Transported Waste:	Not reported
Date Trans4 Transported Waste:	Not reported
Date Trans5 Transported Waste:	Not reported
Date Trans6 Transported Waste:	Not reported
Date Trans7 Transported Waste:	Not reported
Date Trans8 Transported Waste:	Not reported
Date Trans9 Transported Waste:	Not reported
Date Trans10 Transported Waste:	Not reported
Date TSDF Received Waste:	2/7/2008
Tranporter 1 Decal:	Not reported
Tranporter 2 Decal:	Not reported
Data Entry Number:	Not reported
Reference Manifest Number:	Not reported
Was Load Rejected (Y/N):	No
Reason Load Was Rejected:	Not reported
Waste Code:	D008
Manifest Year:	2008 New Jersey Manifest Data
Quantity:	23200
Unit:	P
Hand Code:	H141

Manifest Code:	006049433JJK
EPA ID:	NJD980529879
Date Shipped:	01/13/10
TSDF EPA ID:	NYD980756415
Transporter EPA ID:	NJD986647501
Transporter 2 EPA ID:	FLD006921340
Transporter 3 EPA ID:	NYD986968139
Transporter 4 EPA ID:	Not reported
Transporter 5 EPA ID:	Not reported
Transporter 6 EPA ID:	Not reported
Transporter 7 EPA ID:	Not reported
Transporter 8 EPA ID:	Not reported
Transporter 10 EPA ID:	Not reported
Date Trans1 Transported Waste:	01/13/10
Date Trans2 Transported Waste:	1/15/10
Date Trans3 Transported Waste:	1/15/10
Date Trans4 Transported Waste:	Not reported
Date Trans5 Transported Waste:	Not reported
Date Trans6 Transported Waste:	Not reported
Date Trans7 Transported Waste:	Not reported
Date Trans8 Transported Waste:	Not reported
Date Trans9 Transported Waste:	Not reported
Date Trans10 Transported Waste:	Not reported
Date TSDF Received Waste:	01/26/10
Tranporter 1 Decal:	Not reported

VENTRON/VELSICOL (Continued) **1000420131**

Tranporter 2 Decal: Not reported
Data Entry Number: Not reported
Reference Manifest Number: Not reported
Was Load Rejected (Y/N): No
Reason Load Was Rejected: Not reported
Waste Code: D009
Manifest Year: 2010 New Jersey Manifest Data
Quantity: 46297
Unit: P
Hand Code: H132

Manifest Code: 006049428JJK
EPA ID: NJD980529879
Date Shipped: 01/13/10
TSDF EPA ID: NYD980756415
Transporter EPA ID: NJD986647501
Transporter 2 EPA ID: FLD006921340
Transporter 3 EPA ID: NYD986968139
Transporter 4 EPA ID: Not reported
Transporter 5 EPA ID: Not reported
Transporter 6 EPA ID: Not reported
Transporter 7 EPA ID: Not reported
Transporter 8 EPA ID: Not reported
Transporter 10 EPA ID: Not reported
Date Trans1 Transported Waste: 01/13/10
Date Trans2 Transported Waste: 1/15/10
Date Trans3 Transported Waste: 1/15/10
Date Trans4 Transported Waste: Not reported
Date Trans5 Transported Waste: Not reported
Date Trans6 Transported Waste: Not reported
Date Trans7 Transported Waste: Not reported
Date Trans8 Transported Waste: Not reported
Date Trans9 Transported Waste: Not reported
Date Trans10 Transported Waste: Not reported
Date TSDF Received Waste: 01/26/10
Tranporter 1 Decal: Not reported
Tranporter 2 Decal: Not reported
Data Entry Number: Not reported
Reference Manifest Number: Not reported
Was Load Rejected (Y/N): No
Reason Load Was Rejected: Not reported
Waste Code: F009
Manifest Year: 2010 New Jersey Manifest Data
Quantity: 46297
Unit: P
Hand Code: H132

Manifest Code: 006049432JJK
EPA ID: NJD980529879
Date Shipped: 01/13/10
TSDF EPA ID: NYD980756415
Transporter EPA ID: NJD986647501
Transporter 2 EPA ID: FLD006921340

VENTRON/VELSICOL (Continued) **1000420131**

Transporter 3 EPA ID:	NYD986968139
Transporter 4 EPA ID:	Not reported
Transporter 5 EPA ID:	Not reported
Transporter 6 EPA ID:	Not reported
Transporter 7 EPA ID:	Not reported
Transporter 8 EPA ID:	Not reported
Transporter 10 EPA ID:	Not reported
Date Trans1 Transported Waste:	01/13/10
Date Trans2 Transported Waste:	1/15/10
Date Trans3 Transported Waste:	1/15/10
Date Trans4 Transported Waste:	Not reported
Date Trans5 Transported Waste:	Not reported
Date Trans6 Transported Waste:	Not reported
Date Trans7 Transported Waste:	Not reported
Date Trans8 Transported Waste:	Not reported
Date Trans9 Transported Waste:	Not reported
Date Trans10 Transported Waste:	Not reported
Date TSDF Received Waste:	01/26/10
Tranporter 1 Decal:	Not reported
Tranporter 2 Decal:	Not reported
Data Entry Number:	Not reported
Reference Manifest Number:	Not reported
Was Load Rejected (Y/N):	No
Reason Load Was Rejected:	Not reported
Waste Code:	D009
Manifest Year:	2010 New Jersey Manifest Data
Quantity:	46297
Unit:	P
Hand Code:	H132

Manifest Code:	000462027VES
EPA ID:	NJD980529879
Date Shipped:	01/12/10
TSDF EPA ID:	NJD980536593
Transporter EPA ID:	NJD080631369
Transporter 2 EPA ID:	Not reported
Transporter 3 EPA ID:	Not reported
Transporter 4 EPA ID:	Not reported
Transporter 5 EPA ID:	Not reported
Transporter 6 EPA ID:	Not reported
Transporter 7 EPA ID:	Not reported
Transporter 8 EPA ID:	Not reported
Transporter 10 EPA ID:	Not reported
Date Trans1 Transported Waste:	01/12/10
Date Trans2 Transported Waste:	Not reported
Date Trans3 Transported Waste:	Not reported
Date Trans4 Transported Waste:	Not reported
Date Trans5 Transported Waste:	Not reported
Date Trans6 Transported Waste:	Not reported
Date Trans7 Transported Waste:	Not reported
Date Trans8 Transported Waste:	Not reported
Date Trans9 Transported Waste:	Not reported
Date Trans10 Transported Waste:	Not reported
Date TSDF Received Waste:	01/12/10
Tranporter 1 Decal:	Not reported

VENTRON/VELSICOL (Continued) **1000420131**

Tranporter 2 Decal: Not reported
Data Entry Number: Not reported
Reference Manifest Number: Not reported
Was Load Rejected (Y/N): No
Reason Load Was Rejected: Not reported
Waste Code: D009
Manifest Year: 2010 New Jersey Manifest Data
Quantity: 1845
Unit: K
Hand Code: H141

Manifest Code: 006049435JJK
EPA ID: NJD980529879
Date Shipped: 01/14/10
TSDF EPA ID: NYD980756415
Transporter EPA ID: NJD986647501
Transporter 2 EPA ID: FLD006921340
Transporter 3 EPA ID: NYD986968139
Transporter 4 EPA ID: Not reported
Transporter 5 EPA ID: Not reported
Transporter 6 EPA ID: Not reported
Transporter 7 EPA ID: Not reported
Transporter 8 EPA ID: Not reported
Transporter 10 EPA ID: Not reported
Date Trans1 Transported Waste: 01/14/10
Date Trans2 Transported Waste: 1/15/10
Date Trans3 Transported Waste: 1/15/10
Date Trans4 Transported Waste: Not reported
Date Trans5 Transported Waste: Not reported
Date Trans6 Transported Waste: Not reported
Date Trans7 Transported Waste: Not reported
Date Trans8 Transported Waste: Not reported
Date Trans9 Transported Waste: Not reported
Date Trans10 Transported Waste: Not reported
Date TSDF Received Waste: 01/26/10
Tranporter 1 Decal: Not reported
Tranporter 2 Decal: Not reported
Data Entry Number: Not reported
Reference Manifest Number: Not reported
Was Load Rejected (Y/N): No
Reason Load Was Rejected: Not reported
Waste Code: D009
Manifest Year: 2010 New Jersey Manifest Data
Quantity: 46297
Unit: P
Hand Code: H132

Manifest Code: 006049431JJK
EPA ID: NJD980529879
Date Shipped: 01/13/10
TSDF EPA ID: NYD980756415
Transporter EPA ID: NJD986647501
Transporter 2 EPA ID: FLD006921340

VENTRON/VELSICOL (Continued) **1000420131**

Transporter 3 EPA ID:	NYD986968139
Transporter 4 EPA ID:	Not reported
Transporter 5 EPA ID:	Not reported
Transporter 6 EPA ID:	Not reported
Transporter 7 EPA ID:	Not reported
Transporter 8 EPA ID:	Not reported
Transporter 10 EPA ID:	Not reported
Date Trans1 Transported Waste:	01/13/10
Date Trans2 Transported Waste:	1/15/10
Date Trans3 Transported Waste:	1/15/10
Date Trans4 Transported Waste:	Not reported
Date Trans5 Transported Waste:	Not reported
Date Trans6 Transported Waste:	Not reported
Date Trans7 Transported Waste:	Not reported
Date Trans8 Transported Waste:	Not reported
Date Trans9 Transported Waste:	Not reported
Date Trans10 Transported Waste:	Not reported
Date TSDF Received Waste:	01/26/10
Tranporter 1 Decal:	Not reported
Tranporter 2 Decal:	Not reported
Data Entry Number:	Not reported
Reference Manifest Number:	Not reported
Was Load Rejected (Y/N):	No
Reason Load Was Rejected:	Not reported
Waste Code:	D009
Manifest Year:	2010 New Jersey Manifest Data
Quantity:	46297
Unit:	P
Hand Code:	H132

Manifest Code:	006049434JJK
EPA ID:	NJD980529879
Date Shipped:	01/14/10
TSDF EPA ID:	NYD980756415
Transporter EPA ID:	NJD986647501
Transporter 2 EPA ID:	FLD006921340
Transporter 3 EPA ID:	NYD986968139
Transporter 4 EPA ID:	Not reported
Transporter 5 EPA ID:	Not reported
Transporter 6 EPA ID:	Not reported
Transporter 7 EPA ID:	Not reported
Transporter 8 EPA ID:	Not reported
Transporter 10 EPA ID:	Not reported
Date Trans1 Transported Waste:	01/14/10
Date Trans2 Transported Waste:	1/15/10
Date Trans3 Transported Waste:	1/15/10
Date Trans4 Transported Waste:	Not reported
Date Trans5 Transported Waste:	Not reported
Date Trans6 Transported Waste:	Not reported
Date Trans7 Transported Waste:	Not reported
Date Trans8 Transported Waste:	Not reported
Date Trans9 Transported Waste:	Not reported
Date Trans10 Transported Waste:	Not reported
Date TSDF Received Waste:	01/26/10
Tranporter 1 Decal:	Not reported

VENTRON/VELSICOL (Continued) **1000420131**

Tranporter 2 Decal: Not reported
Data Entry Number: Not reported
Reference Manifest Number: Not reported
Was Load Rejected (Y/N): No
Reason Load Was Rejected: Not reported
Waste Code: D009
Manifest Year: 2010 New Jersey Manifest Data
Quantity: 46297
Unit: P
Hand Code: H132

Manifest Code: 006049430JJK
EPA ID: NJD980529879
Date Shipped: 01/13/10
TSDF EPA ID: NYD980756415
Transporter EPA ID: NJD986647501
Transporter 2 EPA ID: FLD006921340
Transporter 3 EPA ID: NYD986968139
Transporter 4 EPA ID: Not reported
Transporter 5 EPA ID: Not reported
Transporter 6 EPA ID: Not reported
Transporter 7 EPA ID: Not reported
Transporter 8 EPA ID: Not reported
Transporter 10 EPA ID: Not reported
Date Trans1 Transported Waste: 01/13/10
Date Trans2 Transported Waste: 1/15/10
Date Trans3 Transported Waste: 1/15/10
Date Trans4 Transported Waste: Not reported
Date Trans5 Transported Waste: Not reported
Date Trans6 Transported Waste: Not reported
Date Trans7 Transported Waste: Not reported
Date Trans8 Transported Waste: Not reported
Date Trans9 Transported Waste: Not reported
Date Trans10 Transported Waste: Not reported
Date TSDF Received Waste: 01/26/10
Tranporter 1 Decal: Not reported
Tranporter 2 Decal: Not reported
Data Entry Number: Not reported
Reference Manifest Number: Not reported
Was Load Rejected (Y/N): No
Reason Load Was Rejected: Not reported
Waste Code: D009
Manifest Year: 2010 New Jersey Manifest Data
Quantity: 46297
Unit: P
Hand Code: H132

Manifest Code: 006049429JJK
EPA ID: NJD980529879
Date Shipped: 01/13/10
TSDF EPA ID: NYD980756415
Transporter EPA ID: NJD986647501
Transporter 2 EPA ID: FLD006921340

VENTRON/VELSICOL (Continued) **1000420131**

Transporter 3 EPA ID:	NYD986968139
Transporter 4 EPA ID:	Not reported
Transporter 5 EPA ID:	Not reported
Transporter 6 EPA ID:	Not reported
Transporter 7 EPA ID:	Not reported
Transporter 8 EPA ID:	Not reported
Transporter 10 EPA ID:	Not reported
Date Trans1 Transported Waste:	01/13/10
Date Trans2 Transported Waste:	1/15/10
Date Trans3 Transported Waste:	1/15/10
Date Trans4 Transported Waste:	Not reported
Date Trans5 Transported Waste:	Not reported
Date Trans6 Transported Waste:	Not reported
Date Trans7 Transported Waste:	Not reported
Date Trans8 Transported Waste:	Not reported
Date Trans9 Transported Waste:	Not reported
Date Trans10 Transported Waste:	Not reported
Date TSDF Received Waste:	01/26/10
Tranporter 1 Decal:	Not reported
Tranporter 2 Decal:	Not reported
Data Entry Number:	Not reported
Reference Manifest Number:	Not reported
Was Load Rejected (Y/N):	No
Reason Load Was Rejected:	Not reported
Waste Code:	D009
Manifest Year:	2010 New Jersey Manifest Data
Quantity:	46297
Unit:	P
Hand Code:	H132

Manifest Code:	000347511VES
EPA ID:	NJD980529879
Date Shipped:	10/28/09
TSDF EPA ID:	NJD980536593
Transporter EPA ID:	NJD080631369
Transporter 2 EPA ID:	Not reported
Transporter 3 EPA ID:	Not reported
Transporter 4 EPA ID:	Not reported
Transporter 5 EPA ID:	Not reported
Transporter 6 EPA ID:	Not reported
Transporter 7 EPA ID:	Not reported
Transporter 8 EPA ID:	Not reported
Transporter 10 EPA ID:	Not reported
Date Trans1 Transported Waste:	10/28/09
Date Trans2 Transported Waste:	Not reported
Date Trans3 Transported Waste:	Not reported
Date Trans4 Transported Waste:	Not reported
Date Trans5 Transported Waste:	Not reported
Date Trans6 Transported Waste:	Not reported
Date Trans7 Transported Waste:	Not reported
Date Trans8 Transported Waste:	Not reported
Date Trans9 Transported Waste:	Not reported
Date Trans10 Transported Waste:	Not reported
Date TSDF Received Waste:	10/28/09
Tranporter 1 Decal:	Not reported

VENTRON/VELSICOL (Continued) **1000420131**

Tranporter 2 Decal: Not reported
Data Entry Number: Not reported
Reference Manifest Number: Not reported
Was Load Rejected (Y/N): No
Reason Load Was Rejected: Not reported
Waste Code: D009
Manifest Year: 2009 New Jersey Manifest Data
Quantity: 364
Unit: K
Hand Code: H141

Waste Code: D009
Manifest Year: 2009 New Jersey Manifest Data
Quantity: 1435
Unit: K
Hand Code: H141

Manifest Code: 000215210VES
EPA ID: NJD980529879
Date Shipped: 4/22/2008
TSDF EPA ID: NJD980536593
Transporter EPA ID: NJD080631369
Transporter 2 EPA ID: Not reported
Transporter 3 EPA ID: Not reported
Transporter 4 EPA ID: Not reported
Transporter 5 EPA ID: Not reported
Transporter 6 EPA ID: Not reported
Transporter 7 EPA ID: Not reported
Transporter 8 EPA ID: Not reported
Transporter 10 EPA ID: Not reported
Date Trans1 Transported Waste: 4/22/2008
Date Trans2 Transported Waste: Not reported
Date Trans3 Transported Waste: Not reported
Date Trans4 Transported Waste: Not reported
Date Trans5 Transported Waste: Not reported
Date Trans6 Transported Waste: Not reported
Date Trans7 Transported Waste: Not reported
Date Trans8 Transported Waste: Not reported
Date Trans9 Transported Waste: Not reported
Date Trans10 Transported Waste: Not reported
Date TSDF Received Waste: 4/22/2008
Tranporter 1 Decal: Not reported
Tranporter 2 Decal: Not reported
Data Entry Number: Not reported
Reference Manifest Number: Not reported
Was Load Rejected (Y/N): No
Reason Load Was Rejected: Not reported
Waste Code: F003
Manifest Year: 2008 New Jersey Manifest Data
Quantity: 150
Unit: P
Hand Code: H141

VENTRON/VELSICOL (Continued) **1000420131**

Manifest Code:	000209559VES
EPA ID:	NJD980529879
Date Shipped:	06/26/09
TSDF EPA ID:	NYD049836679
Transporter EPA ID:	NJD000692061
Transporter 2 EPA ID:	Not reported
Transporter 3 EPA ID:	Not reported
Transporter 4 EPA ID:	Not reported
Transporter 5 EPA ID:	Not reported
Transporter 6 EPA ID:	Not reported
Transporter 7 EPA ID:	Not reported
Transporter 8 EPA ID:	Not reported
Transporter 10 EPA ID:	Not reported
Date Trans1 Transported Waste:	06/26/09
Date Trans2 Transported Waste:	Not reported
Date Trans3 Transported Waste:	Not reported
Date Trans4 Transported Waste:	Not reported
Date Trans5 Transported Waste:	Not reported
Date Trans6 Transported Waste:	Not reported
Date Trans7 Transported Waste:	Not reported
Date Trans8 Transported Waste:	Not reported
Date Trans9 Transported Waste:	Not reported
Date Trans10 Transported Waste:	Not reported
Date TSDF Received Waste:	07/06/09
Tranporter 1 Decal:	Not reported
Tranporter 2 Decal:	Not reported
Data Entry Number:	Not reported
Reference Manifest Number:	Not reported
Was Load Rejected (Y/N):	No
Reason Load Was Rejected:	Not reported
Waste Code:	D008
Manifest Year:	2009 New Jersey Manifest Data
Quantity:	18680
Unit:	P
Hand Code:	H132

Manifest Code:	000209558VES
EPA ID:	NJD980529879
Date Shipped:	06/26/09
TSDF EPA ID:	NYD049836679
Transporter EPA ID:	NJD000692061
Transporter 2 EPA ID:	Not reported
Transporter 3 EPA ID:	Not reported
Transporter 4 EPA ID:	Not reported
Transporter 5 EPA ID:	Not reported
Transporter 6 EPA ID:	Not reported
Transporter 7 EPA ID:	Not reported
Transporter 8 EPA ID:	Not reported
Transporter 10 EPA ID:	Not reported
Date Trans1 Transported Waste:	06/26/09
Date Trans2 Transported Waste:	Not reported
Date Trans3 Transported Waste:	Not reported
Date Trans4 Transported Waste:	Not reported
Date Trans5 Transported Waste:	Not reported
Date Trans6 Transported Waste:	Not reported

VENTRON/VELSICOL (Continued) **1000420131**

Date Trans7 Transported Waste:	Not reported
Date Trans8 Transported Waste:	Not reported
Date Trans9 Transported Waste:	Not reported
Date Trans10 Transported Waste:	Not reported
Date TSDF Received Waste:	07/06/09
Tranporter 1 Decal:	Not reported
Tranporter 2 Decal:	Not reported
Data Entry Number:	Not reported
Reference Manifest Number:	Not reported
Was Load Rejected (Y/N):	No
Reason Load Was Rejected:	Not reported
Waste Code:	D008
Manifest Year:	2009 New Jersey Manifest Data
Quantity:	23760
Unit:	P
Hand Code:	H132

Manifest Code:	000431621VES
EPA ID:	NJD980529879
Date Shipped:	08/18/10
TSDF EPA ID:	NJD980536593
Transporter EPA ID:	NJD080631369
Transporter 2 EPA ID:	Not reported
Transporter 3 EPA ID:	Not reported
Transporter 4 EPA ID:	Not reported
Transporter 5 EPA ID:	Not reported
Transporter 6 EPA ID:	Not reported
Transporter 7 EPA ID:	Not reported
Transporter 8 EPA ID:	Not reported
Transporter 10 EPA ID:	Not reported
Date Trans1 Transported Waste:	08/18/10
Date Trans2 Transported Waste:	Not reported
Date Trans3 Transported Waste:	Not reported
Date Trans4 Transported Waste:	Not reported
Date Trans5 Transported Waste:	Not reported
Date Trans6 Transported Waste:	Not reported
Date Trans7 Transported Waste:	Not reported
Date Trans8 Transported Waste:	Not reported
Date Trans9 Transported Waste:	Not reported
Date Trans10 Transported Waste:	Not reported
Date TSDF Received Waste:	08/18/10
Tranporter 1 Decal:	Not reported
Tranporter 2 Decal:	Not reported
Data Entry Number:	Not reported
Reference Manifest Number:	Not reported
Was Load Rejected (Y/N):	No
Reason Load Was Rejected:	Not reported
Waste Code:	D009
Manifest Year:	2010 New Jersey Manifest Data
Quantity:	205
Unit:	K
Hand Code:	H141

VENTRON/VELSICOL (Continued) **1000420131**

Manifest Code:	006044404JJK
EPA ID:	NJD980529879
Date Shipped:	05/03/10
TSDF EPA ID:	NYD980756415
Transporter EPA ID:	NJD986647501
Transporter 2 EPA ID:	FLD006921340
Transporter 3 EPA ID:	NYD986968139
Transporter 4 EPA ID:	NYD986968139
Transporter 5 EPA ID:	Not reported
Transporter 6 EPA ID:	Not reported
Transporter 7 EPA ID:	Not reported
Transporter 8 EPA ID:	Not reported
Transporter 10 EPA ID:	Not reported
Date Trans1 Transported Waste:	05/03/10
Date Trans2 Transported Waste:	5/5/10
Date Trans3 Transported Waste:	5/5/10
Date Trans4 Transported Waste:	5/5/10
Date Trans5 Transported Waste:	Not reported
Date Trans6 Transported Waste:	Not reported
Date Trans7 Transported Waste:	Not reported
Date Trans8 Transported Waste:	Not reported
Date Trans9 Transported Waste:	Not reported
Date Trans10 Transported Waste:	Not reported
Date TSDF Received Waste:	06/04/10
Tranporter 1 Decal:	Not reported
Tranporter 2 Decal:	Not reported
Data Entry Number:	Not reported
Reference Manifest Number:	Not reported
Was Load Rejected (Y/N):	No
Reason Load Was Rejected:	Not reported
Waste Code:	D009
Manifest Year:	2010 New Jersey Manifest Data
Quantity:	43120
Unit:	P
Hand Code:	H132

Manifest Code:	006044421JJK
EPA ID:	NJD980529879
Date Shipped:	05/04/10
TSDF EPA ID:	NYD980756415
Transporter EPA ID:	NJD986647501
Transporter 2 EPA ID:	FLD006921340
Transporter 3 EPA ID:	NYD986968139
Transporter 4 EPA ID:	NYD986968139
Transporter 5 EPA ID:	Not reported
Transporter 6 EPA ID:	Not reported
Transporter 7 EPA ID:	Not reported
Transporter 8 EPA ID:	Not reported
Transporter 10 EPA ID:	Not reported
Date Trans1 Transported Waste:	05/04/10
Date Trans2 Transported Waste:	5/5/10
Date Trans3 Transported Waste:	5/5/10
Date Trans4 Transported Waste:	5/5/10
Date Trans5 Transported Waste:	Not reported
Date Trans6 Transported Waste:	Not reported

VENTRON/VELSICOL (Continued) **1000420131**

Date Trans7 Transported Waste: Not reported
Date Trans8 Transported Waste: Not reported
Date Trans9 Transported Waste: Not reported
Date Trans10 Transported Waste: Not reported
Date TSDF Received Waste: 06/04/10
Tranporter 1 Decal: Not reported
Tranporter 2 Decal: Not reported
Data Entry Number: Not reported
Reference Manifest Number: Not reported
Was Load Rejected (Y/N): No
Reason Load Was Rejected: Not reported
Waste Code: D009
Manifest Year: 2010 New Jersey Manifest Data
Quantity: 45880
Unit: P
Hand Code: H132

Manifest Code: 006044403JJK
EPA ID: NJD980529879
Date Shipped: 05/03/10
TSDF EPA ID: NYD980756415
Transporter EPA ID: NJD986647501
Transporter 2 EPA ID: FLD006921340
Transporter 3 EPA ID: NYD986968139
Transporter 4 EPA ID: NYD986968139
Transporter 5 EPA ID: Not reported
Transporter 6 EPA ID: Not reported
Transporter 7 EPA ID: Not reported
Transporter 8 EPA ID: Not reported
Transporter 10 EPA ID: Not reported
Date Trans1 Transported Waste: 05/03/10
Date Trans2 Transported Waste: 5/5/10
Date Trans3 Transported Waste: 5/5/10
Date Trans4 Transported Waste: 5/5/10
Date Trans5 Transported Waste: Not reported
Date Trans6 Transported Waste: Not reported
Date Trans7 Transported Waste: Not reported
Date Trans8 Transported Waste: Not reported
Date Trans9 Transported Waste: Not reported
Date Trans10 Transported Waste: Not reported
Date TSDF Received Waste: 06/04/10
Tranporter 1 Decal: Not reported
Tranporter 2 Decal: Not reported
Data Entry Number: Not reported
Reference Manifest Number: Not reported
Was Load Rejected (Y/N): No
Reason Load Was Rejected: Not reported
Waste Code: D009
Manifest Year: 2010 New Jersey Manifest Data
Quantity: 42760
Unit: P
Hand Code: H132

VENTRON/VELSICOL (Continued) **1000420131**

Manifest Code:	NJA5319089
EPA ID:	NJD980529879
Date Shipped:	20060309
TSDF EPA ID:	NJD980536593
Transporter EPA ID:	NJD080631369
Transporter 2 EPA ID:	Not reported
Transporter 3 EPA ID:	Not reported
Transporter 4 EPA ID:	Not reported
Transporter 5 EPA ID:	Not reported
Transporter 6 EPA ID:	Not reported
Transporter 7 EPA ID:	Not reported
Transporter 8 EPA ID:	Not reported
Transporter 10 EPA ID:	Not reported
Date Trans1 Transported Waste:	060309
Date Trans2 Transported Waste:	000000
Date Trans3 Transported Waste:	Not reported
Date Trans4 Transported Waste:	Not reported
Date Trans5 Transported Waste:	Not reported
Date Trans6 Transported Waste:	Not reported
Date Trans7 Transported Waste:	Not reported
Date Trans8 Transported Waste:	Not reported
Date Trans9 Transported Waste:	Not reported
Date Trans10 Transported Waste:	Not reported
Date TSDF Received Waste:	060309
Tranporter 1 Decal:	Not reported
Tranporter 2 Decal:	Not reported
Data Entry Number:	05150621
Reference Manifest Number:	Not reported
Was Load Rejected (Y/N):	No
Reason Load Was Rejected:	Not reported
Waste Code:	Not reported
Manifest Year:	Not reported
Quantity:	Not reported
Unit:	Not reported
Hand Code:	Not reported

1
SW
1/8-1/4
0.235 mi.
1239 ft.

RADIO STATION WEVD
RTE 3W & 120N INTERSECTION OF
EAST RUTHERFORD, NJ 07073

RCRA-NonGen **1000259157**
FINDS **NJD982742181**

Relative:
Higher

Actual:
19 ft.

RCRA-NonGen:

Date form received by agency:	01/01/2007
Facility name:	RADIO STATION WEVD
Facility address:	RTE 3W & 120N INTERSECTION OF EAST RUTHERFORD, NJ 07073
EPA ID:	NJD982742181
Mailing address:	BROADWAY NEW YORK, NJ 10003
Contact:	Not reported
Contact address:	BROADWAY NEW YORK, NJ 10003
Contact country:	US
Contact telephone:	Not reported
Contact email:	Not reported

RADIO STATION WEVD (Continued) **1000259157**

EPA Region: 02
Classification: Non-Generator
Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:
Owner/operator name: FORWARD ASSN INC
Owner/operator address: NOT REQUIRED
NOT REQUIRED, WY 99999
Owner/operator country: US
Owner/operator telephone: (212) 555-1212
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Owner/operator name: FORWARD ASSN INC
Owner/operator address: NOT REQUIRED
NOT REQUIRED, WY 99999
Owner/operator country: US
Owner/operator telephone: (212) 555-1212
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:
Date form received by agency: 01/01/2006
Facility name: RADIO STATION WEVD
Classification: Not a generator, verified

Date form received by agency: 06/13/1989
Facility name: RADIO STATION WEVD
Classification: Small Quantity Generator

Violation Status: No violations found

FINDS:

Registry ID: 110007948034

RADIO STATION WEVD (Continued) **1000259157**

Environmental Interest/Information System

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

A2 **AN CORP REALTY** **SHWS** **1007047292**
WSW **300 RT 3** **INST CONTROL** **N/A**
1/4-1/2 **EAST RUTHERFORD BORO, NJ 07073**
0.312 mi.
1649 ft. **Site 1 of 2 in cluster A**

Relative:
Higher

Actual:
12 ft.

SHWS:

Site ID:	56513
Status:	CLOSED
Home Owner:	No
PI Number:	031261
X Coord Site:	Not reported
X Coord PI:	Not reported
Y Coord Site:	Not reported
Y Coord PI:	Not reported

NJ INSTITUTIONAL CONTROL:

Facility ID:	56513
Date Established (SI):	3/26/1998
Pi Number:	031261
CEA Description (SI):	Benzene
Pi Name:	AN CORP REALTY
CEA Case Track #:	30047
Date Closed/lifted (SI):	6/9/2009
Intermediate Durations:	No
CEA Duration:	3.80

Facility ID:	56513
Date Established (SI):	3/26/1998
Pi Number:	031261
CEA Description (SI):	Benzene
Pi Name:	AN CORP REALTY
CEA Case Track #:	92333
Date Closed/lifted (SI):	6/9/2009
Intermediate Durations:	No
CEA Duration:	3.80

Facility ID:	56513
Date Established (SI):	3/26/1998
Pi Number:	031261
CEA Description (SI):	Tert-butyl alcohol
Pi Name:	AN CORP REALTY
CEA Case Track #:	30047
Date Closed/lifted (SI):	6/9/2009
Intermediate Durations:	No
CEA Duration:	3.80

Facility ID: 56513

AN CORP REALTY (Continued) **1007047292**

Date Established (SI): 3/26/1998
Pi Number: 031261
CEA Description (SI): Tert-butyl alcohol
Pi Name: AN CORP REALTY
CEA Case Track #: 92333
Date Closed/lifted (SI): 6/9/2009
Intermediate Durations: No
CEA Duration: 3.80

A3 **AN CORP REALTY** **VCP** **S108398952**
WSW **300 RT 3** **N/A**
1/4-1/2 **EAST RUTHERFORD BORO, NJ 07073**
0.312 mi.
1649 ft. **Site 2 of 2 in cluster A**

Relative:
Higher

Actual:
12 ft.

VCP:
Incident Number: Not reported
MOA Execution Date: 1/4/2007
Type Of Vcp File: CURRENT
Pi Number: 031261
Case Type(Case Type): MOA
Case Contact: Department Not reported
Case Contact Name: JOSEPH HOLL
Case Contact: Organization ANCORP REALTY CO INC
Case Contact: Address: Line1 230 CLAY AVE
Case Contact: Address: Line2 Not reported
Case Contact: Address: Line3 Not reported
Case Contact City,St,Zip: Lyndhurst, NJ 07071

B4 **HIST LUST** **S104386604**
West **2 MEADOWLANDS PLAZA** **SPILLS** **N/A**
1/4-1/2 **EAST RUTHERFORD BORO, NJ 07073**
0.374 mi.
1974 ft. **Site 1 of 2 in cluster B**

Relative:
Higher

Actual:
8 ft.

LUST HIST:
Case ID: Not reported
Lead Program Assigned: Bureau of Field Operations - Initial Notice Section
Facility Status: **Site Issued Letter of No Further Action for Area(s) Of Concern**
UST ID: 0326793
TMS Number: N98-1954
Remedial Level: Site has 1 area of concern with 1 media of concern.
Case Manager: Maria Brimat
Facility Phone: (609) 633-8110
No Further Action: 8/4/1999 0:00:00
RAW Approved: Not reported
CEA: Not reported
Date CEA Lifted: Not reported
Dead Notice: Not reported

NJ SPILL:
Facility ID: 32224
Case Number: 02-09-01-0946-16
Notify Type: Not reported
Date Received: 9/1/2002
Location: Not reported

(Continued) **S104386604**

Other Location:	Not reported
Incident Date:	9/1/2002
Incident Time:	Not reported
A310 Letter:	Not reported
Ref. Code:	Not reported
COMU:	Not reported
CAS Number:	Not reported
Hazardous:	Not reported
Incident Location:	SHERATON HOTEL PARKING LOT
Facility Type:	Commercial
Facility Phone:	Not reported
Substance(s):	Not reported
Substance Type:	Not reported
Substance Identity:	Not reported
TCPA Chemical:	Not reported
Hazrds Material:	Not reported
Amnt Released:	Not reported
Release VE:	Not reported
Contained:	Not reported
Release Type:	Not reported
Incident Desc:	Not reported
Status at Spill:	Not reported
NJ Spill Date:	Not reported
NJ Spill Time:	Not reported
NJ Spill Name:	Not reported
NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported
Other Date:	Not reported
Other Time:	Not reported
Other Name:	Not reported
Other Title:	Not reported
Other Phone:	Not reported
Injuries:	No
Public Exposure:	No
Road Closed:	No
Facility Evacuation:	No
Receiving Water:	Not reported
Public Evacuation:	No
Police at Scene:	Yes
Firemen at Scene:	Yes
Contamination of:	Not reported
Nature of Incident:	Not reported
Wind Direction/Speed:	Not reported
Assistance Requested:	Not reported
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Operator:	Not reported
Contact Name:	NAFTOLI H. YOFFE
Caller Name:	Not reported
Caller Title:	Not reported
Caller Address:	Not reported
Caller City,St,Zip:	Not reported
Caller Phone:	Not reported
Responsible Party:	Not reported
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported

(Continued) **S104386604**

Responsible Party Telphone:	Not reported
Responsible Party Street:	Not reported
Responsible Party Municipality:	Not reported
Responsible Party State:	Not reported
Responsible Party Zip:	Not reported
Responsible City,St,Zip:	Not reported
Responsible Party County:	Not reported
Local Municipality:	Not reported
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Phone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Phone:	Not reported
Incident Date:	Not reported
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Update:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Reporter Name:	REDACTED
Reporter Type:	Municipal Rep.
Rep Received Date:	9/1/2002
Reporter Title:	REDACTED
Reporter Orgzn:	REDATED
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Type:	Spill
Incident Status:	Terminated
Incident Category:	Other
Incident Source:	JUST FOR WHEELS RENTAL CO
Incident Address:	324 E. WHITEHORSE PIKE
Incident Address 2:	Not reported
Incident City,St,Zip:	Absecon City, NJ
Incident County:	Atlantic
DEP Requested:	No
Confidential:	Not reported

B5 **PETER PAN MOTEL SITE** **HIST LUST** **S104434328**
West **1 MEADOWLANDS PLAZA** **NJ Release** **N/A**
1/4-1/2 **EAST RUTHERFORD, NJ** **SPILLS**
0.376 mi.
1987 ft. **Site 2 of 2 in cluster B**

Relative:
Higher

Actual:
8 ft.

LUST HIST:

Case ID:	92-03-30-1309
Lead Program Assigned:	Bureau of Underground Storage Tanks
Facility Status:	**Site Issued Letter of No Further Action for Area(s) Of Concern**
UST ID:	0229674
TMS Number:	C91-4441
Remedial Level:	Site has more than 1 area of concern or more than 1 media of concern.
Case Manager:	John Blankenship
Facility Phone:	(609) 984-3071

PETER PAN MOTEL SITE (Continued) **S104434328**

No Further Action: 10/27/1992 0:00:00
RAW Approved: Not reported
CEA: Not reported
Date CEA Lifted: Not reported
Dead Notice: Not reported

NJ Release:

Facility ID:	5132	Case Number:	92-3-30-1309-25
Date Received:	3/30/1992	Nature of Incident:	Facility
Operator:	RICH		
Incident Type:	Not reported	Incident Location:	Not reported
Location:	Facility		
Other Location:	Not reported		
Contact Name:	Not reported		
Caller Name:	REDACTED		
Caller Title:	Not reported		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Type:	Commercial		
Facility Phone:	201-460-8145		
Incident Date:	3/30/1992	Incident Time:	1300
Substance(s):	SOIL CONTAMINATED WITH OIL FUEL		
Substance Type:	Solid	Substance Identity:	Known
CAS Number:	Not reported	A310 Letter:	Yes
TCPA Chemical:	No	Hazrds Material:	Yes
COMU:	0212	Ref. Code:	013
Amnt Released:	UNKNOWN	Contained:	Yes
Release Type:	Terminated	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Land	Receiving Water:	NONE
Status at Spill:	1-3000 GAL TANK REMOVED AT SITE AND CONTAMINATED SOIL STOCKPILED FOR DISPOSAL, UST 0229674		
NJ Spill Date:	3/30/1992	NJ Spill Time:	Not reported
NJ Spill Name:	OEM	NJ Spill Title:	Not reported
NJ Spill Phone:	609-882-2000		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	No
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	EAST RUTHERFORD BO
Local Municipality Title:	BADGE 7
Local Municipality Telephone:	201-438-0165
Local Municipality Date:	3/30/1992
Local Municipality Time:	1312
Incident Description:	LUST, SOIL CONTAMINATION
Incident Name:	Not reported
Incident Referred To:	DRPSR
Incident Region:	HQ1
Incident Telephone:	Faxed,Mailed
Incident Date:	3/30/1992
Incident time:	1312

PETER PAN MOTEL SITE (Continued) **S104434328**

Incident ITM:	B
Comments:	Not reported
Date A310 Letter Printed:	3/30/1992
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	3/30/1992
Local Authority Notification Date:	Not reported
Rep Receive Date:	Not reported
Reporter Type:	Not reported
Reporter Name:	Not reported
Reporter Title:	Not reported
Reporter Org:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Not reported
Incident Category:	Not reported
Incident Source:	Not reported
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	Not reported
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	Not reported
Direction:	Not reported
Responsible Party:	Known
Responsible Party Name:	BENDER & CO
Responsible Party Contact:	PAMULA FRIMMER
Responsible Party Title:	GEN MGR
Responsible Party Phone:	201-460-8145
Responsible Party Street:	1 MEADOWLANDS PLAZA
Responsible Party County:	BERGEN
Responsible Party City,St,Zip:	EAST RUTHERFORD, NJ
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

NJ SPILL:

Facility ID:	21630
Case Number:	94-12-9-1401-54
Notify Type:	Not reported
Date Received:	12/9/1994
Location:	Facility
Other Location:	Not reported
Incident Date:	12/5/1994
Incident Time:	1200
A310 Letter:	Yes
Ref. Code:	001
COMU:	0212
CAS Number:	306-83-2
Hazardous:	Not reported
Incident Location:	Not reported
Facility Type:	Commercial
Facility Phone:	Not reported
Substance(s):	REFRIGERANT 123, FREON OTHER

PETER PAN MOTEL SITE (Continued) **S104434328**

Substance Type: Liquid
Substance Identity: Known
TCPA Chemical: No
Hazrds Material: Yes
Amnt Released: 820 LBS
Release VE: Estimate
Contained: No
Release Type: Terminated
Incident Desc: Spill
Status at Spill: LEAK CAME FROM BROKEN VALVE ON COOLER INTO ROOM.MATERIAL DISAPATED IN ROOM
NJ Spill Date: Not reported
NJ Spill Time: Not reported
NJ Spill Name: Not reported
NJ Spill Title: Not reported
NJ Spill Phone: Not reported
Other Date: Not reported
Other Time: Not reported
Other Name: Not reported
Other Title: Not reported
Other Phone: Not reported
Injuries: No
Public Exposure: No
Road Closed: Not reported
Facility Evacuation: Yes
Receiving Water: Not reported
Public Evacuation: No
Police at Scene: No
Firemen at Scene: No
Contamination of: Air
Nature of Incident: Facility
Wind Direction/Speed: Not reported
Assistance Requested: No
Memo. Of Understanding: Not reported
Drill/trng Exercise: Not reported
Operator: JIMH
Contact Name: Not reported
Caller Name: REDACTED
Caller Title: Not reported
Caller Address: Not reported
Caller City,St,Zip: Not reported
Caller Phone: Not reported
Responsible Party: Known
Responsible Party Name: METRO EXEC.TOWERS
Responsible Party Contact: Not reported
Responsible Party Title: Not reported
Responsible Party Telphone: Not reported
Responsible Party Street: 1 MEADOWLANDS PLAZA
Responsible Party Municipality: EAST RUTHERFORD
Responsible Party State: NJ
Responsible Party Zip: Not reported
Responsible City,St,Zip: EAST RUTHERFORD, NJ
Responsible Party County: BERGEN
Local Municipality: Not reported
Local Municipality Name: EAST RUTHERFORD BO
Local Municipality Title: OFC.FREEMAN
Local Municipality Phone: 201-438-0165

PETER PAN MOTEL SITE (Continued) **S104434328**

Local Municipality Date:	12/9/1994
Local Municipality Time:	1413
Incident Name:	H.CAMERGO
Incident Referred To:	DRPSR
Incident Region:	ER1
Incident Phone:	Faxed,Mailed
Incident Date:	12/9/1994
Comments: Not reported	
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Update:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Reporter Name:	Not reported
Reporter Type:	Not reported
Rep Received Date:	Not reported
Reporter Title:	Not reported
Reporter Orgzn:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Type:	Not reported
Incident Status:	Not reported
Incident Category:	Not reported
Incident Source:	Not reported
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	Not reported
Confidential:	Not reported

C6 **TURNPIKE PUMP STATION #2** **HIST LUST** **S104394975**
East **TURNPIKE & PATERSON PLANK RD** **N/A**
1/4-1/2 **SECAUCUS, NJ**
0.399 mi.
2109 ft. **Site 1 of 2 in cluster C**

Relative:
Lower

Actual:
2 ft.

LUST HIST:

Case ID:	99-11-23-1206-51
Lead Program Assigned:	Bureau of Underground Storage Tanks
Facility Status:	**Site Issued Letter of No Further Action for Area(s) Of Concern**
UST ID:	0334901
TMS Number:	N99-1247
Remedial Level:	Site has more than 1 area of concern or more than 1 media of concern.
Case Manager:	Tim Nuss
Facility Phone:	(609) 633-1275
No Further Action:	5/30/2002 0:00:00
RAW Approved:	Not reported
CEA:	Not reported
Date CEA Lifted:	Not reported
Dead Notice:	Not reported

C7
East
1/4-1/2
0.399 mi.
2109 ft.

NEW JERSEY TURNPIKE AUTHORITY
INTERCHANGE 18W TOLL PLAZA
CARLSTADT, NJ

Site 2 of 2 in cluster C

HIST LUST
S104587524
N/A

Relative:
Lower

Actual:
2 ft.

LUST HIST:

Case ID:	Not reported
Lead Program Assigned:	Bureau of Field Operations - Initial Notice Section
Facility Status:	**Site Issued Letter of No Further Action for Area(s) Of Concern**
UST ID:	0133094
TMS Number:	C95-0022
Remedial Level:	Site has 1 area of concern with 1 media of concern.
Case Manager:	Maria Brimat
Facility Phone:	(609) 633-8110
No Further Action:	12/26/1996 0:00:00
RAW Approved:	Not reported
CEA:	Not reported
Date CEA Lifted:	Not reported
Dead Notice:	Not reported

D8
ENE
1/4-1/2
0.423 mi.
2232 ft.

200 PATERSON PLANK ROAD
200 PATERSON PLANK ROAD
EAST RUTHERFORD BOROUGH, NJ 07073

Site 1 of 5 in cluster D

BROWNFIELDS
S108656261
N/A

Relative:
Lower

Actual:
2 ft.

NJ BROWNFIELD:

Price:	Not reported
Assessed Value:	$250,000 to $1,000,000
Property Size:	3 ? 5
General Comments:	Description Coming Soon. . .

D9
ENE
1/4-1/2
0.424 mi.
2239 ft.

TRANSCONT GAS PIPELINE CORP STATION 240
718 PATERSON PLANK RD
CARLSTADT, NJ

Site 2 of 5 in cluster D

HIST LUST
S104387792
N/A

Relative:
Lower

Actual:
2 ft.

LUST HIST:

Case ID:	88-11-03-1805
Lead Program Assigned:	Bureau of Underground Storage Tanks
Facility Status:	**Assigned to a Program**
UST ID:	0052580
TMS Number:	Not reported
Remedial Level:	Site has confirmed soil and ground water contamination.
Case Manager:	Thomas Grzymski
Facility Phone:	(609) 984-9891
No Further Action:	Not reported
RAW Approved:	Y
CEA:	Y
Date CEA Lifted:	Not reported
Dead Notice:	N

D10 **TGPL STATION 0240** **SHWS** **U003563879**
ENE **718 PATERSON PLANK RD** **HIST HWS** **N/A**
1/4-1/2 **CARLSTADT BORO, NJ 07072** **UST**
0.424 mi. **NJ Release**
2239 ft. **Site 3 of 5 in cluster D**

Relative:
Lower

Actual:
2 ft.

SHWS:

Site ID:	14261
Status:	ACTIVE
Home Owner:	No
PI Number:	005258
X Coord Site:	616747
X Coord PI:	616747
Y Coord Site:	722066
Y Coord PI:	722066

HIST SHWS:

Case Status:	**Active**
Status Date:	8/19/1988
Case ID:	005258
Contact:	Bureau of Case Management
Sub Section Label:	A: Sites with On-Site Sources of Contamination
Site Municipality:	0205
Remedial Level Code:	D
Classification exception area dt:	Ongoing
Classification exception area dt:	3/29/1996
Deed Notice Status:	None
Deed Notice Date:	Not reported
Engineering Control Status:	None
Engineering Control Date:	Not reported
National Priorities List Status:	Not reported
National Priorities List Date:	Not reported
X Coordinate:	616747
Y Coordinate:	722066
Coordinate System:	NJ State Plane (NAD83) - USFEET

UST:

Facility ID:	005258
Owner Name:	Not Identified Not Identified
Organization:	Not Identified
Contact Type(UST Reg):	Facility Operator
Contact Address (UST Reg):	Not reported
Contact Address 2 (UST Reg):	Not reported
Conact City,St,Zip (UST Reg):	Not reported
Owner Name:	SUPERINTENDENT
Organization:	TRANSCONTINENTAL GAS PIPE LINE
Contact Type(UST Reg):	Tank Owner
Contact Address (UST Reg):	PO BOX 1396 - ENV ENG
Contact Address 2 (UST Reg):	Not reported
Conact City,St,Zip (UST Reg):	HOUSTON, TX 77251
Tank Id:	TANK-1
Tank Number:	E1
Tank Contents:	Unleaded Gasoline
Tank Size:	1000
Install Date:	1975-01-01 00:00:00
Tank Compliance:	No
Tank Status:	**Removed**

TGPL STATION 0240 (Continued) **U003563879**

Overfill: No
Tank Status Date: 1989-01-26 00:00:00
Compliance Monitoring?: No
Overfill Protection: No
Spill Containment: No
Tank Wellhead Protection: Not reported

TANK MONITOR DATA:
Monitor Tank / Pipe: Pipe
Monitor Type: None
Monitor Tank / Pipe: Tank
Monitor Type: None

TANK DETAIL:
Tankpipe Tank / Pipe: Pipe
Tankpipe Construction Type: Cathodically protected steel
Tankpipe Tank / Pipe: Tank
Tankpipe Construction Type: Cathodically protected steel

NJ Release:

Facility ID:	353818	Case Number:	10-06-08-0509-50
Date Received:	6/8/2010	Nature of Incident:	Not reported
Operator:	Not reported		
Incident Type:	Equipment Maintenance	Incident Location:	L & G PLANT STATION 240 WESTERN SPUR OF NJTP
Location:	Not reported		
Other Location:	Not reported		
Contact Name:	MARK BECCIA		
Caller Name:	Not reported		
Caller Title:	Not reported		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Type:	Other		
Facility Phone:	Not reported		
Incident Date:	6/8/2010	Incident Time:	Not reported
Substance(s):	Not reported		
Substance Type:	Not reported	Substance Identity:	Not reported
CAS Number:	Not reported	A310 Letter:	Not reported
TCPA Chemical:	Not reported	Hazrds Material:	Not reported
COMU:	Not reported	Ref. Code:	Not reported
Amnt Released:	Not reported	Contained:	Not reported
Release Type:	Not reported	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Not reported	Receiving Water:	Not reported
Status at Spill:	Not reported		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone: Not reported
Public Evacuation: No
Assistance Requested: Not reported
Wind Direction/Speed: Not reported
Local Municipality Notified: Not reported
Local Municipality Name: Not reported

TGPL STATION 0240 (Continued) **U003563879**

Local Municipality Title:	Not reported
Local Municipality Telephone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Description:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Telephone:	Not reported
Incident Date:	Not reported
Incident time:	Not reported
Incident ITM:	Not reported
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	6/8/2010
Reporter Type:	Other
Reporter Name:	REDACTED
Reporter Title:	REDACTED
Reporter Org:	REDATED
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Continuous
Incident Category:	Other
Incident Source:	TRANSCO
Incident Address:	99 FARBER RD
Incident Address 2:	Not reported
Incident City,St,Zip:	Princeton Twp, NJ 08540
Incident County:	Mercer
DEP Requested:	No
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	No
Direction:	Not reported
Responsible Party:	Not reported
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	Not reported
Responsible Party County:	Not reported
Responsible Party City,St,Zip:	Not reported
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

Facility ID:	353942	Case Number:	10-06-08-1750-01
Date Received:	6/8/2010	Nature of Incident:	Not reported
Operator:	Not reported		
Incident Type:	Equipment Startup/Shutdown	Incident Location:	240 CARLSTEAD AVE
Location:	Not reported		
Other Location:	Not reported		
Contact Name:	MARK BECCIA		

TGPL STATION 0240 (Continued) **U003563879**

Caller Name:	Not reported		
Caller Title:	Not reported		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Type:	Other		
Facility Phone:	Not reported		
Incident Date:	6/8/2010	Incident Time:	Not reported
Substance(s):	Not reported		
Substance Type:	Not reported	Substance Identity:	Not reported
CAS Number:	Not reported	A310 Letter:	Not reported
TCPA Chemical:	Not reported	Hazrds Material:	Not reported
COMU:	Not reported	Ref. Code:	Not reported
Amnt Released:	Not reported	Contained:	Not reported
Release Type:	Not reported	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Not reported	Receiving Water:	Not reported
Status at Spill:	Not reported		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	Not reported
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Telephone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Description:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Telephone:	Not reported
Incident Date:	Not reported
Incident time:	Not reported
Incident ITM:	Not reported
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	6/8/2010
Reporter Type:	Other
Reporter Name:	REDACTED
Reporter Title:	REDACTED
Reporter Org:	REDATED
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported

TGPL STATION 0240 (Continued) **U003563879**

Incident Status:	Terminated
Incident Category:	Other
Incident Source:	TRANSCO
Incident Address:	99 FARBER RD
Incident Address 2:	Not reported
Incident City,St,Zip:	Princeton Boro, NJ
Incident County:	Mercer
DEP Requested:	No
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	No
Direction:	Not reported
Responsible Party:	Not reported
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	Not reported
Responsible Party County:	Not reported
Responsible Party City,St,Zip:	Not reported
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

Facility ID:	355677	Case Number:	10-06-23-0422-58
Date Received:	6/23/2010	Nature of Incident:	Not reported
Operator:	Not reported		
Incident Type:	Equipment Maintenance	Incident Location:	COMPRESSOR STATION 240
Location:	Not reported		
Other Location:	Not reported		
Contact Name:	MARK BECCIA		
Caller Name:	Not reported		
Caller Title:	Not reported		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Type:	Other		
Facility Phone:	Not reported		
Incident Date:	6/23/2010	Incident Time:	Not reported
Substance(s):	Not reported		
Substance Type:	Not reported	Substance Identity:	Not reported
CAS Number:	Not reported	A310 Letter:	Not reported
TCPA Chemical:	Not reported	Hazrds Material:	Not reported
COMU:	Not reported	Ref. Code:	Not reported
Amnt Released:	Not reported	Contained:	Not reported
Release Type:	Not reported	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Not reported	Receiving Water:	Not reported
Status at Spill:	Not reported		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported
Other Telephone:	Not reported		

TGPL STATION 0240 (Continued) **U003563879**

Public Evacuation:	No
Assistance Requested:	Not reported
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Telephone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Description:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Telephone:	Not reported
Incident Date:	Not reported
Incident time:	Not reported
Incident ITM:	Not reported
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	6/23/2010
Reporter Type:	Other
Reporter Name:	REDACTED
Reporter Title:	REDACTED
Reporter Org:	REDATED
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Terminated
Incident Category:	Other
Incident Source:	TRANSCO PIPELINE
Incident Address:	99 FARBER RD
Incident Address 2:	Not reported
Incident City,St,Zip:	Princeton Twp, NJ 08540
Incident County:	Mercer
DEP Requested:	No
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	No
Direction:	Not reported
Responsible Party:	Not reported
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	Not reported
Responsible Party County:	Not reported
Responsible Party City,St,Zip:	Not reported
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

Facility ID: 354599
Date Received: 6/15/2010
Case Number: 10-06-15-0512-18
Nature of Incident: Not reported

TGPL STATION 0240 (Continued) **U003563879**

Operator:	Not reported		
Incident Type:	Equipment Maintenance	Incident Location:	COMPRESSOR STA 240
Location:	Not reported		
Other Location:	Not reported		
Contact Name:	MARK BECCIA		
Caller Name:	Not reported		
Caller Title:	Not reported		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Type:	Other		
Facility Phone:	Not reported		
Incident Date:	6/15/2010	Incident Time:	Not reported
Substance(s):	Not reported		
Substance Type:	Not reported	Substance Identity:	Not reported
CAS Number:	Not reported	A310 Letter:	Not reported
TCPA Chemical:	Not reported	Hazrds Material:	Not reported
COMU:	Not reported	Ref. Code:	Not reported
Amnt Released:	Not reported	Contained:	Not reported
Release Type:	Not reported	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Not reported	Receiving Water:	Not reported
Status at Spill:	Not reported		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	Not reported
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Telephone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Description:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Telephone:	Not reported
Incident Date:	Not reported
Incident time:	Not reported
Incident ITM:	Not reported
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	6/15/2010
Reporter Type:	Other
Reporter Name:	REDACTED

TGPL STATION 0240 (Continued) **U003563879**

Reporter Title:	REDACTED
Reporter Org:	REDATED
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Terminated
Incident Category:	Other
Incident Source:	TRANSCO PIPELINE
Incident Address:	99 FARBER RD
Incident Address 2:	Not reported
Incident City,St,Zip:	Princeton Twp, NJ 08540
Incident County:	Mercer
DEP Requested:	No
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	No
Direction:	Not reported
Responsible Party:	Not reported
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	Not reported
Responsible Party County:	Not reported
Responsible Party City,St,Zip:	Not reported
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

Facility ID:	308498	Case Number:	09-04-22-1107-27
Date Received:	4/22/2009	Nature of Incident:	Not reported
Operator:	Not reported		
Incident Type:	Odors	Incident Location:	TRANSCO NATURAL GAS PLANT
Location:	Not reported		
Other Location:	Not reported		
Contact Name:	JOSEPH BIAMONTI		
Caller Name:	Not reported		
Caller Title:	Not reported		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Type:	Industrial		
Facility Phone:	Not reported		
Incident Date:	4/22/2009	Incident Time:	Not reported
Substance(s):	Not reported		
Substance Type:	Not reported	Substance Identity:	Not reported
CAS Number:	Not reported	A310 Letter:	Not reported
TCPA Chemical:	Not reported	Hazrds Material:	Not reported
COMU:	Not reported	Ref. Code:	Not reported
Amnt Released:	Not reported	Contained:	Not reported
Release Type:	Not reported	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Not reported	Receiving Water:	Not reported
Status at Spill:	Not reported		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported

TGPL STATION 0240 (Continued) **U003563879**

NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	Not reported
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Telephone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Description:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Telephone:	Not reported
Incident Date:	Not reported
Incident time:	Not reported
Incident ITM:	Not reported
Comments: Not reported	
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	4/22/2009
Reporter Type:	Facility Rep.
Reporter Name:	REDACTED
Reporter Title:	REDACTED
Reporter Org:	REDATED
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Terminated
Incident Category:	Facility
Incident Source:	TRANSCO
Incident Address:	718 PATERSON PLANK RD
Incident Address 2:	Not reported
Incident City,St,Zip:	Carlstadt Boro, NJ 07072
Incident County:	Bergen
DEP Requested:	No
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	No
Direction:	Not reported
Responsible Party:	Not reported
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	Not reported
Responsible Party County:	Not reported
Responsible Party City,St,Zip:	Not reported
Memo. Of Understanding:	Not reported

TGPL STATION 0240 (Continued) **U003563879**

Drill/trng Exercise: Not reported
Hazardous: Not reported

D11 **TRANSCONTINENTAL GAS PIPE LINE CORP** **CERC-NFRAP** **1000319910**
ENE **718 PATERSON PLANK RD** **RCRA-CESQG** **NJD069290260**
1/4-1/2 **CARLSTADT, NJ 07072** **FINDS**
0.424 mi. **MANIFEST**
2239 ft. **Site 4 of 5 in cluster D** **MANIFEST**
NJ Release

Relative:
Lower

Actual:
2 ft.

CERC-NFRAP:
Site ID: 0200424
Federal Facility: Not a Federal Facility
NPL Status: Not on the NPL
Non NPL Status: NFRAP-Site does not qualify for the NPL based on existing information

CERCLIS-NFRAP Site Alias Name(s):
Alias Name: TGPL STATION 260
Alias Address: Not reported
NJ

CERCLIS-NFRAP Assessment History:
Action: DISCOVERY
Date Started: Not reported
Date Completed: 04/21/1987
Priority Level: Not reported

Action: PRELIMINARY ASSESSMENT
Date Started: Not reported
Date Completed: 06/16/1987
Priority Level: Low priority for further assessment

Action: SITE INSPECTION
Date Started: 09/22/1987
Date Completed: 09/22/1987
Priority Level: NFRAP-Site does not qualify for the NPL based on existing information

Action: ARCHIVE SITE
Date Started: Not reported
Date Completed: 09/22/1987
Priority Level: Not reported

RCRA-CESQG:
Date form received by agency: 01/01/2007
Facility name: TRANSCONTINENTAL GAS PIPE LINE CORP
Facility address: 718 PATERSON PLANK RD
CARLSTADT, NJ 07072
EPA ID: NJD069290260
Mailing address: PATERSON PLANK RD
CARLSTADT, NJ 07072
Contact: COLIN WISSER
Contact address: PATERSON PLANK RD
CARLSTADT, NJ 07072
Contact country: US
Contact telephone: (201) 933-5490
Contact email: Not reported

TRANSCONTINENTAL GAS PIPE LINE CORP (Continued) **1000319910**

EPA Region: 02
Land type: Private
Classification: Conditionally Exempt Small Quantity Generator
Description: Handler: generates 100 kg or less of hazardous waste per calendar month, and accumulates 1000 kg or less of hazardous waste at any time; or generates 1 kg or less of acutely hazardous waste per calendar month, and accumulates at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste

Owner/Operator Summary:
Owner/operator name: TRANSCONTINENTAL GAS PIPE LINE CORP
Owner/operator address: PATERSON PLANK RD
CARLSTADT, NJ 07072
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: 01/01/1960
Owner/Op end date: Not reported

Owner/operator name: TRANSCONTINENTAL GAS PIPE LINE
Owner/operator address: PO BOX 1396
HOUSTON, TX 77251
Owner/operator country: US
Owner/operator telephone: (713) 215-2000
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Owner/operator name: TRANSCONTINENTAL GAS PIPE LINE
Owner/operator address: POST OAK BLVD
HOUSTON, TX 77056
Owner/operator country: US
Owner/operator telephone: (713) 215-2000
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: 01/01/1960
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No

TRANSCONTINENTAL GAS PIPE LINE CORP (Continued) **1000319910**

On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:
Date form received by agency: 01/01/2006
Facility name: TRANSCONTINENTAL GAS PIPE LINE CORP
Classification: Conditionally Exempt Small Quantity Generator

Date form received by agency: 09/28/2004
Facility name: TRANSCONTINENTAL GAS PIPE LINE CORP
Classification: Small Quantity Generator

Date form received by agency: 03/06/2000
Facility name: TRANSCONTINENTAL GAS PIPE LINE CORP
Site name: TRANSCONTINENTAL GAS PIPE LINE
Classification: Small Quantity Generator

Date form received by agency: 03/04/1998
Facility name: TRANSCONTINENTAL GAS PIPE LINE CORP
Site name: TRANSCONTINENTAL GAS PIPELINE
Classification: Large Quantity Generator

Date form received by agency: 05/19/1996
Facility name: TRANSCONTINENTAL GAS PIPE LINE CORP
Site name: TRANSCONTINENTAL GAS PILE LINE (204)
Classification: Large Quantity Generator

Date form received by agency: 02/25/1994
Facility name: TRANSCONTINENTAL GAS PIPE LINE CORP
Classification: Large Quantity Generator

Date form received by agency: 04/06/1992
Facility name: TRANSCONTINENTAL GAS PIPE LINE CORP
Site name: TGPL STATION 240
Classification: Large Quantity Generator

Hazardous Waste Summary:
Waste code: D001
Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.

Waste code: D002
Waste name: A WASTE WHICH HAS A PH OF LESS THAN 2 OR GREATER THAN 12.5 IS CONSIDERED TO BE A CORROSIVE HAZARDOUS WASTE. SODIUM HYDROXIDE, A

TRANSCONTINENTAL GAS PIPE LINE CORP (Continued) **1000319910**

CAUSTIC SOLUTION WITH A HIGH PH, IS OFTEN USED BY INDUSTRIES TO CLEAN OR DEGREASE PARTS. HYDROCHLORIC ACID, A SOLUTION WITH A LOW PH, IS USED BY MANY INDUSTRIES TO CLEAN METAL PARTS PRIOR TO PAINTING. WHEN THESE CAUSTIC OR ACID SOLUTIONS BECOME CONTAMINATED AND MUST BE DISPOSED, THE WASTE WOULD BE A CORROSIVE HAZARDOUS WASTE.

Waste code: D004
Waste name: ARSENIC

Waste code: D009
Waste name: MERCURY

Waste code: D018
Waste name: BENZENE

Waste code: F003
Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NON-HALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS, AND, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Waste code: F005
Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Facility Has Received Notices of Violations:
Regulation violated: Not reported
Area of violation: Generators - General
Date violation determined: 10/08/1991
Date achieved compliance: 11/04/1991
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 10/08/1991
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: 0
Final penalty amount: 0
Paid penalty amount: 0

Regulation violated: Not reported
Area of violation: Generators - General
Date violation determined: 10/08/1991
Date achieved compliance: 11/04/1991
Violation lead agency: State
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER

TRANSCONTINENTAL GAS PIPE LINE CORP (Continued) **1000319910**

Enforcement action date: 02/04/1992
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: 0
Final penalty amount: 15000
Paid penalty amount: 15000

Regulation violated: Not reported
Area of violation: Generators - Manifest
Date violation determined: 10/08/1991
Date achieved compliance: 11/04/1991
Violation lead agency: State
Enforcement action: INITIAL 3008(A) COMPLIANCE
Enforcement action date: 12/26/1991
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: 20000
Final penalty amount: 15000
Paid penalty amount: 15000

Regulation violated: Not reported
Area of violation: Generators - General
Date violation determined: 10/08/1991
Date achieved compliance: 11/04/1991
Violation lead agency: State
Enforcement action: INITIAL 3008(A) COMPLIANCE
Enforcement action date: 12/26/1991
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: 20000
Final penalty amount: 15000
Paid penalty amount: 15000

Regulation violated: Not reported
Area of violation: Generators - Manifest
Date violation determined: 10/08/1991
Date achieved compliance: 11/04/1991
Violation lead agency: State
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 02/04/1992
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: 0
Final penalty amount: 15000
Paid penalty amount: 15000

Regulation violated: Not reported
Area of violation: Generators - Manifest
Date violation determined: 10/08/1991
Date achieved compliance: 11/04/1991
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 10/08/1991

TRANSCONTINENTAL GAS PIPE LINE CORP (Continued) **1000319910**

Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: 0
Final penalty amount: 0
Paid penalty amount: 0

Evaluation Action Summary:
Evaluation date: 10/17/1995
Evaluation: CASE DEVELOPMENT INSPECTION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 11/04/1991
Evaluation: NON-FINANCIAL RECORD REVIEW
Area of violation: Generators - Manifest
Date achieved compliance: 11/04/1991
Evaluation lead agency: State

Evaluation date: 11/04/1991
Evaluation: NON-FINANCIAL RECORD REVIEW
Area of violation: Generators - General
Date achieved compliance: 11/04/1991
Evaluation lead agency: State

Evaluation date: 06/04/1991
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - Manifest
Date achieved compliance: 11/04/1991
Evaluation lead agency: State

Evaluation date: 06/04/1991
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 11/04/1991
Evaluation lead agency: State

FINDS:

Registry ID: 110000870460

Environmental Interest/Information System

The NEI (National Emissions Inventory) database contains information on stationary and mobile sources that emit criteria air pollutants and their precursors, as well as hazardous air pollutants (HAPs).

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

TRANSCONTINENTAL GAS PIPE LINE CORP (Continued) **1000319910**

PCS (Permit Compliance System) is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

NJ MANIFEST:

Manifest Code:	004025377JJK
EPA ID:	NJD069290260
Date Shipped:	10/22/2008
TSDF EPA ID:	PAD067098822
Transporter EPA ID:	PAD014146179
Transporter 2 EPA ID:	Not reported
Transporter 3 EPA ID:	Not reported
Transporter 4 EPA ID:	Not reported
Transporter 5 EPA ID:	Not reported
Transporter 6 EPA ID:	Not reported
Transporter 7 EPA ID:	Not reported
Transporter 8 EPA ID:	Not reported
Transporter 10 EPA ID:	Not reported
Date Trans1 Transported Waste:	10/22/2008
Date Trans2 Transported Waste:	Not reported
Date Trans3 Transported Waste:	Not reported
Date Trans4 Transported Waste:	Not reported
Date Trans5 Transported Waste:	Not reported
Date Trans6 Transported Waste:	Not reported
Date Trans7 Transported Waste:	Not reported
Date Trans8 Transported Waste:	Not reported
Date Trans9 Transported Waste:	Not reported
Date Trans10 Transported Waste:	Not reported
Date TSDF Received Waste:	10/27/2008
Tranporter 1 Decal:	Not reported
Tranporter 2 Decal:	Not reported
Data Entry Number:	Not reported
Reference Manifest Number:	Not reported
Was Load Rejected (Y/N):	No
Reason Load Was Rejected:	Not reported
Waste Code:	F003
Manifest Year:	2008 New Jersey Manifest Data
Quantity:	250
Unit:	P
Hand Code:	H141
Waste Code:	D008
Manifest Year:	2008 New Jersey Manifest Data
Quantity:	25
Unit:	P
Hand Code:	H141

Manifest Code:	PAH0194374
EPA ID:	NJD069290260
Date Shipped:	20050811
TSDF EPA ID:	PAD067098822
Transporter EPA ID:	PAD014146179
Transporter 2 EPA ID:	Not reported

TRANSCONTINENTAL GAS PIPE LINE CORP (Continued) **1000319910**

Transporter 3 EPA ID:	Not reported
Transporter 4 EPA ID:	Not reported
Transporter 5 EPA ID:	Not reported
Transporter 6 EPA ID:	Not reported
Transporter 7 EPA ID:	Not reported
Transporter 8 EPA ID:	Not reported
Transporter 10 EPA ID:	Not reported
Date Trans1 Transported Waste:	050811
Date Trans2 Transported Waste:	000000
Date Trans3 Transported Waste:	Not reported
Date Trans4 Transported Waste:	Not reported
Date Trans5 Transported Waste:	Not reported
Date Trans6 Transported Waste:	Not reported
Date Trans7 Transported Waste:	Not reported
Date Trans8 Transported Waste:	Not reported
Date Trans9 Transported Waste:	Not reported
Date Trans10 Transported Waste:	Not reported
Date TSDF Received Waste:	050819
Tranporter 1 Decal:	Not reported
Tranporter 2 Decal:	Not reported
Data Entry Number:	10180521
Reference Manifest Number:	Not reported
Was Load Rejected (Y/N):	No
Reason Load Was Rejected:	Not reported
Waste Code:	Not reported
Manifest Year:	Not reported
Quantity:	Not reported
Unit:	Not reported
Hand Code:	Not reported

Manifest Code:	PAH0194363
EPA ID:	NJD069290260
Date Shipped:	20050720
TSDF EPA ID:	PAD067098822
Transporter EPA ID:	PAD014146179
Transporter 2 EPA ID:	Not reported
Transporter 3 EPA ID:	Not reported
Transporter 4 EPA ID:	Not reported
Transporter 5 EPA ID:	Not reported
Transporter 6 EPA ID:	Not reported
Transporter 7 EPA ID:	Not reported
Transporter 8 EPA ID:	Not reported
Transporter 10 EPA ID:	Not reported
Date Trans1 Transported Waste:	050720
Date Trans2 Transported Waste:	000000
Date Trans3 Transported Waste:	Not reported
Date Trans4 Transported Waste:	Not reported
Date Trans5 Transported Waste:	Not reported
Date Trans6 Transported Waste:	Not reported
Date Trans7 Transported Waste:	Not reported
Date Trans8 Transported Waste:	Not reported
Date Trans9 Transported Waste:	Not reported
Date Trans10 Transported Waste:	Not reported
Date TSDF Received Waste:	050722
Tranporter 1 Decal:	Not reported

TRANSCONTINENTAL GAS PIPE LINE CORP (Continued) **1000319910**

Tranporter 2 Decal: Not reported
Data Entry Number: 08310522
Reference Manifest Number: Not reported
Was Load Rejected (Y/N): No
Reason Load Was Rejected: Not reported
Waste Code: Not reported
Manifest Year: Not reported
Quantity: Not reported
Unit: Not reported
Hand Code: Not reported

Manifest Code: PAH0194237
EPA ID: NJD069290260
Date Shipped: 20050315
TSDF EPA ID: PAD067098822
Transporter EPA ID: PAD014146179
Transporter 2 EPA ID: Not reported
Transporter 3 EPA ID: Not reported
Transporter 4 EPA ID: Not reported
Transporter 5 EPA ID: Not reported
Transporter 6 EPA ID: Not reported
Transporter 7 EPA ID: Not reported
Transporter 8 EPA ID: Not reported
Transporter 10 EPA ID: Not reported
Date Trans1 Transported Waste: 050315
Date Trans2 Transported Waste: 000000
Date Trans3 Transported Waste: Not reported
Date Trans4 Transported Waste: Not reported
Date Trans5 Transported Waste: Not reported
Date Trans6 Transported Waste: Not reported
Date Trans7 Transported Waste: Not reported
Date Trans8 Transported Waste: Not reported
Date Trans9 Transported Waste: Not reported
Date Trans10 Transported Waste: Not reported
Date TSDF Received Waste: 050318
Tranporter 1 Decal: Not reported
Tranporter 2 Decal: Not reported
Data Entry Number: 05100522
Reference Manifest Number: Not reported
Was Load Rejected (Y/N): No
Reason Load Was Rejected: Not reported
Waste Code: Not reported
Manifest Year: Not reported
Quantity: Not reported
Unit: Not reported
Hand Code: Not reported

Manifest Code: PAH0194481
EPA ID: NJD069290260
Date Shipped: 20051213
TSDF EPA ID: PAD067098822
Transporter EPA ID: PAD014146179
Transporter 2 EPA ID: Not reported

TRANSCONTINENTAL GAS PIPE LINE CORP (Continued) **1000319910**

Transporter 3 EPA ID:	Not reported
Transporter 4 EPA ID:	Not reported
Transporter 5 EPA ID:	Not reported
Transporter 6 EPA ID:	Not reported
Transporter 7 EPA ID:	Not reported
Transporter 8 EPA ID:	Not reported
Transporter 10 EPA ID:	Not reported
Date Trans1 Transported Waste:	051213
Date Trans2 Transported Waste:	000000
Date Trans3 Transported Waste:	Not reported
Date Trans4 Transported Waste:	Not reported
Date Trans5 Transported Waste:	Not reported
Date Trans6 Transported Waste:	Not reported
Date Trans7 Transported Waste:	Not reported
Date Trans8 Transported Waste:	Not reported
Date Trans9 Transported Waste:	Not reported
Date Trans10 Transported Waste:	Not reported
Date TSDF Received Waste:	051215
Tranporter 1 Decal:	Not reported
Tranporter 2 Decal:	Not reported
Data Entry Number:	03090635
Reference Manifest Number:	Not reported
Was Load Rejected (Y/N):	No
Reason Load Was Rejected:	Not reported
Waste Code:	Not reported
Manifest Year:	Not reported
Quantity:	Not reported
Unit:	Not reported
Hand Code:	Not reported

Manifest Code:	000348525JJK
EPA ID:	NJD069290260
Date Shipped:	1/30/200
TSDF EPA ID:	NJD980536593
Transporter EPA ID:	PAD014146179
Transporter 2 EPA ID:	NJD080631369
Transporter 3 EPA ID:	Not reported
Transporter 4 EPA ID:	Not reported
Transporter 5 EPA ID:	Not reported
Transporter 6 EPA ID:	Not reported
Transporter 7 EPA ID:	Not reported
Transporter 8 EPA ID:	Not reported
Transporter 10 EPA ID:	Not reported
Date Trans1 Transported Waste:	1/30/2
Date Trans2 Transported Waste:	2/14/2
Date Trans3 Transported Waste:	Not reported
Date Trans4 Transported Waste:	Not reported
Date Trans5 Transported Waste:	Not reported
Date Trans6 Transported Waste:	Not reported
Date Trans7 Transported Waste:	Not reported
Date Trans8 Transported Waste:	Not reported
Date Trans9 Transported Waste:	Not reported
Date Trans10 Transported Waste:	Not reported
Date TSDF Received Waste:	2/14/2
Tranporter 1 Decal:	Not reported

TRANSCONTINENTAL GAS PIPE LINE CORP (Continued) **1000319910**

Tranporter 2 Decal: Not reported
Data Entry Number: Not reported
Reference Manifest Number: Not reported
Was Load Rejected (Y/N): No
Reason Load Was Rejected: Not reported
Waste Code: F003
Manifest Year: 2007 New Jersey Manifest Data
Quantity: 150
Unit: P
Hand Code: H14

Manifest Code: NJA5118685
EPA ID: NJD069290260
Date Shipped: 20040714
TSDF EPA ID: OHD093945293
Transporter EPA ID: PAD014146179
Transporter 2 EPA ID: OHD009865825
Transporter 3 EPA ID: Not reported
Transporter 4 EPA ID: Not reported
Transporter 5 EPA ID: Not reported
Transporter 6 EPA ID: Not reported
Transporter 7 EPA ID: Not reported
Transporter 8 EPA ID: Not reported
Transporter 10 EPA ID: Not reported
Date Trans1 Transported Waste: 040714
Date Trans2 Transported Waste: 040726
Date Trans3 Transported Waste: Not reported
Date Trans4 Transported Waste: Not reported
Date Trans5 Transported Waste: Not reported
Date Trans6 Transported Waste: Not reported
Date Trans7 Transported Waste: Not reported
Date Trans8 Transported Waste: Not reported
Date Trans9 Transported Waste: Not reported
Date Trans10 Transported Waste: Not reported
Date TSDF Received Waste: 040727
Tranporter 1 Decal: Not reported
Tranporter 2 Decal: Not reported
Data Entry Number: 08300421
Reference Manifest Number: Not reported
Was Load Rejected (Y/N): No
Reason Load Was Rejected: Not reported
Waste Code: Not reported
Manifest Year: Not reported
Quantity: Not reported
Unit: Not reported
Hand Code: Not reported

Manifest Code: 004025985JJK
EPA ID: NJD069290260
Date Shipped: 6/12/2008
TSDF EPA ID: PAD067098822
Transporter EPA ID: PAD014146179
Transporter 2 EPA ID: Not reported

TRANSCONTINENTAL GAS PIPE LINE CORP (Continued) **1000319910**

Transporter 3 EPA ID:	Not reported
Transporter 4 EPA ID:	Not reported
Transporter 5 EPA ID:	Not reported
Transporter 6 EPA ID:	Not reported
Transporter 7 EPA ID:	Not reported
Transporter 8 EPA ID:	Not reported
Transporter 10 EPA ID:	Not reported
Date Trans1 Transported Waste:	6/12/2008
Date Trans2 Transported Waste:	Not reported
Date Trans3 Transported Waste:	Not reported
Date Trans4 Transported Waste:	Not reported
Date Trans5 Transported Waste:	Not reported
Date Trans6 Transported Waste:	Not reported
Date Trans7 Transported Waste:	Not reported
Date Trans8 Transported Waste:	Not reported
Date Trans9 Transported Waste:	Not reported
Date Trans10 Transported Waste:	Not reported
Date TSDF Received Waste:	6/18/2008
Tranporter 1 Decal:	Not reported
Tranporter 2 Decal:	Not reported
Data Entry Number:	Not reported
Reference Manifest Number:	Not reported
Was Load Rejected (Y/N):	No
Reason Load Was Rejected:	Not reported
Waste Code:	D001
Manifest Year:	2008 New Jersey Manifest Data
Quantity:	750
Unit:	P
Hand Code:	H141

NY MANIFEST:

EPA ID:	NJD069290260
Country:	USA
Mailing Name:	TRANSCONTINENTAL GAS PIPELINE
Mailing Contact:	JAY B IRWIN
Mailing Address:	718 PATTERSON PLANK ROAD
Mailing Address 2:	Not reported
Mailing City:	CARLSTADT
Mailing State:	NJ
Mailing Zip:	07072
Mailing Zip4:	Not reported
Mailing Country:	USA
Mailing Phone:	908-369-4329

Document ID:	NYB6960096
Manifest Status:	Completed copy
Trans1 State ID:	TY30468PA
Trans2 State ID:	Not reported
Generator Ship Date:	960408
Trans1 Recv Date:	960408
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	960409
Part A Recv Date:	Not reported
Part B Recv Date:	960418

TRANSCONTINENTAL GAS PIPE LINE CORP (Continued) **1000319910**

Generator EPA ID: NJD069290260
Trans1 EPA ID: PAD146714878
Trans2 EPA ID: Not reported
TSDF ID: NYD049836679
Waste Code: B007 - OTHER MISCELLANEOUS PCB WASTES
Quantity: 20965
Units: K - Kilograms (2.2 pounds)
Number of Containers: 001
Container Type: DT - Dump trucks
Handling Method: L Landfill.
Specific Gravity: 100
Year: 96

Document ID: NYB6960087
Manifest Status: Completed copy
Trans1 State ID: PATY40941
Trans2 State ID: Not reported
Generator Ship Date: 960408
Trans1 Recv Date: 960408
Trans2 Recv Date: Not reported
TSD Site Recv Date: 960409
Part A Recv Date: Not reported
Part B Recv Date: 960417
Generator EPA ID: NJD069290260
Trans1 EPA ID: PAD146714878
Trans2 EPA ID: Not reported
TSDF ID: NYD049836679
Waste Code: B007 - OTHER MISCELLANEOUS PCB WASTES
Quantity: 22752
Units: K - Kilograms (2.2 pounds)
Number of Containers: 001
Container Type: DT - Dump trucks
Handling Method: L Landfill.
Specific Gravity: 100
Year: 96

Document ID: NYB6960069
Manifest Status: Completed copy
Trans1 State ID: PAVC58810
Trans2 State ID: Not reported
Generator Ship Date: 960408
Trans1 Recv Date: 960408
Trans2 Recv Date: Not reported
TSD Site Recv Date: 960409
Part A Recv Date: Not reported
Part B Recv Date: 960417
Generator EPA ID: NJD069290260
Trans1 EPA ID: PAD146714878
Trans2 EPA ID: Not reported
TSDF ID: NYD049836679
Waste Code: B007 - OTHER MISCELLANEOUS PCB WASTES
Quantity: 12048
Units: K - Kilograms (2.2 pounds)
Number of Containers: 001
Container Type: DT - Dump trucks

TRANSCONTINENTAL GAS PIPE LINE CORP (Continued) **1000319910**

Handling Method: L Landfill.
Specific Gravity: 100
Year: 96

Document ID: NYB5552019
Manifest Status: Completed copy
Trans1 State ID: TZ47345PA
Trans2 State ID: Not reported
Generator Ship Date: 961210
Trans1 Recv Date: 961210
Trans2 Recv Date: Not reported
TSD Site Recv Date: 961211
Part A Recv Date: 961231
Part B Recv Date: 961231
Generator EPA ID: NJD069290260
Trans1 EPA ID: PAD146714878
Trans2 EPA ID: Not reported
TSDF ID: NYD049836679
Waste Code: B007 - OTHER MISCELLANEOUS PCB WASTES
Quantity: 21609
Units: K - Kilograms (2.2 pounds)
Number of Containers: 001
Container Type: DT - Dump trucks
Handling Method: L Landfill.
Specific Gravity: 100
Year: 96

Document ID: NYB9576972
Manifest Status: Not reported
Trans1 State ID: NJD054126164
Trans2 State ID: Not reported
Generator Ship Date: 07/17/2006
Trans1 Recv Date: 07/17/2006
Trans2 Recv Date: Not reported
TSD Site Recv Date: 07/21/2006
Part A Recv Date: Not reported
Part B Recv Date: Not reported
Generator EPA ID: NJD069290260
Trans1 EPA ID: AE383NNJ
Trans2 EPA ID: Not reported
TSDF ID: NYD049836679
Waste Code: B007 - OTHER MISCELLANEOUS PCB WASTES
Quantity: 19078
Units: K - Kilograms (2.2 pounds)
Number of Containers: 001
Container Type: CM - Metal boxes, cases, roll-offs
Handling Method: L Landfill.
Specific Gravity: 01.00
Year: 06

Document ID: NYB9576999
Manifest Status: Not reported
Trans1 State ID: NJD054126164
Trans2 State ID: Not reported

TRANSCONTINENTAL GAS PIPE LINE CORP (Continued) **1000319910**

Generator Ship Date: 07/14/2006
Trans1 Recv Date: 07/14/2006
Trans2 Recv Date: Not reported
TSD Site Recv Date: 07/19/2006
Part A Recv Date: Not reported
Part B Recv Date: Not reported
Generator EPA ID: NJD069290260
Trans1 EPA ID: PA392ENJ
Trans2 EPA ID: Not reported
TSDF ID: NYD049836679
Waste Code: B007 - OTHER MISCELLANEOUS PCB WASTES
Quantity: 19586
Units: K - Kilograms (2.2 pounds)
Number of Containers: 001
Container Type: CM - Metal boxes, cases, roll-offs
Handling Method: L Landfill.
Specific Gravity: 01.00
Year: 06

Document ID: NYB9577008
Manifest Status: Not reported
Trans1 State ID: NJD054126164
Trans2 State ID: Not reported
Generator Ship Date: 07/13/2006
Trans1 Recv Date: 07/13/2006
Trans2 Recv Date: Not reported
TSD Site Recv Date: 07/20/2006
Part A Recv Date: Not reported
Part B Recv Date: Not reported
Generator EPA ID: NJD069290260
Trans1 EPA ID: AD134RNJ
Trans2 EPA ID: Not reported
TSDF ID: NYD049836679
Waste Code: B007 - OTHER MISCELLANEOUS PCB WASTES
Quantity: 19006
Units: K - Kilograms (2.2 pounds)
Number of Containers: 001
Container Type: CM - Metal boxes, cases, roll-offs
Handling Method: L Landfill.
Specific Gravity: 01.00
Year: 06

Document ID: NYG0673101
Manifest Status: Not reported
Trans1 State ID: PAD014146179
Trans2 State ID: Not reported
Generator Ship Date: 03/27/2001
Trans1 Recv Date: 03/27/2001
Trans2 Recv Date: Not reported
TSD Site Recv Date: 03/28/2001
Part A Recv Date: Not reported
Part B Recv Date: Not reported
Generator EPA ID: NJD069290260
Trans1 EPA ID: NYD049836679
Trans2 EPA ID: Not reported

TRANSCONTINENTAL GAS PIPE LINE CORP (Continued) **1000319910**

TSDF ID: 06815
Waste Code: B007 - OTHER MISCELLANEOUS PCB WASTES
Quantity: 01343
Units: K - Kilograms (2.2 pounds)
Number of Containers: 001
Container Type: CM - Metal boxes, cases, roll-offs
Handling Method: L Landfill.
Specific Gravity: 01.00
Year: 01

Document ID: NYG0673236
Manifest Status: Not reported
Trans1 State ID: PAD014146179
Trans2 State ID: Not reported
Generator Ship Date: 10/11/2001
Trans1 Recv Date: 10/11/2001
Trans2 Recv Date: Not reported
TSD Site Recv Date: 10/12/2001
Part A Recv Date: Not reported
Part B Recv Date: Not reported
Generator EPA ID: NJD069290260
Trans1 EPA ID: NYD049836679
Trans2 EPA ID: Not reported
TSDF ID: AE47773PA
Waste Code: B007 - OTHER MISCELLANEOUS PCB WASTES
Quantity: 04808
Units: K - Kilograms (2.2 pounds)
Number of Containers: 001
Container Type: CM - Metal boxes, cases, roll-offs
Handling Method: L Landfill.
Specific Gravity: 01.00
Year: 01

Document ID: NYG0893601
Manifest Status: Not reported
Trans1 State ID: PAD014146179
Trans2 State ID: Not reported
Generator Ship Date: 10/25/2001
Trans1 Recv Date: 10/25/2001
Trans2 Recv Date: Not reported
TSD Site Recv Date: 10/26/2001
Part A Recv Date: Not reported
Part B Recv Date: Not reported
Generator EPA ID: NJD069290260
Trans1 EPA ID: NYD049836679
Trans2 EPA ID: Not reported
TSDF ID: AE47773PA
Waste Code: B007 - OTHER MISCELLANEOUS PCB WASTES
Quantity: 08455
Units: K - Kilograms (2.2 pounds)
Number of Containers: 001
Container Type: CM - Metal boxes, cases, roll-offs
Handling Method: L Landfill.
Specific Gravity: 01.00
Year: 01

TRANSCONTINENTAL GAS PIPE LINE CORP (Continued) **1000319910**

Document ID:	NYB9577044
Manifest Status:	Not reported
Trans1 State ID:	NJD054126164
Trans2 State ID:	Not reported
Generator Ship Date:	08/30/2002
Trans1 Recv Date:	08/30/2002
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	09/04/2002
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NJD069290260
Trans1 EPA ID:	NYD049836679
Trans2 EPA ID:	Not reported
TSDF ID:	0440419ME
Waste Code:	B007 - OTHER MISCELLANEOUS PCB WASTES
Quantity:	16838
Units:	K - Kilograms (2.2 pounds)
Number of Containers:	001
Container Type:	CM - Metal boxes, cases, roll-offs
Handling Method:	L Landfill.
Specific Gravity:	01.00
Year:	02

NJ Release:

Facility ID:	6781	Case Number:	89-06-23-1109
Date Received:	6/23/1989	Nature of Incident:	Facility
Operator:	JOEG		
Incident Type:	Not reported	Incident Location:	Not reported
Location:	Facility		
Other Location:	Not reported		
Contact Name:	Not reported		
Caller Name:	REDACTED		
Caller Title:	Not reported		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Type:	Municipal		
Facility Phone:	Not reported		
Incident Date:	6/26/1989	Incident Time:	1000
Substance(s):	NATURAL GAS		
Substance Type:	Gas	Substance Identity:	Known
CAS Number:	Not reported	A310 Letter:	Yes
TCPA Chemical:	No	Hazrds Material:	Yes
COMU:	0205	Ref. Code:	03
Amnt Released:	UNK	Contained:	No
Release Type:	Continuous	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Not reported	Receiving Water:	Not reported
Status at Spill:	Not reported		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	OEM
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported
Other Telephone:	Not reported		

TRANSCONTINENTAL GAS PIPE LINE CORP (Continued) **1000319910**

Public Evacuation:	No
Assistance Requested:	No
Wind Direction/Speed:	0
Local Municipality Notified:	Not reported
Local Municipality Name:	DISP 19
Local Municipality Title:	CARLSTADT PD
Local Municipality Telephone:	201-438-4300
Local Municipality Date:	6/23/1900
Local Municipality Time:	1326
Incident Description:	Air Release
Incident Name:	A RUSSO
Incident Referred To:	DEQ
Incident Region:	Metro
Incident Telephone:	OFFICE
Incident Date:	6/23/1989
Incident time:	1113
Incident ITM:	Y
Comments: Not reported	
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	Not reported
Reporter Type:	Not reported
Reporter Name:	Not reported
Reporter Title:	Not reported
Reporter Org:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Not reported
Incident Category:	Not reported
Incident Source:	Not reported
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	Not reported
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	Not reported
Direction:	Not reported
Responsible Party:	Known
Responsible Party Name:	TRANSCONTINENTAL GAS
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	718 PATERSON PLANK R
Responsible Party County:	BERGEN
Responsible Party City,St,Zip:	CARLSTADT, NJ
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

Facility ID: 7435
Date Received: 5/14/1996
Case Number: 96-5-14-0935-55
Nature of Incident: Facility

TRANSCONTINENTAL GAS PIPE LINE CORP (Continued) **1000319910**

Operator:	PAT		
Incident Type:	Not reported	Incident Location:	Not reported
Location:	Facility		
Other Location:	Not reported		
Contact Name:	Not reported		
Caller Name:	REDACTED		
Caller Title:	Not reported		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Type:	Industrial		
Facility Phone:	201-933-5490		
Incident Date:	5/14/1996	Incident Time:	1000
Substance(s):	NATURAL GAS		
Substance Type:	Gas	Substance Identity:	Known
CAS Number:	Not reported	A310 Letter:	Yes
TCPA Chemical:	No	Hazrds Material:	Yes
COMU:	0205	Ref. Code:	003
Amnt Released:	UNKNOWN	Contained:	No
Release Type:	Intermittent	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Air	Receiving Water:	Not reported
Status at Spill:	RELEASE MAY OCCUR DURING MAINTENANCE ON LINE.		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	No
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	CARLSTADT BORO
Local Municipality Title:	DISP MONICO
Local Municipality Telephone:	201-438-4300
Local Municipality Date:	5/14/1996
Local Municipality Time:	0942
Incident Description:	Air Release
Incident Name:	Not reported
Incident Referred To:	OEP-AIR
Incident Region:	Metro
Incident Telephone:	Faxed,Mailed
Incident Date:	5/14/1996
Incident time:	Not reported
Incident ITM:	B
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	Not reported
Reporter Type:	Not reported
Reporter Name:	Not reported

TRANSCONTINENTAL GAS PIPE LINE CORP (Continued) **1000319910**

Reporter Title:	Not reported
Reporter Org:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Not reported
Incident Category:	Not reported
Incident Source:	Not reported
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	Not reported
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	Not reported
Direction:	Not reported
Responsible Party:	Known
Responsible Party Name:	TRANSCONTINENTAL GAS
Responsible Party Contact:	PATRICK O'CONNOR
Responsible Party Title:	PIPELINER
Responsible Party Phone:	201-933-5490
Responsible Party Street:	718 PATERSON PLANK R
Responsible Party County:	BERGEN
Responsible Party City,St,Zip:	CARLSTADT, NJ
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

D12 **VALVE 200A120-PATERSON TAKEOFF (TRANSCO)** **NJ Release** **S101204220**
ENE **718 PATERSON PLANK RD** **SPILLS** **N/A**
1/4-1/2 **CARLSTADT, NJ 77151** **INST CONTROL**
0.424 mi. **VCP**
2239 ft. **Site 5 of 5 in cluster D**

Relative:
Lower

Actual:
2 ft.

NJ Release:

Facility ID:	364958	Case Number:	10-09-09-0346-11
Date Received:	9/9/2010	Nature of Incident:	Not reported
Operator:	Not reported		
Incident Type:	Equipment Maintenance	Incident Location:	TRANSCO COMPRESSOR STATION 240
Location:	Not reported		
Other Location:	Not reported		
Contact Name:	MARK BECCHIA		
Caller Name:	Not reported		
Caller Title:	Not reported		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Type:	Industrial		
Facility Phone:	Not reported		
Incident Date:	9/9/2010	Incident Time:	Not reported
Substance(s):	Not reported		
Substance Type:	Not reported	Substance Identity:	Not reported
CAS Number:	Not reported	A310 Letter:	Not reported
TCPA Chemical:	Not reported	Hazrds Material:	Not reported
COMU:	Not reported	Ref. Code:	Not reported
Amnt Released:	Not reported	Contained:	Not reported
Release Type:	Not reported	Release VE:	Not reported

VALVE 200A120-PATERSON TAKEOFF (TRANSCO) (Continued) **S101204220**

Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Not reported	Receiving Water:	Not reported
Status at Spill:	Not reported		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	Not reported
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Telephone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Description:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Telephone:	Not reported
Incident Date:	Not reported
Incident time:	Not reported
Incident ITM:	Not reported
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	9/9/2010
Reporter Type:	Other
Reporter Name:	REDACTED
Reporter Title:	REDACTED
Reporter Org:	REDATED
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Terminated
Incident Category:	Other
Incident Source:	TRANSCO
Incident Address:	99 FARBER RD
Incident Address 2:	Not reported
Incident City,St,Zip:	Princeton Twp, NJ 08540
Incident County:	Mercer
DEP Requested:	No
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	No
Direction:	Not reported
Responsible Party:	Not reported
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported

VALVE 200A120-PATERSON TAKEOFF (TRANSCO) (Continued) **S101204220**

Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	Not reported
Responsible Party County:	Not reported
Responsible Party City,St,Zip:	Not reported
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

Facility ID:	365079	Case Number:	10-09-09-1701-18
Date Received:	9/9/2010	Nature of Incident:	Not reported
Operator:	Not reported		
Incident Type:	Equipment Startup/Shutdown	Incident Location:	TRANSCO
Location:	Not reported		
Other Location:	Not reported		
Contact Name:	MARC BECCIA		
Caller Name:	Not reported		
Caller Title:	Not reported		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Type:	Commercial		
Facility Phone:	Not reported		
Incident Date:	9/9/2010	Incident Time:	Not reported
Substance(s):	Not reported		
Substance Type:	Not reported	Substance Identity:	Not reported
CAS Number:	Not reported	A310 Letter:	Not reported
TCPA Chemical:	Not reported	Hazrds Material:	Not reported
COMU:	Not reported	Ref. Code:	Not reported
Amnt Released:	Not reported	Contained:	Not reported
Release Type:	Not reported	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Not reported	Receiving Water:	Not reported
Status at Spill:	Not reported		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	Not reported
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Telephone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Description:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Telephone:	Not reported
Incident Date:	Not reported

VALVE 200A120-PATERSON TAKEOFF (TRANSCO) (Continued) **S101204220**

Incident time:	Not reported
Incident ITM:	Not reported
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	9/9/2010
Reporter Type:	Facility Rep.
Reporter Name:	REDACTED
Reporter Title:	REDACTED
Reporter Org:	REDATED
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Terminated
Incident Category:	Other
Incident Source:	TRANSCO
Incident Address:	99 FARBER RD
Incident Address 2:	Not reported
Incident City,St,Zip:	Princeton Twp, NJ
Incident County:	Mercer
DEP Requested:	No
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	No
Direction:	Not reported
Responsible Party:	Not reported
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	Not reported
Responsible Party County:	Not reported
Responsible Party City,St,Zip:	Not reported
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

Facility ID:	49467	Case Number:	99-09-09-1036-11
Date Received:	9/9/1999	Nature of Incident:	Not reported
Operator:	JOYCE		
Incident Type:	Not reported	Incident Location:	Not reported
Location:	Other		
Other Location:	Not reported		
Contact Name:	Not reported		
Caller Name:	REDACTED		
Caller Title:	Not reported		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Type:	Commercial		
Facility Phone:	Not reported		
Incident Date:	8/26/1999	Incident Time:	Not reported
Substance(s):	Not reported		
Substance Type:	Not reported	Substance Identity:	Not reported

VALVE 200A120-PATERSON TAKEOFF (TRANSCO) (Continued) **S101204220**

CAS Number:	Not reported	A310 Letter:	False
TCPA Chemical:	Not reported	Hazrds Material:	Not reported
COMU:	0205	Ref. Code:	010
Amnt Released:	Not reported	Contained:	Not reported
Release Type:	Not reported	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Water	Receiving Water:	HACKENSACK VIA CANAL
Status at Spill:	VIOLATION FROM OUTFALL #0058. PERMIT LIMIT IS 25 MG/L. NJ#0002101.		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	No
Wind Direction/Speed:	0
Local Municipality Notified:	No
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Telephone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Description:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Telephone:	Not reported
Incident Date:	Not reported
Incident time:	Not reported
Incident ITM:	Not reported
Comments: Not reported	
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	Not reported
Reporter Type:	Not reported
Reporter Name:	Not reported
Reporter Title:	Not reported
Reporter Org:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Not reported
Incident Category:	Not reported
Incident Source:	Not reported
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	Not reported
Confidential:	Not reported
Notify Type:	Other

VALVE 200A120-PATERSON TAKEOFF (TRANSCO) (Continued) **S101204220**

Road Closed:	No
Direction:	Not reported
Responsible Party:	Known
Responsible Party Name:	TRANSCONTINENTAL GAS
Responsible Party Contact:	RICHARD HOLLMANN
Responsible Party Title:	P.E.
Responsible Party Phone:	201-933-5490
Responsible Party Street:	718 PATERSON PLANK RD
Responsible Party County:	BERGEN
Responsible Party City,St,Zip:	CARLSTADT, NJ
Memo. Of Understanding:	No
Drill/trng Exercise:	No
Hazardous:	No

Facility ID:	366159	Case Number:	10-09-21-0903-52
Date Received:	9/21/2010	Nature of Incident:	Not reported
Operator:	Not reported		
Incident Type:	Equipment Maintenance	Incident Location:	COMPRESSOR STATION 240
Location:	Not reported		
Other Location:	Not reported		
Contact Name:	MARK BECCIA		
Caller Name:	Not reported		
Caller Title:	Not reported		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Type:	Other		
Facility Phone:	Not reported		
Incident Date:	9/21/2010	Incident Time:	Not reported
Substance(s):	Not reported		
Substance Type:	Not reported	Substance Identity:	Not reported
CAS Number:	Not reported	A310 Letter:	Not reported
TCPA Chemical:	Not reported	Hazrds Material:	Not reported
COMU:	Not reported	Ref. Code:	Not reported
Amnt Released:	Not reported	Contained:	Not reported
Release Type:	Not reported	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Not reported	Receiving Water:	Not reported
Status at Spill:	Not reported		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	Not reported
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Telephone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Description:	Not reported

VALVE 200A120-PATERSON TAKEOFF (TRANSCO) (Continued) **S101204220**

Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Telephone:	Not reported
Incident Date:	Not reported
Incident time:	Not reported
Incident ITM:	Not reported
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	9/21/2010
Reporter Type:	Other
Reporter Name:	REDACTED
Reporter Title:	REDACTED
Reporter Org:	REDATED
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Intermittent
Incident Category:	Other
Incident Source:	TRANCO
Incident Address:	99 FARBER RD
Incident Address 2:	Not reported
Incident City,St,Zip:	Princeton Twp, NJ 08540
Incident County:	Mercer
DEP Requested:	No
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	No
Direction:	Not reported
Responsible Party:	Not reported
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	Not reported
Responsible Party County:	Not reported
Responsible Party City,St,Zip:	Not reported
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

Facility ID:	366267	Case Number:	10-09-21-1501-14
Date Received:	9/21/2010	Nature of Incident:	Not reported
Operator:	Not reported		
Incident Type:	Equipment Maintenance	Incident Location:	COMPRESSOR STATION #240
Location:	Not reported		
Other Location:	Not reported		
Contact Name:	MARK BECCHIA		
Caller Name:	Not reported		
Caller Title:	Not reported		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		

VALVE 200A120-PATERSON TAKEOFF (TRANSCO) (Continued) **S101204220**

Facility Type:	Commercial		
Facility Phone:	Not reported		
Incident Date:	9/21/2010	Incident Time:	Not reported
Substance(s):	Not reported		
Substance Type:	Not reported	Substance Identity:	Not reported
CAS Number:	Not reported	A310 Letter:	Not reported
TCPA Chemical:	Not reported	Hazrds Material:	Not reported
COMU:	Not reported	Ref. Code:	Not reported
Amnt Released:	Not reported	Contained:	Not reported
Release Type:	Not reported	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Not reported	Receiving Water:	Not reported
Status at Spill:	Not reported		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	Not reported
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Telephone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Description:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Telephone:	Not reported
Incident Date:	Not reported
Incident time:	Not reported
Incident ITM:	Not reported
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	9/21/2010
Reporter Type:	Other
Reporter Name:	REDACTED
Reporter Title:	REDACTED
Reporter Org:	REDATED
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Terminated
Incident Category:	Other
Incident Source:	TRANSCO
Incident Address:	99 FARBER RD
Incident Address 2:	Not reported

VALVE 200A120-PATERSON TAKEOFF (TRANSCO) (Continued) **S101204220**

Incident City,St,Zip:	Princeton Boro, NJ 08540
Incident County:	Mercer
DEP Requested:	No
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	No
Direction:	Not reported
Responsible Party:	Not reported
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	Not reported
Responsible Party County:	Not reported
Responsible Party City,St,Zip:	Not reported
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

Facility ID:	158935	Case Number:	05-09-19-0734-55
Date Received:	9/19/2005	Nature of Incident:	Not reported
Operator:	Not reported		
Incident Type:	Equipment Maintenance	Incident Location:	TRANSCO
Location:	Not reported		
Other Location:	Not reported		
Contact Name:	JOE BIAMONTI		
Caller Name:	Not reported		
Caller Title:	Not reported		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Type:	Industrial		
Facility Phone:	Not reported		
Incident Date:	9/19/2005	Incident Time:	Not reported
Substance(s):	Not reported		
Substance Type:	Not reported	Substance Identity:	Not reported
CAS Number:	Not reported	A310 Letter:	Not reported
TCPA Chemical:	Not reported	Hazrds Material:	Not reported
COMU:	Not reported	Ref. Code:	Not reported
Amnt Released:	Not reported	Contained:	Not reported
Release Type:	Not reported	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Not reported	Receiving Water:	Not reported
Status at Spill:	Not reported		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	Not reported
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	Not reported

VALVE 200A120-PATERSON TAKEOFF (TRANSCO) (Continued) **S101204220**

Local Municipality Title:	Not reported
Local Municipality Telephone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Description:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Telephone:	Not reported
Incident Date:	Not reported
Incident time:	Not reported
Incident ITM:	Not reported
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	9/19/2005
Reporter Type:	Facility Rep.
Reporter Name:	REDACTED
Reporter Title:	REDACTED
Reporter Org:	REDATED
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Continuous
Incident Category:	Other
Incident Source:	TRANSCO
Incident Address:	718 PATERSON PLANK RD
Incident Address 2:	Not reported
Incident City,St,Zip:	Carlstadt Boro, NJ
Incident County:	Bergen
DEP Requested:	No
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	No
Direction:	Not reported
Responsible Party:	Not reported
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	Not reported
Responsible Party County:	Not reported
Responsible Party City,St,Zip:	Not reported
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

Facility ID:	365266	Case Number:	10-09-13-0312-48
Date Received:	9/13/2010	Nature of Incident:	Not reported
Operator:	Not reported		
Incident Type:	Equipment Maintenance	Incident Location:	COMPRESSOR STATION 240
Location:	Not reported		
Other Location:	Not reported		
Contact Name:	MARK BECCHIA		

VALVE 200A120-PATERSON TAKEOFF (TRANSCO) (Continued) **S101204220**

Caller Name:	Not reported		
Caller Title:	Not reported		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Type:	Industrial		
Facility Phone:	Not reported		
Incident Date:	9/13/2010	Incident Time:	Not reported
Substance(s):	Not reported		
Substance Type:	Not reported	Substance Identity:	Not reported
CAS Number:	Not reported	A310 Letter:	Not reported
TCPA Chemical:	Not reported	Hazrds Material:	Not reported
COMU:	Not reported	Ref. Code:	Not reported
Amnt Released:	Not reported	Contained:	Not reported
Release Type:	Not reported	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Not reported	Receiving Water:	Not reported
Status at Spill:	Not reported		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	Not reported
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Telephone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Description:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Telephone:	Not reported
Incident Date:	Not reported
Incident time:	Not reported
Incident ITM:	Not reported
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	9/13/2010
Reporter Type:	Other
Reporter Name:	REDACTED
Reporter Title:	REDACTED
Reporter Org:	REDATED
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported

VALVE 200A120-PATERSON TAKEOFF (TRANSCO) (Continued) **S101204220**

Incident Status:	Terminated
Incident Category:	Other
Incident Source:	TRANSCO
Incident Address:	99 FARBER RD
Incident Address 2:	Not reported
Incident City,St,Zip:	Princeton Twp, NJ 08540
Incident County:	Mercer
DEP Requested:	No
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	No
Direction:	Not reported
Responsible Party:	Not reported
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	Not reported
Responsible Party County:	Not reported
Responsible Party City,St,Zip:	Not reported
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

Facility ID:	9510	Case Number:	89-08-18-1504
Date Received:	8/18/1989	Nature of Incident:	Facility
Operator:	JIMH		
Incident Type:	Not reported	Incident Location:	Not reported
Location:	Facility		
Other Location:	Not reported		
Contact Name:	Not reported		
Caller Name:	REDACTED		
Caller Title:	Not reported		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Type:	Municipal		
Facility Phone:	201-507-5065		
Incident Date:	8/19/1989	Incident Time:	0800
Substance(s):	NATURAL GAS		
Substance Type:	Gas	Substance Identity:	Known
CAS Number:	Not reported	A310 Letter:	Yes
TCPA Chemical:	No	Hazrds Material:	Yes
COMU:	0205	Ref. Code:	03
Amnt Released:	UNK	Contained:	No
Release Type:	Continuous	Release VE:	Not reported
Injuries:	No		
Public Exposure:	Yes	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Not reported	Receiving Water:	NONE
Status at Spill:	Not reported		
NJ Spill Date:	8/16/1989	NJ Spill Time:	1510
NJ Spill Name:	J GRONIKOW	NJ Spill Title:	OEM
NJ Spill Phone:	OFFICE		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported
Other Telephone:	Not reported		

VALVE 200A120-PATERSON TAKEOFF (TRANSCO) (Continued) **S101204220**

Public Evacuation:	No
Assistance Requested:	No
Wind Direction/Speed:	0
Local Municipality Notified:	Not reported
Local Municipality Name:	OPER 4
Local Municipality Title:	CARLSTADT
Local Municipality Telephone:	438-4300
Local Municipality Date:	8/18/1989
Local Municipality Time:	1511
Incident Description:	Air Release
Incident Name:	Not reported
Incident Referred To:	DEQ
Incident Region:	Metro
Incident Telephone:	Not reported
Incident Date:	8/18/1989
Incident time:	Not reported
Incident ITM:	Y
Comments: Not reported	
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	Not reported
Reporter Type:	Not reported
Reporter Name:	Not reported
Reporter Title:	Not reported
Reporter Org:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Not reported
Incident Category:	Not reported
Incident Source:	Not reported
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	Not reported
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	Not reported
Direction:	Not reported
Responsible Party:	Known
Responsible Party Name:	TRANSCO GAS CO
Responsible Party Contact:	MARCUS FORTENBERRY
Responsible Party Title:	Not reported
Responsible Party Phone:	201-507-5065
Responsible Party Street:	718 PATERSON PLANK R
Responsible Party County:	BERGEN
Responsible Party City,St,Zip:	CARLSTADT, NJ
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

Facility ID: 65465
Date Received: 8/1/2000
Case Number: 00-08-01-1550-20
Nature of Incident: Not reported

VALVE 200A120-PATERSON TAKEOFF (TRANSCO) (Continued) **S101204220**

Operator:	CHRIS		
Incident Type:	Not reported	Incident Location:	Not reported
Location:	Facility		
Other Location:	Not reported		
Contact Name:	Not reported		
Caller Name:	REDACTED		
Caller Title:	Not reported		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Type:	Industrial		
Facility Phone:	Not reported		
Incident Date:	8/1/2000	Incident Time:	1545
Substance(s):	Not reported		
Substance Type:	Not reported	Substance Identity:	Not reported
CAS Number:	Not reported	A310 Letter:	False
TCPA Chemical:	Not reported	Hazrds Material:	Not reported
COMU:	0205	Ref. Code:	010
Amnt Released:	Not reported	Contained:	Not reported
Release Type:	Not reported	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Water	Receiving Water:	HACKENSACK RIVER
Status at Spill:	Information REDACTED due to data corrutpion causing status reporting errors		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	No
Wind Direction/Speed:	0
Local Municipality Notified:	No
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Telephone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Description:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Telephone:	Not reported
Incident Date:	Not reported
Incident time:	Not reported
Incident ITM:	Not reported
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	Not reported
Reporter Type:	Not reported

VALVE 200A120-PATERSON TAKEOFF (TRANSCO) (Continued) **S101204220**

Reporter Name:	Not reported
Reporter Title:	Not reported
Reporter Org:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Not reported
Incident Category:	Not reported
Incident Source:	Not reported
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	Not reported
Confidential:	Not reported
Notify Type:	Other
Road Closed:	No
Direction:	Not reported
Responsible Party:	Known
Responsible Party Name:	TRANSCONTINENTAL GAS
Responsible Party Contact:	RICHARD HOLMAN
Responsible Party Title:	DISTRICT MGR
Responsible Party Phone:	201-933-5490
Responsible Party Street:	718 PATERSON PLANK RD
Responsible Party County:	BERGEN
Responsible Party City,St,Zip:	CARLSTADT, NJ
Memo. Of Understanding:	No
Drill/trng Exercise:	No
Hazardous:	No

Facility ID:	8336	Case Number:	89-07-25-1008
Date Received:	7/25/1989	Nature of Incident:	Facility
Operator:	JIMH		
Incident Type:	Not reported	Incident Location:	Not reported
Location:	Facility		
Other Location:	Not reported		
Contact Name:	Not reported		
Caller Name:	REDACTED		
Caller Title:	Not reported		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Type:	Municipal		
Facility Phone:	Not reported		
Incident Date:	7/25/1989	Incident Time:	1100
Substance(s):	NATURAL GAS		
Substance Type:	Gas	Substance Identity:	Known
CAS Number:	Not reported	A310 Letter:	Yes
TCPA Chemical:	No	Hazrds Material:	Yes
COMU:	0205	Ref. Code:	03
Amnt Released:	UNK	Contained:	No
Release Type:	Continuous	Release VE:	Not reported
Injuries:	No		
Public Exposure:	Yes	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Not reported	Receiving Water:	NONE
Status at Spill:	Not reported		

VALVE 200A120-PATERSON TAKEOFF (TRANSCO) (Continued) **S101204220**

NJ Spill Date:	7/25/1989	NJ Spill Time:	1020
NJ Spill Name:	B HANSEN	NJ Spill Title:	OEM
NJ Spill Phone:	OFFICE		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	No
Wind Direction/Speed:	0
Local Municipality Notified:	Not reported
Local Municipality Name:	DISP GILLIGAN
Local Municipality Title:	CARLSTADT
Local Municipality Telephone:	438-4300
Local Municipality Date:	7/25/1989
Local Municipality Time:	1022
Incident Description:	Air Release,Equip Upset
Incident Name:	Not reported
Incident Referred To:	DEQ
Incident Region:	Metro
Incident Telephone:	Not reported
Incident Date:	7/25/1989
Incident time:	Not reported
Incident ITM:	Y
Comments: Not reported	
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	Not reported
Reporter Type:	Not reported
Reporter Name:	Not reported
Reporter Title:	Not reported
Reporter Org:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Not reported
Incident Category:	Not reported
Incident Source:	Not reported
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	Not reported
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	Not reported
Direction:	Not reported
Responsible Party:	Known
Responsible Party Name:	TRANSCO GAS PIPELINE
Responsible Party Contact:	MARCUS FORTENBERRY
Responsible Party Title:	CONSTR PERSO
Responsible Party Phone:	201-507-5065
Responsible Party Street:	718 PATERSON PLANK R
Responsible Party County:	BERGEN
Responsible Party City,St,Zip:	CARLSTADT, NJ

VALVE 200A120-PATERSON TAKEOFF (TRANSCO) (Continued) **S101204220**

Memo. Of Understanding: Not reported
Drill/trng Exercise: Not reported
Hazardous: Not reported

Facility ID: 23464
Date Received: 6/7/2002
Operator: Not reported
Incident Type: Equipment Startup/Shutdown
Location: Not reported
Other Location: Not reported
Contact Name: JOSEPH BIAMONTE
Caller Name: Not reported
Caller Title: Not reported
Caller Address: Not reported
Caller City,St,Zip: Not reported
Caller Telephone: Not reported
Facility Type: Industrial
Facility Phone: Not reported
Incident Date: 6/7/2002
Substance(s): Not reported
Substance Type: Not reported
CAS Number: Not reported
TCPA Chemical: Not reported
COMU: Not reported
Amnt Released: Not reported
Release Type: Not reported
Injuries: No
Public Exposure: No
Police at Scene: No
Contamination of: Not reported
Status at Spill: Not reported
NJ Spill Date: Not reported
NJ Spill Name: Not reported
NJ Spill Phone: Not reported
Other Date: Not reported
Other Name: Not reported
Other Telephone: Not reported
Public Evacuation: No
Assistance Requested: Not reported
Wind Direction/Speed: Not reported
Local Municipality Notified: Not reported
Local Municipality Name: Not reported
Local Municipality Title: Not reported
Local Municipality Telephone: Not reported
Local Municipality Date: Not reported
Local Municipality Time: Not reported
Incident Description: Not reported
Incident Name: Not reported
Incident Referred To: Not reported
Incident Region: Not reported
Incident Telephone: Not reported
Incident Date: Not reported
Incident time: Not reported
Incident ITM: Not reported
Comments: Not reported
Date A310 Letter Printed: Not reported
Date Local Authority Was Notified: Not reported

Case Number: 02-06-07-1820-03
Nature of Incident: Not reported
Incident Location: TRANSCO PIPELINE
Incident Time: Not reported
Substance Identity: Not reported
A310 Letter: Not reported
Hazrds Material: Not reported
Ref. Code: Not reported
Contained: Not reported
Release VE: Not reported
Facility Evacuation: No
Firemen at Scene: No
Receiving Water: Not reported
NJ Spill Time: Not reported
NJ Spill Title: Not reported
Other Time: Not reported
Other Title: Not reported

VALVE 200A120-PATERSON TAKEOFF (TRANSCO) (Continued) **S101204220**

Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	6/7/2002
Reporter Type:	Other
Reporter Name:	REDACTED
Reporter Title:	REDACTED
Reporter Org:	REDATED
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Terminated
Incident Category:	Facility
Incident Source:	TRANSCO PIPELINE
Incident Address:	718 PATERSON PLANK RD
Incident Address 2:	Not reported
Incident City,St,Zip:	Carlstadt Boro, NJ 07072
Incident County:	Bergen
DEP Requested:	No
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	No
Direction:	Not reported
Responsible Party:	Not reported
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	Not reported
Responsible Party County:	Not reported
Responsible Party City,St,Zip:	Not reported
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

Facility ID:	23351	Case Number:	02-06-07-0545-47
Date Received:	6/7/2002	Nature of Incident:	Not reported
Operator:	Not reported		
Incident Type:	Equipment Maintenance	Incident Location:	TRANS-CO
Location:	Not reported		
Other Location:	Not reported		
Contact Name:	JOE BIAMONTE		
Caller Name:	Not reported		
Caller Title:	Not reported		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Type:	Commercial		
Facility Phone:	Not reported		
Incident Date:	6/7/2002	Incident Time:	Not reported
Substance(s):	Not reported		
Substance Type:	Not reported	Substance Identity:	Not reported
CAS Number:	Not reported	A310 Letter:	Not reported
TCPA Chemical:	Not reported	Hazrds Material:	Not reported
COMU:	Not reported	Ref. Code:	Not reported
Amnt Released:	Not reported	Contained:	Not reported
Release Type:	Not reported	Release VE:	Not reported

VALVE 200A120-PATERSON TAKEOFF (TRANSCO) (Continued) **S101204220**

Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Not reported	Receiving Water:	Not reported
Status at Spill:	Not reported		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	Not reported
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Telephone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Description:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Telephone:	Not reported
Incident Date:	Not reported
Incident time:	Not reported
Incident ITM:	Not reported
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	6/7/2002
Reporter Type:	Facility Rep.
Reporter Name:	REDACTED
Reporter Title:	REDACTED
Reporter Org:	REDATED
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Terminated
Incident Category:	Other
Incident Source:	TRANS-CO
Incident Address:	718 PATERSON PLANK RD
Incident Address 2:	Not reported
Incident City,St,Zip:	Carlstadt Boro, NJ
Incident County:	Bergen
DEP Requested:	No
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	No
Direction:	Not reported
Responsible Party:	Not reported
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported

VALVE 200A120-PATERSON TAKEOFF (TRANSCO) (Continued) **S101204220**

Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	Not reported
Responsible Party County:	Not reported
Responsible Party City,St,Zip:	Not reported
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

Facility ID:	92158	Case Number:	02-06-06-0551-56
Date Received:	6/6/2002	Nature of Incident:	Not reported
Operator:	PAT		
Incident Type:	Not reported	Incident Location:	Not reported
Location:	Facility		
Other Location:	Not reported		
Contact Name:	Not reported		
Caller Name:	REDACTED		
Caller Title:	Not reported		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Type:	Industrial		
Facility Phone:	201-933-5490		
Incident Date:	6/6/2002	Incident Time:	0600
Substance(s):	Not reported		
Substance Type:	Not reported	Substance Identity:	Not reported
CAS Number:	Not reported	A310 Letter:	True
TCPA Chemical:	Not reported	Hazrds Material:	Not reported
COMU:	0205	Ref. Code:	003
Amnt Released:	Not reported	Contained:	Not reported
Release Type:	Not reported	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Air	Receiving Water:	Not reported
Status at Spill:	JETTING LINE FOR MAINTENANCE.		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	No
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Telephone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Description:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Telephone:	Not reported
Incident Date:	Not reported

VALVE 200A120-PATERSON TAKEOFF (TRANSCO) (Continued) **S101204220**

Incident time: Not reported
Incident ITM: Not reported
Comments: Not reported
Date A310 Letter Printed: Not reported
Date Local Authority Was Notified: Not reported
Date Updated: Not reported
Date Report Faxed to Local Authority: Not reported
Local Authority Notification Date: Not reported
Rep Receive Date: Not reported
Reporter Type: Not reported
Reporter Name: Not reported
Reporter Title: Not reported
Reporter Org: Not reported
Reporter Address: Not reported
Reporter City,St,Zip: Not reported
Reporter County: Not reported
Incident Status: Not reported
Incident Category: Not reported
Incident Source: Not reported
Incident Address: Not reported
Incident Address 2: Not reported
Incident City,St,Zip: Not reported
Incident County: Not reported
DEP Requested: Not reported
Confidential: Not reported
Notify Type: Facility
Road Closed: No
Direction: Not reported
Responsible Party: Known
Responsible Party Name: TRANSCO PIPE
Responsible Party Contact: JOE BIAMONTE
Responsible Party Title: Not reported
Responsible Party Phone: 201-933-5490
Responsible Party Street: 718 PATERSON PLANK RD
Responsible Party County: BERGEN
Responsible Party City,St,Zip: CARLSTADT, NJ
Memo. Of Understanding: Not reported
Drill/trng Exercise: Not reported
Hazardous: Not reported

Facility ID: 23332
Date Received: 6/6/2002
Operator: Not reported
Incident Type: Equipment Maintenance
Location: Not reported
Other Location: Not reported
Contact Name: Not reported
Caller Name: Not reported
Caller Title: Not reported
Caller Address: Not reported
Caller City,St,Zip: Not reported
Caller Telephone: Not reported
Facility Type: Industrial
Facility Phone: Not reported
Incident Date: 6/6/2002
Substance(s): Not reported
Substance Type: Not reported

Case Number: 02-06-06-1613-40
Nature of Incident: Not reported
Incident Location: AREA OF
Incident Time: Not reported
Substance Identity: Not reported

VALVE 200A120-PATERSON TAKEOFF (TRANSCO) (Continued) **S101204220**

CAS Number:	Not reported	A310 Letter:	Not reported
TCPA Chemical:	Not reported	Hazrds Material:	Not reported
COMU:	Not reported	Ref. Code:	Not reported
Amnt Released:	Not reported	Contained:	Not reported
Release Type:	Not reported	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Not reported	Receiving Water:	Not reported
Status at Spill:	Not reported		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	Not reported
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Telephone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Description:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Telephone:	Not reported
Incident Date:	Not reported
Incident time:	Not reported
Incident ITM:	Not reported
Comments: Not reported	
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	6/6/2002
Reporter Type:	Facility Rep.
Reporter Name:	REDACTED
Reporter Title:	REDACTED
Reporter Org:	REDATED
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Terminated
Incident Category:	Other
Incident Source:	TRANSCO
Incident Address:	718 PATERSON PLANK RD
Incident Address 2:	Not reported
Incident City,St,Zip:	Carlstadt Boro, NJ 07072
Incident County:	Bergen
DEP Requested:	No
Confidential:	Not reported
Notify Type:	Not reported

VALVE 200A120-PATERSON TAKEOFF (TRANSCO) (Continued) **S101204220**

Road Closed:	No
Direction:	Not reported
Responsible Party:	Not reported
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	Not reported
Responsible Party County:	Not reported
Responsible Party City,St,Zip:	Not reported
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

Facility ID:	23181	Case Number:	02-06-06-0551-56
Date Received:	6/6/2002	Nature of Incident:	Not reported
Operator:	Not reported		
Incident Type:	Equipment Maintenance	Incident Location:	TRANSCO
Location:	Not reported		
Other Location:	Not reported		
Contact Name:	JOE BIAMONTE		
Caller Name:	Not reported		
Caller Title:	Not reported		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Type:	Industrial		
Facility Phone:	Not reported		
Incident Date:	6/6/2002	Incident Time:	Not reported
Substance(s):	Not reported		
Substance Type:	Not reported	Substance Identity:	Not reported
CAS Number:	Not reported	A310 Letter:	Not reported
TCPA Chemical:	Not reported	Hazrds Material:	Not reported
COMU:	Not reported	Ref. Code:	Not reported
Amnt Released:	Not reported	Contained:	Not reported
Release Type:	Not reported	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Not reported	Receiving Water:	Not reported
Status at Spill:	Not reported		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	Not reported
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Telephone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Description:	Not reported

VALVE 200A120-PATERSON TAKEOFF (TRANSCO) (Continued) **S101204220**

Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Telephone:	Not reported
Incident Date:	Not reported
Incident time:	Not reported
Incident ITM:	Not reported
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	6/6/2002
Reporter Type:	Facility Rep.
Reporter Name:	REDACTED
Reporter Title:	REDACTED
Reporter Org:	REDATED
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Intermittent
Incident Category:	Other
Incident Source:	TRANSCO
Incident Address:	718 PATERSON PLANK RD
Incident Address 2:	Not reported
Incident City,St,Zip:	Carlstadt Boro, NJ
Incident County:	Bergen
DEP Requested:	No
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	No
Direction:	Not reported
Responsible Party:	Not reported
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	Not reported
Responsible Party County:	Not reported
Responsible Party City,St,Zip:	Not reported
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

Facility ID:	23030	Case Number:	02-06-05-0543-23
Date Received:	6/5/2002	Nature of Incident:	Not reported
Operator:	Not reported		
Incident Type:	Equipment Maintenance	Incident Location:	TRANSCO PIPE
Location:	Not reported		
Other Location:	Not reported		
Contact Name:	JOE BIAMONTE		
Caller Name:	Not reported		
Caller Title:	Not reported		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		

VALVE 200A120-PATERSON TAKEOFF (TRANSCO) (Continued) **S101204220**

Facility Type:	Industrial		
Facility Phone:	Not reported		
Incident Date:	6/5/2002	Incident Time:	Not reported
Substance(s):	Not reported		
Substance Type:	Not reported	Substance Identity:	Not reported
CAS Number:	Not reported	A310 Letter:	Not reported
TCPA Chemical:	Not reported	Hazrds Material:	Not reported
COMU:	Not reported	Ref. Code:	Not reported
Amnt Released:	Not reported	Contained:	Not reported
Release Type:	Not reported	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Not reported	Receiving Water:	Not reported
Status at Spill:	Not reported		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	Not reported
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Telephone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Description:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Telephone:	Not reported
Incident Date:	Not reported
Incident time:	Not reported
Incident ITM:	Not reported
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	6/5/2002
Reporter Type:	Facility Rep.
Reporter Name:	REDACTED
Reporter Title:	REDACTED
Reporter Org:	REDATED
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Intermittent
Incident Category:	Facility
Incident Source:	TRANSCO PIPE
Incident Address:	718 PATERSON PLANK RD
Incident Address 2:	Not reported

VALVE 200A120-PATERSON TAKEOFF (TRANSCO) (Continued) **S101204220**

Incident City,St,Zip:	Carlstadt Boro, NJ
Incident County:	Bergen
DEP Requested:	No
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	No
Direction:	Not reported
Responsible Party:	Not reported
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	Not reported
Responsible Party County:	Not reported
Responsible Party City,St,Zip:	Not reported
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

Facility ID:	22776	Case Number:	02-06-04-0607-23
Date Received:	6/4/2002	Nature of Incident:	Not reported
Operator:	Not reported		
Incident Type:	Equipment Maintenance	Incident Location:	TRANSCO PIPE
Location:	Not reported		
Other Location:	Not reported		
Contact Name:	JOE DIAMONTE		
Caller Name:	Not reported		
Caller Title:	Not reported		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Type:	Industrial		
Facility Phone:	Not reported		
Incident Date:	6/4/2002	Incident Time:	Not reported
Substance(s):	Not reported		
Substance Type:	Not reported	Substance Identity:	Not reported
CAS Number:	Not reported	A310 Letter:	Not reported
TCPA Chemical:	Not reported	Hazrds Material:	Not reported
COMU:	Not reported	Ref. Code:	Not reported
Amnt Released:	Not reported	Contained:	Not reported
Release Type:	Not reported	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Not reported	Receiving Water:	Not reported
Status at Spill:	Not reported		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	Not reported
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	Not reported

VALVE 200A120-PATERSON TAKEOFF (TRANSCO) (Continued) **S101204220**

Local Municipality Title:	Not reported
Local Municipality Telephone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Description:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Telephone:	Not reported
Incident Date:	Not reported
Incident time:	Not reported
Incident ITM:	Not reported
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	6/4/2002
Reporter Type:	Facility Rep.
Reporter Name:	REDACTED
Reporter Title:	REDACTED
Reporter Org:	REDATED
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Intermittent
Incident Category:	Facility
Incident Source:	TRANSCO PIPE
Incident Address:	718 PATERSON PLANK RD
Incident Address 2:	Not reported
Incident City,St,Zip:	Carlstadt Boro, NJ
Incident County:	Bergen
DEP Requested:	No
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	No
Direction:	Not reported
Responsible Party:	Not reported
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	Not reported
Responsible Party County:	Not reported
Responsible Party City,St,Zip:	Not reported
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

Facility ID:	23019	Case Number:	02-06-04-1750-18
Date Received:	6/4/2002	Nature of Incident:	Not reported
Operator:	Not reported		
Incident Type:	Equipment Maintenance	Incident Location:	TRANSCO PIPELINE SITE
Location:	Not reported		
Other Location:	Not reported		
Contact Name:	JOE BIAMONTE		

VALVE 200A120-PATERSON TAKEOFF (TRANSCO) (Continued) **S101204220**

Caller Name:	Not reported		
Caller Title:	Not reported		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Type:	Commercial		
Facility Phone:	Not reported		
Incident Date:	6/4/2002	Incident Time:	Not reported
Substance(s):	Not reported		
Substance Type:	Not reported	Substance Identity:	Not reported
CAS Number:	Not reported	A310 Letter:	Not reported
TCPA Chemical:	Not reported	Hazrds Material:	Not reported
COMU:	Not reported	Ref. Code:	Not reported
Amnt Released:	Not reported	Contained:	Not reported
Release Type:	Not reported	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Not reported	Receiving Water:	Not reported
Status at Spill:	Not reported		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	Not reported
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Telephone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Description:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Telephone:	Not reported
Incident Date:	Not reported
Incident time:	Not reported
Incident ITM:	Not reported
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	6/4/2002
Reporter Type:	Other
Reporter Name:	REDACTED
Reporter Title:	REDACTED
Reporter Org:	REDATED
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported

VALVE 200A120-PATERSON TAKEOFF (TRANSCO) (Continued) **S101204220**

Incident Status:	Terminated
Incident Category:	Facility
Incident Source:	TRANSCO PIPELINE
Incident Address:	718 PATERSON PLANK RD
Incident Address 2:	Not reported
Incident City,St,Zip:	Carlstadt Boro, NJ 07072
Incident County:	Bergen
DEP Requested:	No
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	No
Direction:	Not reported
Responsible Party:	Not reported
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	Not reported
Responsible Party County:	Not reported
Responsible Party City,St,Zip:	Not reported
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

Facility ID:	22655	Case Number:	02-06-03-0930-50
Date Received:	6/3/2002	Nature of Incident:	Not reported
Operator:	Not reported		
Incident Type:	Equipment Maintenance	Incident Location:	TRANCSO GAS PROPERTY
Location:	Not reported		
Other Location:	Not reported		
Contact Name:	JOE BIAMONTE		
Caller Name:	Not reported		
Caller Title:	Not reported		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Type:	Commercial		
Facility Phone:	Not reported		
Incident Date:	6/3/2002	Incident Time:	Not reported
Substance(s):	Not reported		
Substance Type:	Not reported	Substance Identity:	Not reported
CAS Number:	Not reported	A310 Letter:	Not reported
TCPA Chemical:	Not reported	Hazrds Material:	Not reported
COMU:	Not reported	Ref. Code:	Not reported
Amnt Released:	Not reported	Contained:	Not reported
Release Type:	Not reported	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Not reported	Receiving Water:	Not reported
Status at Spill:	Not reported		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported
Other Telephone:	Not reported		

VALVE 200A120-PATERSON TAKEOFF (TRANSCO) (Continued) **S101204220**

Public Evacuation:	No
Assistance Requested:	Not reported
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Telephone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Description:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Telephone:	Not reported
Incident Date:	Not reported
Incident time:	Not reported
Incident ITM:	Not reported
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	6/3/2002
Reporter Type:	Other
Reporter Name:	REDACTED
Reporter Title:	REDACTED
Reporter Org:	REDATED
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Intermittent
Incident Category:	Other
Incident Source:	TRANCSO GAS CO
Incident Address:	718 PATERSON PLANK RD
Incident Address 2:	Not reported
Incident City,St,Zip:	Carlstadt Boro, NJ 07072
Incident County:	Bergen
DEP Requested:	No
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	No
Direction:	Not reported
Responsible Party:	Not reported
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	Not reported
Responsible Party County:	Not reported
Responsible Party City,St,Zip:	Not reported
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

Facility ID: 22733
Date Received: 6/3/2002
Case Number: 02-06-03-1430-03
Nature of Incident: Not reported

VALVE 200A120-PATERSON TAKEOFF (TRANSCO) (Continued) **S101204220**

Operator:	Not reported		
Incident Type:	Equipment Maintenance	Incident Location:	TRANSCO PIPELINE CO PROPERTY
Location:	Not reported		
Other Location:	Not reported		
Contact Name:	JOE BIAMONTE		
Caller Name:	Not reported		
Caller Title:	Not reported		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Type:	Commercial		
Facility Phone:	Not reported		
Incident Date:	6/3/2002	Incident Time:	Not reported
Substance(s):	Not reported		
Substance Type:	Not reported	Substance Identity:	Not reported
CAS Number:	Not reported	A310 Letter:	Not reported
TCPA Chemical:	Not reported	Hazrds Material:	Not reported
COMU:	Not reported	Ref. Code:	Not reported
Amnt Released:	Not reported	Contained:	Not reported
Release Type:	Not reported	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Not reported	Receiving Water:	Not reported
Status at Spill:	Not reported		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	Not reported
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Telephone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Description:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Telephone:	Not reported
Incident Date:	Not reported
Incident time:	Not reported
Incident ITM:	Not reported
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	6/3/2002
Reporter Type:	Other
Reporter Name:	REDACTED

VALVE 200A120-PATERSON TAKEOFF (TRANSCO) (Continued) **S101204220**

Reporter Title:	REDACTED
Reporter Org:	REDATED
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Terminated
Incident Category:	Facility
Incident Source:	TRANSCO PIPELINE CO
Incident Address:	718 PATERSON PLANK RD
Incident Address 2:	Not reported
Incident City,St,Zip:	Carlstadt Boro, NJ 07072
Incident County:	Bergen
DEP Requested:	No
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	No
Direction:	Not reported
Responsible Party:	Not reported
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	Not reported
Responsible Party County:	Not reported
Responsible Party City,St,Zip:	Not reported
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

Click this hyperlink while viewing on your computer to access
21 additional NJ RELEASE: record(s) in the EDR Site Report.

NJ SPILL:

Facility ID:	10445
Case Number:	89-09-11-0952
Notify Type:	Not reported
Date Received:	9/11/1989
Location:	Facility
Other Location:	Not reported
Incident Date:	9/11/1989
Incident Time:	0730
A310 Letter:	Yes
Ref. Code:	003
COMU:	0205
CAS Number:	Not reported
Hazardous:	Not reported
Incident Location:	Not reported
Facility Type:	Municipal
Facility Phone:	201-933-5490
Substance(s):	OIL LUBE
Substance Type:	Liquid
Substance Identity:	Known
TCPA Chemical:	No
Hazrds Material:	Yes
Amnt Released:	20 GAL
Release VE:	Estimate
Contained:	Yes

VALVE 200A120-PATERSON TAKEOFF (TRANSCO) (Continued) **S101204220**

Release Type:	Terminated
Incident Desc:	Spill
Status at Spill:	Not reported
NJ Spill Date:	9/11/1989
NJ Spill Time:	Not reported
NJ Spill Name:	Not reported
NJ Spill Title:	OEM
NJ Spill Phone:	Not reported
Other Date:	Not reported
Other Time:	Not reported
Other Name:	Not reported
Other Title:	Not reported
Other Phone:	Not reported
Injuries:	No
Public Exposure:	No
Road Closed:	Not reported
Facility Evacuation:	No
Receiving Water:	NONE
Public Evacuation:	No
Police at Scene:	No
Firemen at Scene:	No
Contamination of:	Not reported
Nature of Incident:	Facility
Wind Direction/Speed:	0
Assistance Requested:	No
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Operator:	ANTHONY
Contact Name:	Not reported
Caller Name:	REDACTED
Caller Title:	Not reported
Caller Address:	Not reported
Caller City,St,Zip:	Not reported
Caller Phone:	Not reported
Responsible Party:	Known
Responsible Party Name:	TRANSCO
Responsible Party Contact:	TIM PERDUE
Responsible Party Title:	ENV ENGR
Responsible Party Telphone:	713-431-2398
Responsible Party Street:	718 PATERSON PLANK R
Responsible Party Municipality:	CARLSTADT
Responsible Party State:	NJ
Responsible Party Zip:	Not reported
Responsible City,St,Zip:	CARLSTADT, NJ
Responsible Party County:	BERGEN
Local Municipality:	Not reported
Local Municipality Name:	SGT COMMINGS
Local Municipality Title:	CARLSTADT
Local Municipality Phone:	438-4300
Local Municipality Date:	9/11/1989
Local Municipality Time:	1015
Incident Name:	Not reported
Incident Referred To:	DEQ
Incident Region:	Metro
Incident Phone:	Not reported
Incident Date:	9/11/1989
Comments:	Not reported

VALVE 200A120-PATERSON TAKEOFF (TRANSCO) (Continued) **S101204220**

Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Update:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Reporter Name:	Not reported
Reporter Type:	Not reported
Rep Received Date:	Not reported
Reporter Title:	Not reported
Reporter Orgzn:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Type:	Not reported
Incident Status:	Not reported
Incident Category:	Not reported
Incident Source:	Not reported
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	Not reported
Confidential:	Not reported

Facility ID:	137793
Case Number:	05-04-12-1425-04
Notify Type:	Not reported
Date Received:	4/12/2005
Location:	Not reported
Other Location:	Not reported
Incident Date:	4/12/2005
Incident Time:	Not reported
A310 Letter:	Not reported
Ref. Code:	Not reported
COMU:	Not reported
CAS Number:	Not reported
Hazardous:	Not reported
Incident Location:	AT
Facility Type:	Industrial
Facility Phone:	Not reported
Substance(s):	Not reported
Substance Type:	Not reported
Substance Identity:	Not reported
TCPA Chemical:	Not reported
Hazrds Material:	Not reported
Amnt Released:	Not reported
Release VE:	Not reported
Contained:	Not reported
Release Type:	Not reported
Incident Desc:	Not reported
Status at Spill:	Not reported
NJ Spill Date:	Not reported
NJ Spill Time:	Not reported
NJ Spill Name:	Not reported
NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported
Other Date:	Not reported

VALVE 200A120-PATERSON TAKEOFF (TRANSCO) (Continued) **S101204220**

Other Time:	Not reported
Other Name:	Not reported
Other Title:	Not reported
Other Phone:	Not reported
Injuries:	No
Public Exposure:	No
Road Closed:	No
Facility Evacuation:	No
Receiving Water:	Not reported
Public Evacuation:	No
Police at Scene:	No
Firemen at Scene:	No
Contamination of:	Not reported
Nature of Incident:	Not reported
Wind Direction/Speed:	Not reported
Assistance Requested:	Not reported
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Operator:	Not reported
Contact Name:	MICHAEL MABIN
Caller Name:	Not reported
Caller Title:	Not reported
Caller Address:	Not reported
Caller City,St,Zip:	Not reported
Caller Phone:	Not reported
Responsible Party:	Not reported
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Telphone:	Not reported
Responsible Party Street:	Not reported
Responsible Party Municipality:	Not reported
Responsible Party State:	Not reported
Responsible Party Zip:	Not reported
Responsible City,St,Zip:	Not reported
Responsible Party County:	Not reported
Local Municipality:	Not reported
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Phone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Phone:	Not reported
Incident Date:	Not reported
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Update:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Reporter Name:	REDACTED
Reporter Type:	Facility Rep.
Rep Received Date:	4/12/2005
Reporter Title:	REDACTED

VALVE 200A120-PATERSON TAKEOFF (TRANSCO) (Continued) **S101204220**

Reporter Orgzn:	REDATED
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Type:	Spill
Incident Status:	Terminated
Incident Category:	Facility
Incident Source:	TRANS CONTINENTAL GAS
Incident Address:	99 FARBER RD
Incident Address 2:	Not reported
Incident City,St,Zip:	Princeton Boro, NJ 08540
Incident County:	Mercer
DEP Requested:	No
Confidential:	Not reported

Facility ID:	9359
Case Number:	96-6-13-0314-22
Notify Type:	Not reported
Date Received:	6/13/1996
Location:	Facility
Other Location:	Not reported
Incident Date:	6/13/1996
Incident Time:	0300
A310 Letter:	Yes
Ref. Code:	101
COMU:	0205
CAS Number:	Not reported
Hazardous:	Not reported
Incident Location:	Not reported
Facility Type:	Industrial
Facility Phone:	201-933-5490
Substance(s):	OIL/WATER MIXTURE, OIL OTHER
Substance Type:	Liquid
Substance Identity:	Known
TCPA Chemical:	No
Hazrds Material:	Yes
Amnt Released:	75-100 GAL
Release VE:	Estimate
Contained:	Yes
Release Type:	Terminated
Incident Desc:	Spill
Status at Spill:	SPILL DUE TO PUMP MALFUNCTION ON OIL WATER SUMP. CLEANUP IN PROGRESS.
NJ Spill Date:	Not reported
NJ Spill Time:	Not reported
NJ Spill Name:	Not reported
NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported
Other Date:	Not reported
Other Time:	Not reported
Other Name:	Not reported
Other Title:	Not reported
Other Phone:	Not reported
Injuries:	No
Public Exposure:	No
Road Closed:	Not reported
Facility Evacuation:	No
Receiving Water:	NONE

VALVE 200A120-PATERSON TAKEOFF (TRANSCO) (Continued) **S101204220**

Public Evacuation:No
Police at Scene: No
Firemen at Scene:No
Contamination of: Land
Nature of Incident:Facility

Wind Direction/Speed:	Not reported
Assistance Requested:	No
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Operator:	JOYCE
Contact Name:	Not reported
Caller Name:	REDACTED
Caller Title:	Not reported
Caller Address:	Not reported
Caller City,St,Zip:	Not reported
Caller Phone:	Not reported
Responsible Party:	Known
Responsible Party Name:	TRANSCO.GAS PIPELN
Responsible Party Contact:	MIKE MABEN
Responsible Party Title:	DIV.ENV.ENG.
Responsible Party Telphone:	201-933-5490
Responsible Party Street:	718 PATERSON PLANK R
Responsible Party Municipality:	CARLSTADT 07072
Responsible Party State:	NJ
Responsible Party Zip:	Not reported
Responsible City,St,Zip:	CARLSTADT 07072, NJ
Responsible Party County:	BERGEN
Local Municipality:	Not reported
Local Municipality Name:	CARLSTADT BORO
Local Municipality Title:	DISP.COLUMBO
Local Municipality Phone:	201-438-4300
Local Municipality Date:	6/13/1996
Local Municipality Time:	0317
Incident Name:	Not reported
Incident Referred To:	DRPSR
Incident Region:	BFO-CAS
Incident Phone:	Faxed,Mailed
Incident Date:	6/13/1996

Comments: Not reported

Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Update:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Reporter Name:	Not reported
Reporter Type:	Not reported
Rep Received Date:	Not reported
Reporter Title:	Not reported
Reporter Orgzn:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Type:	Not reported
Incident Status:	Not reported
Incident Category:	Not reported
Incident Source:	Not reported
Incident Address:	Not reported

VALVE 200A120-PATERSON TAKEOFF (TRANSCO) (Continued) **S101204220**

Incident Address 2: Not reported
Incident City,St,Zip: Not reported
Incident County: Not reported
DEP Requested: Not reported
Confidential: Not reported

NJ INSTITUTIONAL CONTROL:
Facility ID: 14261
Date Established (SI): 3/29/1996
Pi Number: 005258
CEA Description (SI): Benzene
Pi Name: TGPL STATION 0240
CEA Case Track #: 6378
Date Closed/lifted (SI): Not reported
Intermediate Durations: No
CEA Duration: 18.75

Facility ID: 14261
Date Established (SI): 3/29/1996
Pi Number: 005258
CEA Description (SI): Methyl tert-butyl ether
Pi Name: TGPL STATION 0240
CEA Case Track #: 6380
Date Closed/lifted (SI): Not reported
Intermediate Durations: No
CEA Duration: 18.75

Facility ID: 14261
Date Established (SI): 3/29/1996
Pi Number: 005258
CEA Description (SI): Tert-butyl alcohol
Pi Name: TGPL STATION 0240
CEA Case Track #: 6378
Date Closed/lifted (SI): Not reported
Intermediate Durations: No
CEA Duration: 18.75

Facility ID: 14261
Date Established (SI): 3/29/1996
Pi Number: 005258
CEA Description (SI): Tert-butyl alcohol
Pi Name: TGPL STATION 0240
CEA Case Track #: 6380
Date Closed/lifted (SI): Not reported
Intermediate Durations: No
CEA Duration: 18.75

Facility ID: 14261
Date Established (SI): 3/29/1996
Pi Number: 005258
CEA Description (SI): Benzene
Pi Name: TGPL STATION 0240
CEA Case Track #: 6380
Date Closed/lifted (SI): Not reported
Intermediate Durations: No
CEA Duration: 18.75

VALVE 200A120-PATERSON TAKEOFF (TRANSCO) (Continued) **S101204220**

Facility ID: 14261
Date Established (SI): 3/29/1996
Pi Number: 005258
CEA Description (SI): Methyl tert-butyl ether
Pi Name: TGPL STATION 0240
CEA Case Track #: 6378
Date Closed/lifted (SI): Not reported
Intermediate Durations: No
CEA Duration: 18.75

VCP:
Incident Number: 88-11-03-1825
MOA Execution Date: 1/4/2002
Type Of Vcp File: HISTORICAL
Pi Number: Not reported
Case Type(Case Type): Not reported
Case Contact: Department Not reported
Case Contact Name: Not reported
Case Contact: Organization Transcontinental Gas Pipe Line Corporation
Case Contact: Address: Line1 Not reported
Case Contact: Address: Line2 Not reported
Case Contact: Address: Line3 Not reported
Case Contact City,St,Zip: Not reported

E13 **MEADOWLAND TRUCK STOP INC** **SHWS U000359654**
ENE **288 PATERSON PLANK RD** **UST N/A**
1/4-1/2 **EAST RUTHERFORD BORO, NJ 07073**
0.456 mi.
2409 ft. **Site 1 of 3 in cluster E**

Relative:
Lower

Actual:
2 ft.

SHWS:
Site ID: 12299
Status: ACTIVE
Home Owner: No
PI Number: 009534
X Coord Site: 607971
X Coord PI: 607971
Y Coord Site: 727041
Y Coord PI: 727041

UST:
Facility ID: 009534
Owner Name: AMARJEET S BRAR
Organization: ARMAJETT S BRAR
Contact Type(UST Reg): Facility Operator
Contact Address (UST Reg): 268 GORDEN DR
Contact Address 2 (UST Reg): Not reported
Conact City,St,Zip (UST Reg): Paramus, NJ 07073
Owner Name: AMARJEETS S BRAR
Organization: MEADOWLAND FUEL STOP LLC
Contact Type(UST Reg): Tank Owner
Contact Address (UST Reg): 268 GORDEN DR
Contact Address 2 (UST Reg): Not reported
Conact City,St,Zip (UST Reg): Paramus, NJ 07073

Tank Id: TANK-1
Tank Number: 1

MEADOWLAND TRUCK STOP INC (Continued) **U000359654**

Tank Contents:	Medium Diesel Fuel (No. 2-D)
Tank Size:	4000
Install Date:	1987-01-01 00:00:00
Tank Compliance:	Yes
Tank Status:	**Removed**
Overfill:	Yes
Tank Status Date:	2007-10-15 00:00:00
Compliance Monitoring?:	Yes
Overfill Protection:	Yes
Spill Containment:	Yes
Tank Wellhead Protection:	Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe:	Pipe
Monitor Type:	Automatic line leak detector
Monitor Tank / Pipe:	Pipe
Monitor Type:	Interstitial
Monitor Tank / Pipe:	Tank
Monitor Type:	In-tank(automatic)monitoring

TANK DETAIL:

Tankpipe Tank / Pipe:	Pipe
Tankpipe Construction Type:	Cathodically protected steel - Sacrificial anode
Tankpipe Tank / Pipe:	Tank
Tankpipe Construction Type:	Cathodically protected steel - Sacrificial anode

Tank Id:	TANK-124549
Tank Number:	6
Tank Contents:	Medium Diesel Fuel (No. 2-D)
Tank Size:	15000
Install Date:	2007-09-13 00:00:00
Tank Compliance:	Yes
Tank Status:	**In-use**
Overfill:	Yes
Tank Status Date:	2007-09-13 00:00:00
Compliance Monitoring?:	Yes
Overfill Protection:	Yes
Spill Containment:	Yes
Tank Wellhead Protection:	Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe:	Pipe
Monitor Type:	Automatic line leak detector
Monitor Tank / Pipe:	Pipe
Monitor Type:	Interstitial
Monitor Tank / Pipe:	Tank
Monitor Type:	In-tank(automatic)monitoring
Monitor Tank / Pipe:	Tank
Monitor Type:	Interstitial

TANK DETAIL:

Tankpipe Tank / Pipe:	Pipe
Tankpipe Construction Type:	Fiberglass-reinforced plastic
Tankpipe Tank / Pipe:	Tank
Tankpipe Construction Type:	Fiberglass-coated steel

Tank Id:	TANK-124550
Tank Number:	7
Tank Contents:	Unleaded Gasoline

MEADOWLAND TRUCK STOP INC (Continued) **U000359654**

Tank Size: 11000
Install Date: 2007-09-13 00:00:00
Tank Compliance: Yes
Tank Status: **In-use**
Overfill: Yes
Tank Status Date: 2007-09-13 00:00:00
Compliance Monitoring?: Yes
Overfill Protection: Yes
Spill Containment: Yes
Tank Wellhead Protection: Not reported

TANK MONITOR DATA:
Monitor Tank / Pipe: Pipe
Monitor Type: Automatic line leak detector
Monitor Tank / Pipe: Pipe
Monitor Type: Interstitial
Monitor Tank / Pipe: Tank
Monitor Type: In-tank(automatic)monitoring
Monitor Tank / Pipe: Tank
Monitor Type: Interstitial

TANK DETAIL:
Tankpipe Tank / Pipe: Pipe
Tankpipe Construction Type: Fiberglass-reinforced plastic
Tankpipe Tank / Pipe: Tank
Tankpipe Construction Type: Fiberglass-coated steel

Tank Id: TANK-124551
Tank Number: 8
Tank Contents: Unleaded Gasoline
Tank Size: 4000
Install Date: 2007-09-13 00:00:00
Tank Compliance: Yes
Tank Status: **In-use**
Overfill: Yes
Tank Status Date: 2007-09-13 00:00:00
Compliance Monitoring?: Yes
Overfill Protection: Yes
Spill Containment: Yes
Tank Wellhead Protection: Not reported

TANK MONITOR DATA:
Monitor Tank / Pipe: Pipe
Monitor Type: Automatic line leak detector
Monitor Tank / Pipe: Pipe
Monitor Type: Interstitial
Monitor Tank / Pipe: Tank
Monitor Type: In-tank(automatic)monitoring
Monitor Tank / Pipe: Tank
Monitor Type: Interstitial

TANK DETAIL:
Tankpipe Tank / Pipe: Pipe
Tankpipe Construction Type: Fiberglass-reinforced plastic
Tankpipe Tank / Pipe: Tank
Tankpipe Construction Type: Fiberglass-coated steel

Tank Id: TANK-2
Tank Number: 2

MEADOWLAND TRUCK STOP INC (Continued) **U000359654**

Tank Contents:	Medium Diesel Fuel (No. 2-D)
Tank Size:	4000
Install Date:	1987-01-01 00:00:00
Tank Compliance:	Yes
Tank Status:	**Removed**
Overfill:	Yes
Tank Status Date:	2007-10-15 00:00:00
Compliance Monitoring?:	Yes
Overfill Protection:	Yes
Spill Containment:	Yes
Tank Wellhead Protection:	Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe:	Pipe
Monitor Type:	Automatic line leak detector
Monitor Tank / Pipe:	Pipe
Monitor Type:	Interstitial
Monitor Tank / Pipe:	Tank
Monitor Type:	In-tank(automatic)monitoring

TANK DETAIL:

Tankpipe Tank / Pipe:	Pipe
Tankpipe Construction Type:	Cathodically protected steel - Sacrificial anode
Tankpipe Tank / Pipe:	Tank
Tankpipe Construction Type:	Cathodically protected steel - Sacrificial anode

Tank Id:	TANK-3
Tank Number:	3
Tank Contents:	Medium Diesel Fuel (No. 2-D)
Tank Size:	8400
Install Date:	1987-01-01 00:00:00
Tank Compliance:	Yes
Tank Status:	**Removed**
Overfill:	Yes
Tank Status Date:	2007-10-15 00:00:00
Compliance Monitoring?:	Yes
Overfill Protection:	Yes
Spill Containment:	Yes
Tank Wellhead Protection:	Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe:	Pipe
Monitor Type:	Automatic line leak detector
Monitor Tank / Pipe:	Pipe
Monitor Type:	Interstitial
Monitor Tank / Pipe:	Tank
Monitor Type:	In-tank(automatic)monitoring

TANK DETAIL:

Tankpipe Tank / Pipe:	Pipe
Tankpipe Construction Type:	Cathodically protected steel - Sacrificial anode
Tankpipe Tank / Pipe:	Tank
Tankpipe Construction Type:	Cathodically protected steel - Sacrificial anode

Tank Id:	TANK-4
Tank Number:	4
Tank Contents:	Unleaded Gasoline
Tank Size:	6000
Install Date:	1987-01-01 00:00:00

MEADOWLAND TRUCK STOP INC (Continued) **U000359654**

Tank Compliance:	Yes
Tank Status:	**Removed**
Overfill:	Yes
Tank Status Date:	2007-10-15 00:00:00
Compliance Monitoring?:	Yes
Overfill Protection:	Yes
Spill Containment:	Yes
Tank Wellhead Protection:	Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe:	Pipe
Monitor Type:	Automatic line leak detector
Monitor Tank / Pipe:	Pipe
Monitor Type:	Interstitial
Monitor Tank / Pipe:	Tank
Monitor Type:	In-tank(automatic)monitoring

TANK DETAIL:

Tankpipe Tank / Pipe:	Pipe
Tankpipe Construction Type:	Cathodically protected steel - Sacrificial anode
Tankpipe Tank / Pipe:	Tank
Tankpipe Construction Type:	Cathodically protected steel - Sacrificial anode

Tank Id:	TANK-5
Tank Number:	5
Tank Contents:	Unleaded Gasoline
Tank Size:	6000
Install Date:	1987-01-01 00:00:00
Tank Compliance:	Yes
Tank Status:	**Removed**
Overfill:	Yes
Tank Status Date:	2007-10-15 00:00:00
Compliance Monitoring?:	Yes
Overfill Protection:	Yes
Spill Containment:	Yes
Tank Wellhead Protection:	Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe:	Pipe
Monitor Type:	Automatic line leak detector
Monitor Tank / Pipe:	Pipe
Monitor Type:	Interstitial
Monitor Tank / Pipe:	Tank
Monitor Type:	In-tank(automatic)monitoring

TANK DETAIL:

Tankpipe Tank / Pipe:	Pipe
Tankpipe Construction Type:	Cathodically protected steel - Sacrificial anode
Tankpipe Tank / Pipe:	Tank
Tankpipe Construction Type:	Cathodically protected steel - Sacrificial anode

E14 **USED CAR DEALERSHIP** **HWS RE-EVAL** **S108028355**
ENE **288 PATERSON PLANK ROAD** **NJ Release** **N/A**
1/4-1/2 **EAST RUTHERFORD BOROUGH, NJ 07073** **BROWNFIELDS**
0.456 mi.
2409 ft. **Site 2 of 3 in cluster E**

Relative:
Lower

Actual:
2 ft.

HWS RE-EVAL:
Facility Status: Assigned to RPIU. Under Investigation.
PI Number: **009534**
Category: Non-Homeowner

NJ Release:

Facility ID:	249432	Case Number:	07-09-24-1616-34
Date Received:	9/24/2007	Nature of Incident:	Not reported
Operator:	Not reported		
Incident Type:	Underground Storage Tank	Incident Location:	MEADOWLANDS TRUCK STOP INC FACILITY ID #009
Location:	Not reported		
Other Location:	Not reported		
Contact Name:	BILL SINGH		
Caller Name:	Not reported		
Caller Title:	Not reported		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Type:	Commercial		
Facility Phone:	Not reported		
Incident Date:	9/17/2007	Incident Time:	Not reported
Substance(s):	Not reported		
Substance Type:	Not reported	Substance Identity:	Not reported
CAS Number:	Not reported	A310 Letter:	Not reported
TCPA Chemical:	Not reported	Hazrds Material:	Not reported
COMU:	Not reported	Ref. Code:	Not reported
Amnt Released:	Not reported	Contained:	Not reported
Release Type:	Not reported	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Not reported	Receiving Water:	Not reported
Status at Spill:	Not reported		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	Not reported
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Telephone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Description:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Telephone:	Not reported

USED CAR DEALERSHIP (Continued) **S108028355**

Incident Date:	Not reported
Incident time:	Not reported
Incident ITM:	Not reported
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	9/24/2007
Reporter Type:	Other
Reporter Name:	REDACTED
Reporter Title:	REDACTED
Reporter Org:	REDATED
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Terminated
Incident Category:	Other
Incident Source:	MEADOWLANDS TRUCK STOP INC
Incident Address:	288 PATERSON PLANK RD
Incident Address 2:	Not reported
Incident City,St,Zip:	East Rutherford Boro, NJ
Incident County:	Bergen
DEP Requested:	No
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	No
Direction:	Not reported
Responsible Party:	Not reported
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	Not reported
Responsible Party County:	Not reported
Responsible Party City,St,Zip:	Not reported
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

NJ BROWNFIELD:

Price:	Not reported
Assessed Value:	Less than $250,000
Property Size:	.25 ? 1
General Comments:	Description Coming Soon. . .

E15 **MARIO'S SERVICE INC** **CERC-NFRAP** **1003863243**
ENE **288 PATERSON PLANK RD** **NJD980530828**
1/4-1/2 **EAST RUTHERFORD, NJ 07073**
0.456 mi.
2409 ft. **Site 3 of 3 in cluster E**

Relative:
Lower

Actual:
2 ft.

CERC-NFRAP:

Site ID:	0200733
Federal Facility:	Not a Federal Facility
NPL Status:	Not on the NPL

MARIO'S SERVICE INC (Continued) **1003863243**

Non NPL Status: NFRAP-Site does not qualify for the NPL based on existing information

CERCLIS-NFRAP Site Alias Name(s):
Alias Name: MARIO'S
Alias Address: PATERSON PLANK RD
CARLSTADT, NJ 07072

CERCLIS-NFRAP Assessment History:
Action: DISCOVERY
Date Started: Not reported
Date Completed: 06/01/1981
Priority Level: Not reported

Action: PRELIMINARY ASSESSMENT
Date Started: 09/29/1987
Date Completed: 09/30/1987
Priority Level: Low priority for further assessment

Action: SITE INSPECTION
Date Started: 07/01/1991
Date Completed: 09/25/1991
Priority Level: Higher priority for further assessment

Action: ARCHIVE SITE
Date Started: Not reported
Date Completed: 09/28/1993
Priority Level: Not reported

Action: EXPANDED SITE INSPECTION
Date Started: 05/06/1992
Date Completed: 09/28/1993
Priority Level: NFRAP-Site does not qualify for the NPL based on existing information

---

16
SSE
1/2-1
0.575 mi.
3037 ft.

HARMON COVE TOWERS CONDO ASSOCIATION **SHWS** **S109306813**
1 MEADOWLANDS PKWY **N/A**
SECAUCUS TOWN, NJ

Relative:
Equal

Actual:
6 ft.

SHWS:
Site ID: 6974
Status: ACTIVE
Home Owner: No
PI Number: 019351
X Coord Site: 610396
X Coord PI: 610396
Y Coord Site: 712911
Y Coord PI: 712911

17
ESE
1/2-1
0.589 mi.
3108 ft.

Relative:
Lower

Actual:
2 ft.

SCHMITT CONCRETE EQUIP CO
1631 PATERSON PLANK RD
SECAUCUS TOWN, NJ 07094

Database(s): SHWS, HIST HWS, LUST, HIST LUST, UST, SPILLS

EDR ID Number: U000355333
EPA ID Number: N/A

SHWS:

Site ID:	6991
Status:	ACTIVE
Home Owner:	No
PI Number:	003949
X Coord Site:	614016
X Coord PI:	614016
Y Coord Site:	717990
Y Coord PI:	717990

HIST SHWS:

Case Status:	**Active**
Status Date:	11/16/2001
Case ID:	003949
Contact:	BSCM
Sub Section Label:	A: Sites with On-Site Sources of Contamination
Site Municipality:	0909
Remedial Level Code:	C2
Classification exception area dt:	None
Classification exception area dt:	Not reported
Deed Notice Status:	None
Deed Notice Date:	Not reported
Engineering Control Status:	None
Engineering Control Date:	Not reported
National Priorities List Status:	Not reported
National Priorities List Date:	Not reported
X Coordinate:	614016
Y Coordinate:	717990
Coordinate System:	NJ State Plane (NAD83) - USFEET

LUST:

Case ID:	3949
Bureau:	BUST

LUST HIST:

Case ID:	01-03-06-1559-25
Lead Program Assigned:	Bureau of Underground Storage Tanks
Facility Status:	**Assigned to a Program**
UST ID:	0039495
TMS Number:	N98-1956
Remedial Level:	Site has confirmed soil and ground water contamination.
Case Manager:	Stephen Tater
Facility Phone:	(609) 633-0580
No Further Action:	Not reported
RAW Approved:	Not reported
CEA:	Not reported
Date CEA Lifted:	Not reported
Dead Notice:	Not reported

UST:

SCHMITT CONCRETE EQUIP CO (Continued) **U000355333**

Facility ID:	003949
Owner Name:	Not Identified Not Identified
Organization:	Not Identified
Contact Type(UST Reg):	Facility Operator
Contact Address (UST Reg):	Not reported
Contact Address 2 (UST Reg):	Not reported
Conact City,St,Zip (UST Reg):	Not reported
Owner Name:	GEORGE SCHMITT
Organization:	SCHMITT CONCRETE EQUIPMENT
Contact Type(UST Reg):	Tank Owner
Contact Address (UST Reg):	5 BROOKWOOD DR
Contact Address 2 (UST Reg):	Not reported
Conact City,St,Zip (UST Reg):	West Caldwell, NJ 070067012

Tank Id:	TANK-1
Tank Number:	0001
Tank Contents:	Unleaded Gasoline
Tank Size:	550
Install Date:	1967-01-01 00:00:00
Tank Compliance:	No
Tank Status:	**Removed**
Overfill:	No
Tank Status Date:	1999-11-19 00:00:00
Compliance Monitoring?:	No
Overfill Protection:	No
Spill Containment:	No
Tank Wellhead Protection:	Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe:	Pipe
Monitor Type:	None
Monitor Tank / Pipe:	Tank
Monitor Type:	None

TANK DETAIL:

Tankpipe Tank / Pipe:	Pipe
Tankpipe Construction Type:	Bare steel
Tankpipe Tank / Pipe:	Tank
Tankpipe Construction Type:	Bare steel

Tank Id:	TANK-2
Tank Number:	0002
Tank Contents:	Medium Diesel Fuel (No. 2-D)
Tank Size:	3000
Install Date:	1967-01-01 00:00:00
Tank Compliance:	No
Tank Status:	**Abandoned in Place**
Overfill:	No
Tank Status Date:	1988-05-10 00:00:00
Compliance Monitoring?:	No
Overfill Protection:	No
Spill Containment:	No
Tank Wellhead Protection:	Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe:	Pipe
Monitor Type:	None
Monitor Tank / Pipe:	Tank
Monitor Type:	None

SCHMITT CONCRETE EQUIP CO (Continued) **U000355333**

TANK DETAIL:
Tankpipe Tank / Pipe: Pipe
Tankpipe Construction Type: Bare steel
Tankpipe Tank / Pipe: Tank
Tankpipe Construction Type: Bare steel

NJ SPILL:
Facility ID: 75074
Case Number: 01-03-06-1559-25
Notify Type: Other
Date Received: 3/6/2001
Location: Facility
Other Location: Not reported
Incident Date: 11/16/1999
Incident Time: Not reported
A310 Letter: True
Ref. Code: 101
COMU: 0909
CAS Number: Not reported
Hazardous: No
Incident Location: Not reported
Facility Type: Commercial
Facility Phone: Not reported
Substance(s): Not reported
Substance Type: Not reported
Substance Identity: Not reported
TCPA Chemical: Not reported
Hazrds Material: Not reported
Amnt Released: Not reported
Release VE: Not reported
Contained: Not reported
Release Type: Not reported
Incident Desc: Not reported
Status at Spill: REMOVAL OF 1-550 UST.
NJ Spill Date: Not reported
NJ Spill Time: Not reported
NJ Spill Name: Not reported
NJ Spill Title: Not reported
NJ Spill Phone: Not reported
Other Date: Not reported
Other Time: Not reported
Other Name: Not reported
Other Title: Not reported
Other Phone: Not reported
Injuries: No
Public Exposure: No
Road Closed: No
Facility Evacuation: No
Receiving Water: Not reported
Public Evacuation: No
Police at Scene: No
Firemen at Scene: No
Contamination of: Land
Nature of Incident: Not reported
Wind Direction/Speed: 0
Assistance Requested: No

SCHMITT CONCRETE EQUIP CO (Continued) **U000355333**

Memo. Of Understanding:	No
Drill/trng Exercise:	No
Operator:	JIMH
Contact Name:	Not reported
Caller Name:	REDACTED
Caller Title:	Not reported
Caller Address:	Not reported
Caller City,St,Zip:	Not reported
Caller Phone:	Not reported
Responsible Party:	Known
Responsible Party Name:	SCHMITT CONCRETE
Responsible Party Contact:	GEORGE SCHMITT
Responsible Party Title:	OWNER
Responsible Party Telphone:	201-866-1600
Responsible Party Street:	1631 PATERSON PLANK RD
Responsible Party Municipality:	SECAUCUS
Responsible Party State:	NJ
Responsible Party Zip:	Not reported
Responsible City,St,Zip:	SECAUCUS, NJ
Responsible Party County:	HUDSON
Local Municipality:	No
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Phone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Phone:	Not reported
Incident Date:	Not reported
Comments: Not reported	
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Update:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Reporter Name:	Not reported
Reporter Type:	Not reported
Rep Received Date:	Not reported
Reporter Title:	Not reported
Reporter Orgzn:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Type:	Not reported
Incident Status:	Not reported
Incident Category:	Not reported
Incident Source:	Not reported
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	Not reported
Confidential:	Not reported

18
SSE
1/2-1
0.596 mi.
3146 ft.

RED ROOF INN
15 MEADOWLANDS PKWY
SECAUCUS TOWN, NJ

SHWS **S109307438**
N/A

Relative:
Equal

Actual:
6 ft.

SHWS:

Site ID:	72167
Status:	CLOSED
Home Owner:	No
PI Number:	G000023400
X Coord Site:	Not reported
X Coord PI:	Not reported
Y Coord Site:	Not reported
Y Coord PI:	Not reported

19
ESE
1/2-1
0.609 mi.
3215 ft.

AMERICAN ALLOYS
1625 PATERSON PLANK RD
SECAUCUS TOWN, NJ 07094

SHWS **U000370824**
UST **N/A**
NJ Release
SPILLS

Relative:
Lower

Actual:
4 ft.

SHWS:

Site ID:	52602
Status:	CLOSED
Home Owner:	No
PI Number:	019746
X Coord Site:	Not reported
X Coord PI:	Not reported
Y Coord Site:	Not reported
Y Coord PI:	Not reported

UST:

Facility ID:	019746
Owner Name:	Not Identified Not Identified
Organization:	Not Identified
Contact Type(UST Reg):	Facility Operator
Contact Address (UST Reg):	Not reported
Contact Address 2 (UST Reg):	Not reported
Conact City,St,Zip (UST Reg):	Not reported
Owner Name:	WILLIAM WILLIAMS
Organization:	WILLIAM WILLIAMS
Contact Type(UST Reg):	Tank Owner
Contact Address (UST Reg):	1625 PATERSON PLANK RD
Contact Address 2 (UST Reg):	Not reported
Conact City,St,Zip (UST Reg):	Secaucus, NJ 07094
Tank Id:	TANK-1
Tank Number:	0001
Tank Contents:	Heating Oil (No. 4)
Tank Size:	10000
Install Date:	1961-01-01 00:00:00
Tank Compliance:	No
Tank Status:	**Removed**
Overfill:	No
Tank Status Date:	1990-08-07 00:00:00
Compliance Monitoring?:	No
Overfill Protection:	No
Spill Containment:	No

AMERICAN ALLOYS (Continued) **U000370824**

Tank Wellhead Protection: Not reported

TANK MONITOR DATA:
Monitor Tank / Pipe: Pipe
Monitor Type: None
Monitor Tank / Pipe: Tank
Monitor Type: None

TANK DETAIL:
Tankpipe Tank / Pipe: Pipe
Tankpipe Construction Type: Bare steel
Tankpipe Tank / Pipe: Tank
Tankpipe Construction Type: Bare steel

NJ Release:

Facility ID:	4610	Case Number:	97-4-14-1632-47
Date Received:	4/14/1997	Nature of Incident:	Other
Operator:	JOYCE		
Incident Type:	Not reported	Incident Location:	Not reported
Location:	Facility		
Other Location:	Not reported		
Contact Name:	Not reported		
Caller Name:	REDACTED		
Caller Title:	Not reported		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Type:	Industrial		
Facility Phone:	Not reported		
Incident Date:	4/14/1997	Incident Time:	ONGO
Substance(s):	MINERAL SPIRITS,OIL LIKE SUBSTANCE, SOLVENTS, WASTE		
Substance Type:	Liquid	Substance Identity:	Suspected
CAS Number:	Not reported	A310 Letter:	Yes
TCPA Chemical:	No	Hazrds Material:	Yes
COMU:	0909	Ref. Code:	101
Amnt Released:	UNK	Contained:	No
Release Type:	Intermittent	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Land,Water	Receiving Water:	HACKENSACK RIVER
Status at Spill:	SLOP SINK IN REAR OF SHOP IS CONNECTED TO A PIPE LEADING TO THE HACKENSACK RIVER. FACILITY WASHING PARTS IN SOLVENTS AND LETTING SINK DRAIN INTO PIPE		
NJ Spill Date:	4/14/1997	NJ Spill Time:	Not reported
NJ Spill Name:	OEM	NJ Spill Title:	FAXED
NJ Spill Phone:	609-882-2000		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	Yes
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	SECAUCUS TOWN
Local Municipality Title:	DISP.TAYLOR
Local Municipality Telephone:	201-867-8000
Local Municipality Date:	4/14/1997

AMERICAN ALLOYS (Continued) **U000370824**

Local Municipality Time:	1634
Incident Description:	Illegal Dumping
Incident Name:	Not reported
Incident Referred To:	DRPSR
Incident Region:	BFO-CAS
Incident Telephone:	Not reported
Incident Date:	4/14/1997
Incident time:	Not reported
Incident ITM:	B
Incident Name:	Not reported
Incident Referred To:	DFG
Incident Region:	HQ1
Incident Telephone:	Not reported
Incident Date:	4/14/1997
Incident Time:	Not reported
Incident ITM:	T
Comments:	Not reported
Date A310 Letter Printed:	4/14/1997
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	Not reported
Reporter Type:	Not reported
Reporter Name:	Not reported
Reporter Title:	Not reported
Reporter Org:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Not reported
Incident Category:	Not reported
Incident Source:	Not reported
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	Not reported
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	Not reported
Direction:	Not reported
Responsible Party:	Known
Responsible Party Name:	AMERICAN ALLOYS
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	1625 PATERSON PLANK
Responsible Party County:	HUDSON
Responsible Party City,St,Zip:	SECAUCAS, NJ
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

NJ SPILL:

Facility ID:	15694
Case Number:	94-8-29-1524-20

AMERICAN ALLOYS (Continued) **U000370824**

Notify Type:	Not reported
Date Received:	8/29/1994
Location:	Facility
Other Location:	Not reported
Incident Date:	8/29/1994
Incident Time:	1445
A310 Letter:	Yes
Ref. Code:	001
COMU:	0909
CAS Number:	Not reported
Hazardous:	Not reported
Incident Location:	Not reported
Facility Type:	Commercial
Facility Phone:	UNK
Substance(s):	UNKNOWN LIQUID
Substance Type:	Liquid
Substance Identity:	Unknown
TCPA Chemical:	Unknown
Hazrds Material:	Unknown
Amnt Released:	UNK
Release VE:	Not reported
Contained:	No
Release Type:	Intermittent
Incident Desc:	Spill
Status at Spill:	CALLER SAW UNK SMELLY LIQUID DISCHARGING FROM PIPE IN FRONT OF FACILITY,THIS GOES ON DAILY.
NJ Spill Date:	8/29/1994
NJ Spill Time:	Not reported
NJ Spill Name:	NJSP
NJ Spill Title:	FAX
NJ Spill Phone:	Not reported
Other Date:	Not reported
Other Time:	Not reported
Other Name:	Not reported
Other Title:	Not reported
Other Phone:	Not reported
Injuries:	No
Public Exposure:	Yes
Road Closed:	Not reported
Facility Evacuation:	No
Receiving Water:	HACKENSACK RIVER
Public Evacuation:	No
Police at Scene:	No
Firemen at Scene:	No
Contamination of:	Land,Water
Nature of Incident:	Citizen
Wind Direction/Speed:	Not reported
Assistance Requested:	Yes
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Operator:	JOES
Contact Name:	Not reported
Caller Name:	REDACTED
Caller Title:	Not reported
Caller Address:	Not reported
Caller City,St,Zip:	Not reported
Caller Phone:	Not reported

AMERICAN ALLOYS (Continued) **U000370824**

Responsible Party:	Known
Responsible Party Name:	AMERICAN ALLOY
Responsible Party Contact:	UNK
Responsible Party Title:	Not reported
Responsible Party Telphone:	UNK
Responsible Party Street:	1625 PATERSON PLANK
Responsible Party Municipality:	SECAUCUS
Responsible Party State:	NJ
Responsible Party Zip:	Not reported
Responsible City,St,Zip:	SECAUCUS, NJ
Responsible Party County:	HUDSON
Local Municipality:	Not reported
Local Municipality Name:	SECAUCUS TOWN
Local Municipality Title:	DISP 509
Local Municipality Phone:	201-867-8000
Local Municipality Date:	8/29/1994
Local Municipality Time:	1530
Incident Name:	CHRIS GIBBONS
Incident Referred To:	DRPSR
Incident Region:	ER1
Incident Phone:	Office
Incident Date:	8/29/1994
Incident Name:	Not reported
Incident Referred To:	DFG
Incident Region:	Not reported
Incident Phone:	Faxed
Incident Date:	8/29/1994
Comments: Not reported	
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Update:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Reporter Name:	Not reported
Reporter Type:	Not reported
Rep Received Date:	Not reported
Reporter Title:	Not reported
Reporter Orgzn:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Type:	Not reported
Incident Status:	Not reported
Incident Category:	Not reported
Incident Source:	Not reported
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	Not reported
Confidential:	Not reported

F20
SE
1/2-1
0.616 mi.
3254 ft.

288 GRACE AVE
SECAUCUS TOWN, NJ 07094

Site 1 of 2 in cluster F

SHWS **S109220959**
NJ Release **N/A**

Relative:
Higher

Actual:
7 ft.

SHWS:

Site ID:	381352
Status:	CLOSED
Home Owner:	Yes
PI Number:	475677
X Coord Site:	Not reported
X Coord PI:	Not reported
Y Coord Site:	Not reported
Y Coord PI:	Not reported

NJ Release:

Facility ID:	274788	Case Number:	08-05-28-1501-14
Date Received:	5/28/2008	Nature of Incident:	Not reported
Operator:	Not reported		
Incident Type:	Underground Storage Tank	Incident Location:	AT RESIDENCE
Location:	Not reported		
Other Location:	Not reported		
Contact Name:	Not reported		
Caller Name:	Not reported		
Caller Title:	Not reported		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Type:	Residential		
Facility Phone:	Not reported		
Incident Date:	5/28/2008	Incident Time:	Not reported
Substance(s):	Not reported		
Substance Type:	Not reported	Substance Identity:	Not reported
CAS Number:	Not reported	A310 Letter:	Not reported
TCPA Chemical:	Not reported	Hazrds Material:	Not reported
COMU:	Not reported	Ref. Code:	Not reported
Amnt Released:	Not reported	Contained:	Not reported
Release Type:	Not reported	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Not reported	Receiving Water:	Not reported
Status at Spill:	Not reported		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	Not reported
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Telephone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported

(Continued) **S109220959**

Incident Description:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Telephone:	Not reported
Incident Date:	Not reported
Incident time:	Not reported
Incident ITM:	Not reported
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	5/28/2008
Reporter Type:	Other
Reporter Name:	REDACTED
Reporter Title:	REDACTED
Reporter Org:	REDATED
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Terminated
Incident Category:	Other
Incident Source:	FAVERIO AMATO
Incident Address:	288 GRACE AVE
Incident Address 2:	Not reported
Incident City,St,Zip:	Secaucus Town, NJ 07094
Incident County:	Hudson
DEP Requested:	No
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	No
Direction:	Not reported
Responsible Party:	Not reported
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	Not reported
Responsible Party County:	Not reported
Responsible Party City,St,Zip:	Not reported
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

F21 **286 GRACE AVENUE** **SHWS** **S107494713**
SE **286 GRACE AVE** **HIST HWS** **N/A**
1/2-1 **SECAUCUS TOWN, NJ**
0.626 mi.
3306 ft. **Site 2 of 2 in cluster F**

Relative:
Higher

Actual:
8 ft.

SHWS:

Site ID:	174408
Status:	CLOSED
Home Owner:	Yes
PI Number:	228732
X Coord Site:	Not reported

286 GRACE AVENUE (Continued) **S107494713**

X Coord PI:	Not reported
Y Coord Site:	Not reported
Y Coord PI:	Not reported

HIST SHWS:

Case Status:	**Active**
Status Date:	5/11/2004
Case ID:	228732
Contact:	Bureau of Field Operations - Northern
Sub Section Label:	A: Sites with On-Site Sources of Contamination
Site Municipality:	0909
Remedial Level Code:	C1
Classification exception area dt:	None
Classification exception area dt:	Not reported
Deed Notice Status:	None
Deed Notice Date:	Not reported
Engineering Control Status:	None
Engineering Control Date:	Not reported
National Priorities List Status:	Not reported
National Priorities List Date:	Not reported
X Coordinate:	613839
Y Coordinate:	715978
Coordinate System:	NJ State Plane (NAD83) - USFEET

G22 **293 JULANNE TERRACE** **SHWS S107915806**
SE **293 JULIANNE TER** **HIST HWS N/A**
1/2-1 **SECAUCUS TOWN, NJ 07094**
0.638 mi.
3367 ft. **Site 1 of 2 in cluster G**

Relative:
Higher

Actual:
7 ft.

SHWS:

Site ID:	164265
Status:	CLOSED
Home Owner:	Yes
PI Number:	215968
X Coord Site:	Not reported
X Coord PI:	Not reported
Y Coord Site:	Not reported
Y Coord PI:	Not reported

HIST SHWS:

Case Status:	**Active**
Status Date:	11/6/2003
Case ID:	215968
Contact:	Bureau of Field Operations - Northern
Sub Section Label:	A: Sites with On-Site Sources of Contamination
Site Municipality:	0909
Remedial Level Code:	C2
Classification exception area dt:	None
Classification exception area dt:	Not reported
Deed Notice Status:	None
Deed Notice Date:	Not reported
Engineering Control Status:	None
Engineering Control Date:	Not reported
National Priorities List Status:	Not reported
National Priorities List Date:	Not reported
X Coordinate:	613649

293 JULANNE TERRACE (Continued) **S107915806**

Y Coordinate: 716769
Coordinate System: NJ State Plane (NAD83) - USFEET

G23 **292 JULIANNE TERRACE** **SHWS** **S109306941**
SE **292 JULIANNE TER** **N/A**
1/2-1 **SECAUCUS TOWN, NJ**
0.640 mi.
3377 ft. **Site 2 of 2 in cluster G**

Relative:
Higher

Actual:
7 ft.

SHWS:
Site ID: 70413
Status: CLOSED
Home Owner: No
PI Number: G000032775
X Coord Site: Not reported
X Coord PI: Not reported
Y Coord Site: Not reported
Y Coord PI: Not reported

H24 **305 PAULANNE TERRACE** **SHWS** **S106212077**
SE **305 PAULANNE TER** **HIST HWS** **N/A**
1/2-1 **SECAUCUS TOWN, NJ** **NJ Release**
0.650 mi.
3432 ft. **Site 1 of 2 in cluster H**

Relative:
Higher

Actual:
7 ft.

SHWS:
Site ID: 143109
Status: CLOSED
Home Owner: Yes
PI Number: 189721
X Coord Site: Not reported
X Coord PI: Not reported
Y Coord Site: Not reported
Y Coord PI: Not reported

HIST SHWS:
Case Status: **Active**
Status Date: 2/20/2003
Case ID: 189721
Contact: County Environmental Health Act
Sub Section Label: A: Sites with On-Site Sources of Contamination
Site Municipality: 0909
Remedial Level Code: C1
Classification exception area dt: None
Classification exception area dt: Not reported
Deed Notice Status: None
Deed Notice Date: Not reported
Engineering Control Status: None
Engineering Control Date: Not reported
National Priorities List Status: Not reported
National Priorities List Date: Not reported
X Coordinate: 613536
Y Coordinate: 717151
Coordinate System: NJ State Plane (NAD83) - USFEET

305 PAULANNE TERRACE (Continued) **S106212077**

NJ Release:

Facility ID:	47854	Case Number:	03-02-20-0844-59
Date Received:	2/20/2003	Nature of Incident:	Not reported
Operator:	Not reported		
Incident Type:	Underground Storage Tank	Incident Location:	RESIDENCE
Location:	Not reported		
Other Location:	Not reported		
Contact Name:	MARK VALENTINO		
Caller Name:	Not reported		
Caller Title:	Not reported		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Type:	Residential		
Facility Phone:	Not reported		
Incident Date:	2/19/2003	Incident Time:	Not reported
Substance(s):	Not reported		
Substance Type:	Not reported	Substance Identity:	Not reported
CAS Number:	Not reported	A310 Letter:	Not reported
TCPA Chemical:	Not reported	Hazrds Material:	Not reported
COMU:	Not reported	Ref. Code:	Not reported
Amnt Released:	Not reported	Contained:	Not reported
Release Type:	Not reported	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Not reported	Receiving Water:	Not reported
Status at Spill:	Not reported		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	Not reported
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Telephone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Description:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Telephone:	Not reported
Incident Date:	Not reported
Incident time:	Not reported
Incident ITM:	Not reported
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported

305 PAULANNE TERRACE (Continued) **S106212077**

Rep Receive Date:	2/20/2003
Reporter Type:	Other
Reporter Name:	REDACTED
Reporter Title:	REDACTED
Reporter Org:	REDATED
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Terminated
Incident Category:	Other
Incident Source:	MARK VALENTINO
Incident Address:	305 PAULANNE TERRACE
Incident Address 2:	Not reported
Incident City,St,Zip:	Secaucus Town, NJ
Incident County:	Hudson
DEP Requested:	No
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	No
Direction:	Not reported
Responsible Party:	Not reported
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	Not reported
Responsible Party County:	Not reported
Responsible Party City,St,Zip:	Not reported
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

25
SE
1/2-1
0.658 mi.
3473 ft.

280 GRACE AVE **SHWS** **S109313974**
280 GRACE AVE **N/A**
SECAUCUS TOWN, NJ

Relative:
Higher

Actual:
9 ft.

SHWS:

Site ID:	88371
Status:	CLOSED
Home Owner:	No
PI Number:	G000062286
X Coord Site:	Not reported
X Coord PI:	Not reported
Y Coord Site:	Not reported
Y Coord PI:	Not reported

26
ESE
1/2-1
0.660 mi.
3485 ft.

Relative:
Higher

Actual:
8 ft.

TILCON NEW JERSEY INC
1611 PATERSON PLANK RD
SECAUCUS TOWN, NJ 07094

Database(s): **SHWS** **HIST HWS** **UST** **NJ Release** **VCP** **ISRA** **NPDES** **FINANCIAL ASSURANCE**

EDR ID Number: **1000539492**
EPA ID Number: **N/A**

SHWS:

Site ID:	6990
Status:	ACTIVE
Home Owner:	No
PI Number:	022829
X Coord Site:	613667
X Coord PI:	613667
Y Coord Site:	717611
Y Coord PI:	717611

HIST SHWS:

Case Status:	**Active**
Status Date:	12/16/1996
Case ID:	022829
Contact:	Bureau of Field Operations - Northern
Sub Section Label:	A: Sites with On-Site Sources of Contamination
Site Municipality:	0909
Remedial Level Code:	C2
Classification exception area dt:	None
Classification exception area dt:	Not reported
Deed Notice Status:	None
Deed Notice Date:	Not reported
Engineering Control Status:	None
Engineering Control Date:	Not reported
National Priorities List Status:	Not reported
National Priorities List Date:	Not reported
X Coordinate:	613667
Y Coordinate:	717611
Coordinate System:	NJ State Plane (NAD83) - USFEET

UST:

Facility ID:	022829
Owner Name:	MARIO FERRAO
Organization:	M&M BUILDERS LLC
Contact Type(UST Reg):	Facility Operator
Contact Address (UST Reg):	220 CLIFTON BLVD
Contact Address 2 (UST Reg):	Not reported
Conact City,St,Zip (UST Reg):	Clifton, NJ 07015
Owner Name:	Not Identified Not Identified
Organization:	TILCON NEW YORK RD
Contact Type(UST Reg):	Facility Operator
Contact Address (UST Reg):	162 OLD MILL RD
Contact Address 2 (UST Reg):	Not reported
Conact City,St,Zip (UST Reg):	WEST NYACK, NY
Owner Name:	FRANK SIMMONS
Organization:	INVENSYS INC
Contact Type(UST Reg):	Tank Owner
Contact Address (UST Reg):	33 COMERCIAL ST - C42-26
Contact Address 2 (UST Reg):	Not reported

TILCON NEW JERSEY INC (Continued) **1000539492**

Conact City,St,Zip (UST Reg):	FOXBORO, MA 02035
Owner Name:	GEORGE THOMPSON
Organization:	TILCON NEW YORK INC
Contact Type(UST Reg):	Tank Owner
Contact Address (UST Reg):	162 OLD MILL RD
Contact Address 2 (UST Reg):	Not reported
Conact City,St,Zip (UST Reg):	WEST NYACK, NY 10994
Tank Id:	TANK-1
Tank Number:	E1
Tank Contents:	Unleaded Gasoline
Tank Size:	1000
Install Date:	1986-01-01 00:00:00
Tank Compliance:	No
Tank Status:	**Removed**
Overfill:	No
Tank Status Date:	1999-06-04 00:00:00
Compliance Monitoring?:	No
Overfill Protection:	No
Spill Containment:	No
Tank Wellhead Protection:	Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe:	Pipe
Monitor Type:	None
Monitor Tank / Pipe:	Tank
Monitor Type:	None

TANK DETAIL:

Tankpipe Tank / Pipe:	Pipe
Tankpipe Construction Type:	CONVERSION (NON-NULLABLE)
Tankpipe Tank / Pipe:	Tank
Tankpipe Construction Type:	Cathodically protected steel
Tank Id:	TANK-122432
Tank Number:	E1
Tank Contents:	Unleaded Gasoline
Tank Size:	1500
Install Date:	1944-01-01 00:00:00
Tank Compliance:	No
Tank Status:	**Removed**
Overfill:	Not reported
Tank Status Date:	2008-02-14 00:00:00
Compliance Monitoring?:	No
Overfill Protection:	Not reported
Spill Containment:	Not reported
Tank Wellhead Protection:	Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe:	Pipe
Monitor Type:	Other: No Piping Exists
Monitor Tank / Pipe:	Tank
Monitor Type:	None

TANK DETAIL:

Tankpipe Tank / Pipe:	Pipe
Tankpipe Construction Type:	Other: No Piping Exists
Tankpipe Tank / Pipe:	Tank
Tankpipe Construction Type:	Bare steel

TILCON NEW JERSEY INC (Continued) **1000539492**

Tank Id:	TANK-122433
Tank Number:	E2
Tank Contents:	Unleaded Gasoline
Tank Size:	1500
Install Date:	1944-01-01 00:00:00
Tank Compliance:	No
Tank Status:	**Removed**
Overfill:	Not reported
Tank Status Date:	2008-02-14 00:00:00
Compliance Monitoring?:	No
Overfill Protection:	Not reported
Spill Containment:	Not reported
Tank Wellhead Protection:	Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe:	Pipe
Monitor Type:	Other: No Piping Exists
Monitor Tank / Pipe:	Tank
Monitor Type:	None

TANK DETAIL:

Tankpipe Tank / Pipe:	Pipe
Tankpipe Construction Type:	Other: No Piping Exists
Tankpipe Tank / Pipe:	Tank
Tankpipe Construction Type:	Bare steel

NJ Release:

Facility ID:	13119	Case Number:	96-8-16-1625-36
Date Received:	8/16/1996	Nature of Incident:	Other
Operator:	ROB		
Incident Type:	Not reported	Incident Location:	Not reported
Location:	Facility		
Other Location:	Not reported		
Contact Name:	Not reported		
Caller Name:	REDACTED		
Caller Title:	Not reported		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Type:	Commercial		
Facility Phone:	Not reported		
Incident Date:	Not reported	Incident Time:	UNK
Substance(s):	NONE		
Substance Type:	Not reported	Substance Identity:	Known
CAS Number:	Not reported	A310 Letter:	No
TCPA Chemical:	No	Hazrds Material:	No
COMU:	0909	Ref. Code:	101
Amnt Released:	Not reported	Contained:	Not reported
Release Type:	Not reported	Release VE:	Not reported
Injuries:	Not reported		
Public Exposure:	Not reported	Facility Evacuation:	Not reported
Police at Scene:	Not reported	Firemen at Scene:	Not reported
Contamination of:	Not reported	Receiving Water:	Not reported
Status at Spill:	SITE OF MOA.		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported

TILCON NEW JERSEY INC (Continued) **1000539492**

Other Name:	Not reported	Other Title:	Not reported
Other Telephone:	Not reported		
Public Evacuation:	Not reported		
Assistance Requested:	Not reported		
Wind Direction/Speed:	Not reported		
Local Municipality Notified:	Not reported		
Local Municipality Name:	Not reported		
Local Municipality Title:	Not reported		
Local Municipality Telephone:	Not reported		
Local Municipality Date:	Not reported		
Local Municipality Time:	Not reported		
Incident Description:	MOA		
Incident Name:	Not reported		
Incident Referred To:	DRPSR		
Incident Region:	BFO-CAS		
Incident Telephone:	Not reported		
Incident Date:	8/16/1996		
Incident time:	Not reported		
Incident ITM:	B		
Comments:	Not reported		
Date A310 Letter Printed:	8/16/1996		
Date Local Authority Was Notified:	Not reported		
Date Updated:	Not reported		
Date Report Faxed to Local Authority:	Not reported		
Local Authority Notification Date:	Not reported		
Rep Receive Date:	Not reported		
Reporter Type:	Not reported		
Reporter Name:	Not reported		
Reporter Title:	Not reported		
Reporter Org:	Not reported		
Reporter Address:	Not reported		
Reporter City,St,Zip:	Not reported		
Reporter County:	Not reported		
Incident Status:	Not reported		
Incident Category:	Not reported		
Incident Source:	Not reported		
Incident Address:	Not reported		
Incident Address 2:	Not reported		
Incident City,St,Zip:	Not reported		
Incident County:	Not reported		
DEP Requested:	Not reported		
Confidential:	Not reported		
Notify Type:	Not reported		
Road Closed:	Not reported		
Direction:	Not reported		
Responsible Party:	UnKnown		
Responsible Party Name:	Not reported		
Responsible Party Contact:	Not reported		
Responsible Party Title:	Not reported		
Responsible Party Phone:	Not reported		
Responsible Party Street:	Not reported		
Responsible Party County:	Not reported		
Responsible Party City,St,Zip:	Not reported		
Memo. Of Understanding:	Not reported		
Drill/trng Exercise:	Not reported		
Hazardous:	Not reported		

TILCON NEW JERSEY INC (Continued) **1000539492**

Facility ID:	15720	Case Number:	96-10-2-0640-28
Date Received:	10/2/1996	Nature of Incident:	Citizen
Operator:	JIMS		
Incident Type:	Not reported	Incident Location:	Not reported
Location:	Facility		
Other Location:	Not reported		
Contact Name:	Not reported		
Caller Name:	REDACTED		
Caller Title:	Not reported		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Type:	Commercial		
Facility Phone:	Not reported		
Incident Date:	10/2/1996	Incident Time:	0610
Substance(s):	NOISE		
Substance Type:	Not reported	Substance Identity:	Known
CAS Number:	Not reported	A310 Letter:	No
TCPA Chemical:	No	Hazrds Material:	No
COMU:	0909	Ref. Code:	020
Amnt Released:	NONE	Contained:	Not reported
Release Type:	Not reported	Release VE:	Not reported
Injuries:	No		
Public Exposure:	Yes	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Air	Receiving Water:	Not reported
Status at Spill:	NOISE FROM TRUCKS EXITING BUSINESS BEFORE 0700 HRS.		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	Yes
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Telephone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Description:	Noise
Incident Name:	Not reported
Incident Referred To:	ESHA
Incident Region:	Noise
Incident Telephone:	Mailed
Incident Date:	10/2/1996
Incident time:	Not reported
Incident ITM:	M
Comments: Not reported	
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	Not reported

TILCON NEW JERSEY INC (Continued) **1000539492**

Reporter Type:	Not reported
Reporter Name:	Not reported
Reporter Title:	Not reported
Reporter Org:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Not reported
Incident Category:	Not reported
Incident Source:	Not reported
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	Not reported
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	Not reported
Direction:	Not reported
Responsible Party:	Known
Responsible Party Name:	TILCON CO
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	PATERSON PLANK
Responsible Party County:	HUDSON
Responsible Party City,St,Zip:	SECAUCUS, NJ
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

VCP:

Incident Number:	96-08-16-1625-36
MOA Execution Date:	12/16/1996
Type Of Vcp File:	HISTORICAL
Pi Number:	Not reported
Case Type(Case Type):	Not reported
Case Contact: Department	Not reported
Case Contact Name:	Not reported
Case Contact: Organization	George W Thompson Pres
Case Contact: Address: Line1	Not reported
Case Contact: Address: Line2	Not reported
Case Contact: Address: Line3	Not reported
Case Contact City,St,Zip:	Not reported

NJ ISRA:

Pi Number:	022829
Action Number:	ISR990001
Title:	E99409 Tilcon New York Incorpo
Isra Trg: Finalized Date	1999-08-01
Start Date:	2002-07-15
Facility Status:	Assigned to Program
Case No:	E99409
Case Name:	Tilcon New York Incorporated
Case Type:	ISRA
Trigger Type:	Cessation

TILCON NEW JERSEY INC (Continued) **1000539492**

Trigger Date: 1999-08-01

Pi Number: 022829
Action Number: ISR990001
Title: E99409 Tilcon New York Incorpo
Isra Trg: Finalized Date 2002-04-01
Start Date: 2002-07-15
Facility Status: Assigned to Program
Case No: E99409
Case Name: Tilcon New York Incorporated
Case Type: ISRA
Trigger Type: Property Sale
Trigger Date: 2002-01-30

NJ_PDES:
NJPDES Permit Number: NJ0121070
Facility Telephone: 2019424400
Facility Contact: PLANT MANAGER
Facility Municipality: SECAUCUS TOWN
Facility Enforcement region: NORTHERN
Discharger Classification: Not reported
Discharger Category Code: Not reported
Document Status: Not reported
Facility Primary SIC code: Not reported
Facility Ownership: Not reported
Facility Discharge Basin code: Not reported
Facility Discharge Basin name: Not reported
Facility Lat/Long: 0 0
Facility Lot number: Not reported
Facility Block number: Not reported
Permittee Name: TILCON NEW JERSEY INC
Permittee Address: PO BOX 8248
Permittee PO Box: Not reported
Permittee City,St,Zip: HALEDON, NJ 07508 0000
Category Description: RENEWAL
Date Permit Application Received: 2/5/1996
Date Draft Permit Issued: - -
Date Final Permit Issued: 5/5/1997
Date Final Permit Effective: 5/5/1997
Date Final Permit Expires: 1/31/2002
PI Number: Not reported
Regional Office: Not reported
Permit Discharge Code: 5G2
Permit Category: STORMWATER BASIC (GP)

NJ FINANCIAL ASSURANCE:
Dispositon Date: 11/22/2002
RFS Disposition Description: APPROVED
Institution: BANK OF AMERICA, NA
RFS Type Description: Line of Credit
PI Number: Not reported

Dispositon Date: 12/4/2008
RFS Disposition Description: APPROVED
Institution: Bank of America
RFS Type Description: Line of Credit

TILCON NEW JERSEY INC (Continued) **1000539492**

PI Number: 022829

H27
SE
1/2-1
0.671 mi.
3544 ft.

287 PAULANNE TERRACE **SHWS** **S109314851**
287 PAULANNE TER **N/A**
SECAUCUS TOWN, NJ

Site 2 of 2 in cluster H

Relative:
Higher

Actual:
8 ft.

SHWS:

Site ID:	95825
Status:	CLOSED
Home Owner:	Yes
PI Number:	134854
X Coord Site:	Not reported
X Coord PI:	Not reported
Y Coord Site:	Not reported
Y Coord PI:	Not reported

28
ESE
1/2-1
0.689 mi.
3637 ft.

KIRK'S TRANSMISSIONINC **SHWS** **U000367704**
20 RIVER RD **UST** **N/A**
NORTH ARLINGTON BORO, NJ 07032

Relative:
Lower

Actual:
2 ft.

SHWS:

Site ID:	23355
Status:	CLOSED
Home Owner:	No
PI Number:	025452
X Coord Site:	Not reported
X Coord PI:	Not reported
Y Coord Site:	Not reported
Y Coord PI:	Not reported

UST:

Facility ID:	025452
Owner Name:	Not Identified Not Identified
Organization:	Not Identified
Contact Type(UST Reg):	Facility Operator
Contact Address (UST Reg):	Not reported
Contact Address 2 (UST Reg):	Not reported
Conact City,St,Zip (UST Reg):	Not reported
Owner Name:	KIRK DEL RUSSO
Organization:	MARY DEL RUSSO
Contact Type(UST Reg):	Tank Owner
Contact Address (UST Reg):	20 RIVER RD
Contact Address 2 (UST Reg):	Not reported
Conact City,St,Zip (UST Reg):	North Arlington, NJ 07032
Tank Id:	TANK-1
Tank Number:	0001
Tank Contents:	Waste Oil
Tank Size:	550
Install Date:	1971-01-01 00:00:00
Tank Compliance:	No
Tank Status:	**Removed**

KIRK'S TRANSMISSIONINC (Continued) **U000367704**

Overfill:	No
Tank Status Date:	1990-04-20 00:00:00
Compliance Monitoring?:	No
Overfill Protection:	No
Spill Containment:	No
Tank Wellhead Protection:	Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe:	Pipe
Monitor Type:	None
Monitor Tank / Pipe:	Tank
Monitor Type:	None

TANK DETAIL:

Tankpipe Tank / Pipe:	Pipe
Tankpipe Construction Type:	Other
Tankpipe Tank / Pipe:	Tank
Tankpipe Construction Type:	Bare steel

Tank Id:	TANK-2
Tank Number:	0002
Tank Contents:	Waste Oil
Tank Size:	550
Install Date:	1969-01-01 00:00:00
Tank Compliance:	No
Tank Status:	**Removed**
Overfill:	No
Tank Status Date:	1990-04-20 00:00:00
Compliance Monitoring?:	No
Overfill Protection:	No
Spill Containment:	No
Tank Wellhead Protection:	Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe:	Pipe
Monitor Type:	None
Monitor Tank / Pipe:	Tank
Monitor Type:	None

TANK DETAIL:

Tankpipe Tank / Pipe:	Pipe
Tankpipe Construction Type:	Other
Tankpipe Tank / Pipe:	Tank
Tankpipe Construction Type:	Bare steel

29
ESE
1/2-1
0.740 mi.
3908 ft.

BOULEVARD TIRE **SHWS** **S109292710**
1159 FARM RD **N/A**
SECAUCUS TOWN, NJ

Relative:
Lower

Actual:
2 ft.

SHWS:

Site ID:	119283
Status:	CLOSED
Home Owner:	No
PI Number:	157053
X Coord Site:	Not reported
X Coord PI:	Not reported
Y Coord Site:	Not reported
Y Coord PI:	Not reported

30
SE
1/2-1
0.745 mi.
3934 ft.

297 FRANKLIN STREET
297 FRANKLIN ST
SECAUCUS TOWN, NJ

SHWS **S109294623**
N/A

Relative:
Higher

Actual:
24 ft.

SHWS:

Site ID:	146360
Status:	CLOSED
Home Owner:	Yes
PI Number:	193614
X Coord Site:	Not reported
X Coord PI:	Not reported
Y Coord Site:	Not reported
Y Coord PI:	Not reported

31
NNE
1/2-1
0.759 mi.
4009 ft.

UNIMAC GRAPHICS
350 MICHELLE PL
CARLSTADT BORO, NJ 07072

SHWS **S106761244**
ENG CONTROLS **N/A**

Relative:
Equal

Actual:
6 ft.

SHWS:

Site ID:	13084
Status:	ACTIVE
Home Owner:	No
PI Number:	032842
X Coord Site:	613287
X Coord PI:	613287
Y Coord Site:	722698
Y Coord PI:	722698

NJ ENGINEERING CONTROLS:

Site ID:	13084
Pi Number:	032842
PI Name:	UNIMAC GRAPHICS
Owner Name:	Amann, George
DER Filed Date:	9/11/2000
DER Lifted Date:	Not reported
Der Deed Usage (si):	Restricted
Deed Specific Requirement:	Not reported
Deeds Parameter Desc:	Base/neutrals and acids
Deeds Depth:	999.00
Comments:	Existing site conditions are the eng. control= grass, asphalt and building footprint

Site ID:	13084
Pi Number:	032842
PI Name:	UNIMAC GRAPHICS
Owner Name:	Amann, George
DER Filed Date:	9/11/2000
DER Lifted Date:	Not reported
Der Deed Usage (si):	Restricted
Deed Specific Requirement:	Not reported
Deeds Parameter Desc:	Metals
Deeds Depth:	999.00
Comments:	Existing site conditions are the eng. control= grass, asphalt and building footprint

32
South
1/2-1
0.766 mi.
4045 ft.

AMERADA HESS GARAGE
35 MEADOWLANDS PKWY
SECAUCUS TOWN, NJ

Database(s): **SHWS**
EDR ID Number: **S109306779**
EPA ID Number: **N/A**

Relative:
Equal

Actual:
6 ft.

SHWS:

Site ID:	6961
Status:	ACTIVE
Home Owner:	No
PI Number:	003928
X Coord Site:	611948
X Coord PI:	611948
Y Coord Site:	715563
Y Coord PI:	715563

33
SSE
1/2-1
0.786 mi.
4149 ft.

THE RUG IMPORTER
30 WOOD AVE
SECAUCUS TOWN, NJ

Database(s): **SHWS**
EDR ID Number: **S108946117**
EPA ID Number: **N/A**

Relative:
Higher

Actual:
19 ft.

SHWS:

Site ID:	362251
Status:	ACTIVE
Home Owner:	No
PI Number:	447388
X Coord Site:	613142
X Coord PI:	Not reported
Y Coord Site:	715473
Y Coord PI:	Not reported

34
South
1/2-1
0.787 mi.
4155 ft.

AMERADA HESS TRUCK SERVICE FACILITY
34 MEADOWLANDS PKWY
SECAUCUS TOWN, NJ 08054

Database(s): **SHWS**, **HIST HWS**, **ENG CONTROLS**
EDR ID Number: **S107495262**
EPA ID Number: **N/A**

Relative:
Higher

Actual:
7 ft.

SHWS:

Site ID:	13866
Status:	ACTIVE
Home Owner:	No
PI Number:	237091
X Coord Site:	611802
X Coord PI:	611802
Y Coord Site:	715040
Y Coord PI:	715040

HIST SHWS:

Case Status:	**Active**
Status Date:	9/27/2004
Case ID:	237091
Contact:	Bureau of Field Operations - Northern
Sub Section Label:	A: Sites with On-Site Sources of Contamination
Site Municipality:	0909
Remedial Level Code:	C2
Classification exception area dt:	None
Classification exception area dt:	Not reported

AMERADA HESS TRUCK SERVICE FACILITY (Continued) **S107495262**

Deed Notice Status:	None
Deed Notice Date:	Not reported
Engineering Control Status:	None
Engineering Control Date:	Not reported
National Priorities List Status:	Not reported
National Priorities List Date:	Not reported
X Coordinate:	611802
Y Coordinate:	715040
Coordinate System:	NJ State Plane (NAD83) - USFEET

NJ ENGINEERING CONTROLS:

Site ID:	13866
Pi Number:	237091
PI Name:	AMERADA HESS TRUCK SERVICE FACILITY
Owner Name:	SANCLEMENTI, FRANK
DER Filed Date:	1/22/2008
DER Lifted Date:	Not reported
Der Deed Usage (si):	Restricted
Deed Specific Requirement:	Asphalt Cap
Deeds Parameter Desc:	Benzo(a)anthracene
Deeds Depth:	4.00
Comments:	Not reported

Site ID:	13866
Pi Number:	237091
PI Name:	AMERADA HESS TRUCK SERVICE FACILITY
Owner Name:	SANCLEMENTI, FRANK
DER Filed Date:	1/22/2008
DER Lifted Date:	Not reported
Der Deed Usage (si):	Restricted
Deed Specific Requirement:	Asphalt Cap
Deeds Parameter Desc:	Benzo(a)pyrene
Deeds Depth:	4.00
Comments:	Not reported

Site ID:	13866
Pi Number:	237091
PI Name:	AMERADA HESS TRUCK SERVICE FACILITY
Owner Name:	SANCLEMENTI, FRANK
DER Filed Date:	1/22/2008
DER Lifted Date:	Not reported
Der Deed Usage (si):	Restricted
Deed Specific Requirement:	Asphalt Cap
Deeds Parameter Desc:	Benzo(b)fluoranthene
Deeds Depth:	4.00
Comments:	Not reported

Site ID:	13866
Pi Number:	237091
PI Name:	AMERADA HESS TRUCK SERVICE FACILITY
Owner Name:	SANCLEMENTI, FRANK
DER Filed Date:	1/22/2008
DER Lifted Date:	Not reported
Der Deed Usage (si):	Restricted
Deed Specific Requirement:	Asphalt Cap
Deeds Parameter Desc:	Benzo(k)fluoranthene
Deeds Depth:	4.00

AMERADA HESS TRUCK SERVICE FACILITY (Continued) **S107495262**

Comments:	Not reported
Site ID:	13866
Pi Number:	237091
PI Name:	AMERADA HESS TRUCK SERVICE FACILITY
Owner Name:	SANCLEMENTI, FRANK
DER Filed Date:	1/22/2008
DER Lifted Date:	Not reported
Der Deed Usage (si):	Restricted
Deed Specific Requirement:	Asphalt Cap
Deeds Parameter Desc:	Lead
Deeds Depth:	4.00
Comments:	Not reported

I35 **JAKE & TOMS MEADOWLAND SERVICE** **SHWS** **U000775862**
NNE **204 WASHINGTON AVE** **HIST HWS** **N/A**
1/2-1 **CARLSTADT BORO, NJ 07072** **UST**
0.795 mi.
4197 ft. **Site 1 of 2 in cluster I**

Relative:
Equal

Actual:
6 ft.

SHWS:

Site ID:	55536
Status:	ACTIVE
Home Owner:	No
PI Number:	026351
X Coord Site:	615667
X Coord PI:	615667
Y Coord Site:	728845
Y Coord PI:	728845

HIST SHWS:

Case Status:	**Active**
Status Date:	8/4/2004
Case ID:	026351
Contact:	BOMM
Sub Section Label:	A: Sites with On-Site Sources of Contamination
Site Municipality:	0205
Remedial Level Code:	C2
Classification exception area dt:	None
Classification exception area dt:	Not reported
Deed Notice Status:	None
Deed Notice Date:	Not reported
Engineering Control Status:	None
Engineering Control Date:	Not reported
National Priorities List Status:	Not reported
National Priorities List Date:	Not reported
X Coordinate:	615667
Y Coordinate:	728845
Coordinate System:	NJ State Plane (NAD83) - USFEET

UST:

Facility ID:	026351
Owner Name:	Not Identified Not Identified
Organization:	Not Identified
Contact Type(UST Reg):	Facility Operator
Contact Address (UST Reg):	Not reported
Contact Address 2 (UST Reg):	Not reported

JAKE & TOMS MEADOWLAND SERVICE (Continued) **U000775862**

Conact City,St,Zip (UST Reg):	Not reported
Owner Name:	JAKE DE LELLIS
Organization:	JAKE & TOMS MEADOWLAND SERVICE
Contact Type(UST Reg):	Tank Owner
Contact Address (UST Reg):	284 WASHINGTON AVE
Contact Address 2 (UST Reg):	Not reported
Conact City,St,Zip (UST Reg):	Carlstadt, NJ 07072

Tank Id:	TANK-1
Tank Number:	C006
Tank Contents:	Leaded Gasoline
Tank Size:	2000
Install Date:	1944-01-01 00:00:00
Tank Compliance:	No
Tank Status:	**Removed**
Overfill:	No
Tank Status Date:	1992-06-01 00:00:00
Compliance Monitoring?:	No
Overfill Protection:	No
Spill Containment:	No
Tank Wellhead Protection:	Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe:	Pipe
Monitor Type:	None
Monitor Tank / Pipe:	Tank
Monitor Type:	None

TANK DETAIL:

Tankpipe Tank / Pipe:	Pipe
Tankpipe Construction Type:	Bare steel
Tankpipe Tank / Pipe:	Tank
Tankpipe Construction Type:	Bare steel

Tank Id:	TANK-2
Tank Number:	C007
Tank Contents:	Leaded Gasoline
Tank Size:	2000
Install Date:	1944-01-01 00:00:00
Tank Compliance:	No
Tank Status:	**Removed**
Overfill:	No
Tank Status Date:	1992-06-01 00:00:00
Compliance Monitoring?:	No
Overfill Protection:	No
Spill Containment:	No
Tank Wellhead Protection:	Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe:	Pipe
Monitor Type:	None
Monitor Tank / Pipe:	Tank
Monitor Type:	None

TANK DETAIL:

Tankpipe Tank / Pipe:	Pipe
Tankpipe Construction Type:	Bare steel
Tankpipe Tank / Pipe:	Tank
Tankpipe Construction Type:	Bare steel

JAKE & TOMS MEADOWLAND SERVICE (Continued) **U000775862**

Tank Id:	TANK-3
Tank Number:	C008
Tank Contents:	Leaded Gasoline
Tank Size:	1000
Install Date:	1944-01-01 00:00:00
Tank Compliance:	No
Tank Status:	**Removed**
Overfill:	No
Tank Status Date:	1992-06-01 00:00:00
Compliance Monitoring?:	No
Overfill Protection:	No
Spill Containment:	No
Tank Wellhead Protection:	Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe:	Pipe
Monitor Type:	None
Monitor Tank / Pipe:	Tank
Monitor Type:	None

TANK DETAIL:

Tankpipe Tank / Pipe:	Pipe
Tankpipe Construction Type:	Bare steel
Tankpipe Tank / Pipe:	Tank
Tankpipe Construction Type:	Bare steel

Tank Id:	TANK-4
Tank Number:	C009
Tank Contents:	Waste Oil
Tank Size:	1000
Install Date:	1944-01-01 00:00:00
Tank Compliance:	No
Tank Status:	**Removed**
Overfill:	No
Tank Status Date:	1992-06-01 00:00:00
Compliance Monitoring?:	No
Overfill Protection:	No
Spill Containment:	No
Tank Wellhead Protection:	Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe:	Pipe
Monitor Type:	None
Monitor Tank / Pipe:	Tank
Monitor Type:	None

TANK DETAIL:

Tankpipe Tank / Pipe:	Pipe
Tankpipe Construction Type:	Bare steel
Tankpipe Tank / Pipe:	Tank
Tankpipe Construction Type:	Bare steel

Tank Id:	TANK-5
Tank Number:	1
Tank Contents:	Leaded Gasoline
Tank Size:	4000
Install Date:	1969-01-01 00:00:00
Tank Compliance:	No
Tank Status:	**Removed**

JAKE & TOMS MEADOWLAND SERVICE (Continued) **U000775862**

Overfill:	Yes
Tank Status Date:	1992-06-01 00:00:00
Compliance Monitoring?:	No
Overfill Protection:	Yes
Spill Containment:	Yes
Tank Wellhead Protection:	Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe:	Pipe
Monitor Type:	None
Monitor Tank / Pipe:	Tank
Monitor Type:	None

TANK DETAIL:

Tankpipe Tank / Pipe:	Pipe
Tankpipe Construction Type:	Bare steel
Tankpipe Tank / Pipe:	Tank
Tankpipe Construction Type:	Bare steel

Tank Id:	TANK-6
Tank Number:	2
Tank Contents:	Light Diesel Fuel (No. 1-D)
Tank Size:	4000
Install Date:	1969-01-01 00:00:00
Tank Compliance:	No
Tank Status:	**Removed**
Overfill:	Yes
Tank Status Date:	1992-06-01 00:00:00
Compliance Monitoring?:	No
Overfill Protection:	Yes
Spill Containment:	Yes
Tank Wellhead Protection:	Not reported

TANK MONITOR DATA:

Monitor Tank / Pipe:	Pipe
Monitor Type:	None
Monitor Tank / Pipe:	Tank
Monitor Type:	None

TANK DETAIL:

Tankpipe Tank / Pipe:	Pipe
Tankpipe Construction Type:	Bare steel
Tankpipe Tank / Pipe:	Tank
Tankpipe Construction Type:	Bare steel

Tank Id:	TANK-7
Tank Number:	3
Tank Contents:	Unleaded Gasoline
Tank Size:	4000
Install Date:	1972-01-01 00:00:00
Tank Compliance:	No
Tank Status:	**Removed**
Overfill:	Yes
Tank Status Date:	1992-06-01 00:00:00
Compliance Monitoring?:	No
Overfill Protection:	Yes
Spill Containment:	Yes
Tank Wellhead Protection:	Not reported

JAKE & TOMS MEADOWLAND SERVICE (Continued) **U000775862**

TANK MONITOR DATA:
Monitor Tank / Pipe: Pipe
Monitor Type: None
Monitor Tank / Pipe: Tank
Monitor Type: None

TANK DETAIL:
Tankpipe Tank / Pipe: Pipe
Tankpipe Construction Type: Bare steel
Tankpipe Tank / Pipe: Tank
Tankpipe Construction Type: Bare steel

Tank Id: TANK-8
Tank Number: 4
Tank Contents: Unleaded Gasoline
Tank Size: 4000
Install Date: 1972-01-01 00:00:00
Tank Compliance: No
Tank Status: Removed
Overfill: Yes
Tank Status Date: 1992-06-01 00:00:00
Compliance Monitoring?: No
Overfill Protection: Yes
Spill Containment: Yes
Tank Wellhead Protection: Not reported

TANK MONITOR DATA:
Monitor Tank / Pipe: Pipe
Monitor Type: None
Monitor Tank / Pipe: Tank
Monitor Type: None

TANK DETAIL:
Tankpipe Tank / Pipe: Pipe
Tankpipe Construction Type: Bare steel
Tankpipe Tank / Pipe: Tank
Tankpipe Construction Type: Bare steel

Tank Id: TANK-9
Tank Number: 6
Tank Contents: Waste Oil
Tank Size: 550
Install Date: 1969-01-01 00:00:00
Tank Compliance: No
Tank Status: Removed
Overfill: No
Tank Status Date: 1992-06-01 00:00:00
Compliance Monitoring?: No
Overfill Protection: No
Spill Containment: No
Tank Wellhead Protection: Not reported

TANK MONITOR DATA:
Monitor Tank / Pipe: Pipe
Monitor Type: None
Monitor Tank / Pipe: Tank
Monitor Type: None

TANK DETAIL:

JAKE & TOMS MEADOWLAND SERVICE (Continued) **U000775862**

Tankpipe Tank / Pipe: Pipe
Tankpipe Construction Type: Bare steel
Tankpipe Tank / Pipe: Tank
Tankpipe Construction Type: Bare steel

I36 **J LANDAU & CO. INC.** **CERC-NFRAP** **1000276655**
NNE **214 WASHINGTON AVENUE** **CORRACTS** **NJD001222801**
1/2-1 **CARLSTADT, NJ 07072** **RCRA-NonGen**
0.806 mi. **FINDS**
4253 ft. **Site 2 of 2 in cluster I**

Relative:
Higher

Actual:
7 ft.

CERC-NFRAP:
Site ID: 0203206
Federal Facility: Not a Federal Facility
NPL Status: Not on the NPL
Non NPL Status: NFRAP-Site does not qualify for the NPL based on existing information

CERCLIS-NFRAP Site Alias Name(s):
Alias Name: J LANDAU & CO. INC.
Alias Address: Not reported
BERGEN, NJ

Program Priority:
Description: RCRA Deferral Audit

Description: RCRA Deferral - New Decision

CERCLIS-NFRAP Assessment History:
Action: DISCOVERY
Date Started: Not reported
Date Completed: 10/01/1989
Priority Level: Not reported

Action: PRELIMINARY ASSESSMENT
Date Started: Not reported
Date Completed: 06/21/1990
Priority Level: NFRAP-Site does not qualify for the NPL based on existing information

Action: ARCHIVE SITE
Date Started: Not reported
Date Completed: 11/09/1998
Priority Level: Not reported

CORRACTS:

EPA ID: NJD001222801
EPA Region: 02
Area Name: SITEWIDE
Actual Date: 07/31/1992
Action: CA050 - RFA Completed
NAICS Code(s): 32551
Paint and Coating Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

J LANDAU & CO. INC. (Continued) **1000276655**

EPA ID: NJD001222801
EPA Region: 02
Area Name: SITEWIDE
Actual Date: 11/10/1993
Action: CA075LO - CA Prioritization, Facility or area was assigned a low corrective action priority
NAICS Code(s): 32551
Paint and Coating Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

RCRA-NonGen:
Date form received by agency: 01/01/2007
Facility name: J LANDAU & CO INC
Facility address: 214 WASHINGTON AVE
CARLSTADT, NJ 070723000
EPA ID: NJD001222801
Mailing address: WASHINGTON AVE
CARLSTADT, NJ 07072
Contact: Not reported
Contact address: WASHINGTON AVE
CARLSTADT, NJ 07072
Contact country: US
Contact telephone: Not reported
Contact email: Not reported
EPA Region: 02
Land type: Facility is not located on Indian land. Additional information is not known.
Classification: Non-Generator
Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:
Owner/operator name: J LANDAU & CO INC
Owner/operator address: 214 WASHINGTON AVE
CARLSTADT, NJ 07072
Owner/operator country: US
Owner/operator telephone: (201) 939-7418
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Owner/operator name: J LANDAU & CO INC
Owner/operator address: 214 WASHINGTON AVE
OPERCITY, NJ 99999
Owner/operator country: US
Owner/operator telephone: (201) 939-7418
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No

J LANDAU & CO. INC. (Continued) **1000276655**

Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:
Date form received by agency: 01/01/2006
Facility name: J LANDAU & CO INC
Classification: Not a generator, verified

Date form received by agency: 04/18/1997
Facility name: J LANDAU & CO INC
Site name: J. LANDAV INC
Classification: Large Quantity Generator

Date form received by agency: 04/14/1994
Facility name: J LANDAU & CO INC
Classification: Large Quantity Generator

Date form received by agency: 02/12/1992
Facility name: J LANDAU & CO INC
Site name: J. LANDAUZ CO., INC.
Classification: Large Quantity Generator

Date form received by agency: 11/19/1980
Facility name: J LANDAU & CO INC
Classification: Not a generator, verified

Date form received by agency: 08/04/1980
Facility name: J LANDAU & CO INC
Classification: Large Quantity Generator

Corrective Action Summary:
Event date: 07/31/1992
Event: RFA Completed

Event date: 11/10/1993
Event: CA Prioritization, Facility or area was assigned a low corrective action priority.

Facility Has Received Notices of Violations:
Regulation violated: Not reported
Area of violation: Generators - General
Date violation determined: 03/31/1997
Date achieved compliance: 04/15/1997
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 03/31/1997
Enf. disposition status: Not reported

J LANDAU & CO. INC. (Continued) **1000276655**

Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: 0
Final penalty amount: 0
Paid penalty amount: 0

Regulation violated: Not reported
Area of violation: TSD - General
Date violation determined: 11/29/1990
Date achieved compliance: 01/09/1991
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 11/30/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: 0
Final penalty amount: 0
Paid penalty amount: 0

Evaluation Action Summary:
Evaluation date: 04/22/1997
Evaluation: NON-FINANCIAL RECORD REVIEW
Area of violation: Generators - General
Date achieved compliance: 04/15/1997
Evaluation lead agency: State

Evaluation date: 03/31/1997
Evaluation: NON-FINANCIAL RECORD REVIEW
Area of violation: Generators - General
Date achieved compliance: 04/15/1997
Evaluation lead agency: State

Evaluation date: 02/06/1996
Evaluation: CASE DEVELOPMENT INSPECTION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 10/25/1994
Evaluation: CASE DEVELOPMENT INSPECTION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 01/09/1991
Evaluation: NON-FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 11/29/1990
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - General
Date achieved compliance: 01/09/1991
Evaluation lead agency: State

J LANDAU & CO. INC. (Continued) **1000276655**

FINDS:

Registry ID: 110000867330

Environmental Interest/Information System

The NEI (National Emissions Inventory) database contains information on stationary and mobile sources that emit criteria air pollutants and their precursors, as well as hazardous air pollutants (HAPs).

NJ-NJEMS (New Jersey - New Jersey Environmental Management System). The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

37
SSE
1/2-1
0.815 mi.
4306 ft.

816 9TH STREET **SHWS** **S109308234**
816 9TH ST **N/A**
SECAUCUS TOWN, NJ

Relative:
Higher

Actual:
13 ft.

SHWS:

Site ID:	73934
Status:	CLOSED
Home Owner:	No
PI Number:	G000036643
X Coord Site:	Not reported
X Coord PI:	Not reported
Y Coord Site:	Not reported
Y Coord PI:	Not reported

38
ESE
1/2-1
0.863 mi.
4558 ft.

190 MEADOW LANE **SHWS** **S108254089**
190 MEADOW LN **VCP** **N/A**
SECAUCUS TOWN, NJ

Relative:
Higher

Actual:
8 ft.

SHWS:

Site ID:	222893
Status:	CLOSED
Home Owner:	Yes
PI Number:	291114
X Coord Site:	Not reported
X Coord PI:	Not reported
Y Coord Site:	Not reported
Y Coord PI:	Not reported

VCP:

Incident Number: 06-06-01-1144-58

190 MEADOW LANE (Continued) **S108254089**

MOA Execution Date:	6/22/2006
Type Of Vcp File:	CURRENT
Pi Number:	291114
Case Type(Case Type):	MOA
Case Contact: Department	Not reported
Case Contact Name:	OBAL CORRAL
Case Contact: Organization	Not reported
Case Contact: Address: Line1	8-11 SIP ST
Case Contact: Address: Line2	Not reported
Case Contact: Address: Line3	Not reported
Case Contact City,St,Zip:	Union City, NJ 07094

39
SSE
1/2-1
0.871 mi.
4599 ft.

310 CLARENDON STREET **SHWS** **S109294835**
310 CLARENDON ST **N/A**
SECAUCUS TOWN, NJ

Relative:
Higher

Actual:
23 ft.

SHWS:

Site ID:	148130
Status:	CLOSED
Home Owner:	Yes
PI Number:	195723
X Coord Site:	Not reported
X Coord PI:	Not reported
Y Coord Site:	Not reported
Y Coord PI:	Not reported

40
North
1/2-1
0.886 mi.
4676 ft.

ROLLS OFFSET GROUP INC **SHWS** **U000358627**
380 PATERSON PLANK RD **HIST LUST** **N/A**
CARLSTADT BORO, NJ 07072 **UST**
SPILLS
NJ Release

Relative:
Equal

Actual:
6 ft.

SHWS:

Site ID:	33681
Status:	CLOSED
Home Owner:	No
PI Number:	008210
X Coord Site:	Not reported
X Coord PI:	Not reported
Y Coord Site:	Not reported
Y Coord PI:	Not reported

LUST HIST:

Case ID:	88-04-28-1638
Lead Program Assigned:	Bureau of Underground Storage Tanks
Facility Status:	**Site Issued Letter of No Further Action for Area(s) Of Concern**
UST ID:	0082109
TMS Number:	Not reported
Remedial Level:	Not reported
Case Manager:	Not reported
Facility Phone:	Not reported
No Further Action:	10/9/1991 0:00:00
RAW Approved:	Not reported
CEA:	Not reported

ROLLS OFFSET GROUP INC (Continued) **U000358627**

Date CEA Lifted: Not reported
Dead Notice: Not reported

UST:
Facility ID: 008210
Owner Name: Not Identified Not Identified
Organization: Not Identified
Contact Type(UST Reg): Facility Operator
Contact Address (UST Reg): Not reported
Contact Address 2 (UST Reg): Not reported
Conact City,St,Zip (UST Reg): Not reported
Owner Name: THOMAS M BLOOMER
Organization: ROLLS OFFSET GROUP INC
Contact Type(UST Reg): Tank Owner
Contact Address (UST Reg): 500 RT 17 S
Contact Address 2 (UST Reg): Not reported
Conact City,St,Zip (UST Reg): Hasbrouck Heights, NJ 07604

Tank Id: TANK-46389
Tank Number: E1
Tank Contents: Other
Tank Size: 3000
Install Date: 1982-01-01 00:00:00
Tank Compliance: No
Tank Status: Removed
Overfill: No
Tank Status Date: 1988-04-18 00:00:00
Compliance Monitoring?: No
Overfill Protection: No
Spill Containment: No
Tank Wellhead Protection: Not reported

TANK MONITOR DATA:
Monitor Tank / Pipe: Pipe
Monitor Type: None
Monitor Tank / Pipe: Tank
Monitor Type: None

TANK DETAIL:
Tankpipe Tank / Pipe: Pipe
Tankpipe Construction Type: Other
Tankpipe Tank / Pipe: Tank
Tankpipe Construction Type: CONVERSION (NON-NULLABLE)

NJ SPILL:
Facility ID: 3118
Case Number: 88-04-28-1638
Notify Type: Not reported
Date Received: 4/28/1988
Location: Other
Other Location: Not reported
Incident Date: 4/18/1988
Incident Time: Not reported
A310 Letter: Not reported
Ref. Code: 014
COMU: 0205
CAS Number: Not reported

ROLLS OFFSET GROUP INC (Continued) **U000358627**

Hazardous:	Not reported
Incident Location:	Not reported
Facility Type:	Residential
Facility Phone:	Not reported
Substance(s):	OIL, OTHER
Substance Type:	Liquid
Substance Identity:	Suspected
TCPA Chemical:	No
Hazrds Material:	Yes
Amnt Released:	500 GAL
Release VE:	Not reported
Contained:	No
Release Type:	Terminated
Incident Desc:	SPILL
Status at Spill:	Not reported
NJ Spill Date:	4/28/1988
NJ Spill Time:	Not reported
NJ Spill Name:	NJSP
NJ Spill Title:	Not reported
NJ Spill Phone:	TELEFAXED
Other Date:	Not reported
Other Time:	Not reported
Other Name:	Not reported
Other Title:	Not reported
Other Phone:	Not reported
Injuries:	No
Public Exposure:	No
Road Closed:	Not reported
Facility Evacuation:	No
Receiving Water:	Not reported
Public Evacuation:	No
Police at Scene:	No
Firemen at Scene:	No
Contamination of:	Not reported
Nature of Incident:	Facility
Wind Direction/Speed:	0
Assistance Requested:	No
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Operator:	JOHN
Contact Name:	Not reported
Caller Name:	REDACTED
Caller Title:	Not reported
Caller Address:	Not reported
Caller City,St,Zip:	Not reported
Caller Phone:	Not reported
Responsible Party:	Known
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Telphone:	Not reported
Responsible Party Street:	Not reported
Responsible Party Municipality:	Not reported
Responsible Party State:	Not reported
Responsible Party Zip:	Not reported
Responsible City,St,Zip:	Not reported
Responsible Party County:	Not reported

ROLLS OFFSET GROUP INC (Continued) **U000358627**

Local Municipality:	Not reported
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Phone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Name:	REFER DHWM
Incident Referred To:	DHWM
Incident Region:	Metro
Incident Phone:	Not reported
Incident Date:	4/28/1988
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Update:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Reporter Name:	Not reported
Reporter Type:	Not reported
Rep Received Date:	Not reported
Reporter Title:	Not reported
Reporter Orgzn:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Type:	Not reported
Incident Status:	Not reported
Incident Category:	Not reported
Incident Source:	Not reported
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported
Incident County:	Not reported
DEP Requested:	Not reported
Confidential:	Not reported

NJ Release:

Facility ID:	2939	Case Number:	88-04-22-1259
Date Received:	4/22/1988	Nature of Incident:	Not reported
Operator:	MARSHA		
Incident Type:	Not reported	Incident Location:	Not reported
Location:	Facility		
Other Location:	Not reported		
Contact Name:	Not reported		
Caller Name:	REDACTED		
Caller Title:	Not reported		
Caller Address:	Not reported		
Caller City,St,Zip:	Not reported		
Caller Telephone:	Not reported		
Facility Type:	Municipal		
Facility Phone:	Not reported		
Incident Date:	4/22/1988	Incident Time:	Not reported
Substance(s):	OIL WASTE		
Substance Type:	Liquid	Substance Identity:	Known
CAS Number:	Not reported	A310 Letter:	Not reported
TCPA Chemical:	No	Hazrds Material:	Yes
COMU:	0205	Ref. Code:	001

ROLLS OFFSET GROUP INC (Continued) **U000358627**

Amnt Released:	Not reported	Contained:	No
Release Type:	Terminated	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Not reported	Receiving Water:	Not reported
Status at Spill:	Not reported		
NJ Spill Date:	4/22/1988	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	OEM
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	No
Wind Direction/Speed:	0
Local Municipality Notified:	Not reported
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Telephone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Description:	SOIL CONTAMINATION
Incident Name:	LEVINE
Incident Referred To:	DEQ
Incident Region:	ER1
Incident Telephone:	669-3959
Incident Date:	4/22/1988
Incident time:	1320
Incident ITM:	T
Incident Name:	Not reported
Incident Referred To:	DEQ
Incident Region:	HQ1
Incident Telephone:	OFFICE
Incident Date:	4/22/1988
Incident Time:	Not reported
Incident ITM:	T
Comments: Not reported	
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	Not reported
Reporter Type:	Not reported
Reporter Name:	Not reported
Reporter Title:	Not reported
Reporter Org:	Not reported
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Not reported
Incident Category:	Not reported
Incident Source:	Not reported
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Not reported

ROLLS OFFSET GROUP INC (Continued) **U000358627**

Incident County:	Not reported
DEP Requested:	Not reported
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	Not reported
Direction:	Not reported
Responsible Party:	Known
Responsible Party Name:	ROLLS OFFSET
Responsible Party Contact:	CHUCK
Responsible Party Title:	TENANT
Responsible Party Phone:	Not reported
Responsible Party Street:	380 PATERSON PLANK R
Responsible Party County:	BERGEN
Responsible Party City,St,Zip:	CARLSTADT, NJ
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

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41 **851 7TH STREET** **SHWS** **S107915791**
SSE **851 7TH ST** **HIST HWS** **N/A**
1/2-1 **SECAUCUS TOWN, NJ**
0.889 mi.
4693 ft.

Relative:
Higher

Actual:
26 ft.

SHWS:

Site ID:	197665
Status:	CLOSED
Home Owner:	Yes
PI Number:	259469
X Coord Site:	Not reported
X Coord PI:	Not reported
Y Coord Site:	Not reported
Y Coord PI:	Not reported

HIST SHWS:

Case Status:	**Active**
Status Date:	7/26/2005
Case ID:	259469
Contact:	County Environmental Health Act
Sub Section Label:	A: Sites with On-Site Sources of Contamination
Site Municipality:	0909
Remedial Level Code:	C1
Classification exception area dt:	None
Classification exception area dt:	Not reported
Deed Notice Status:	None
Deed Notice Date:	Not reported
Engineering Control Status:	None
Engineering Control Date:	Not reported
National Priorities List Status:	Not reported
National Priorities List Date:	Not reported
X Coordinate:	Not reported
Y Coordinate:	Not reported
Coordinate System:	Not reported

42
South
1/2-1
0.902 mi.
4761 ft.

737 9TH STREET
737 9TH ST
SECAUCUS TOWN, NJ

SHWS **S109307196**
N/A

Relative:
Higher

Actual:
21 ft.

SHWS:

Site ID:	71173
Status:	CLOSED
Home Owner:	No
PI Number:	G000010615
X Coord Site:	Not reported
X Coord PI:	Not reported
Y Coord Site:	Not reported
Y Coord PI:	Not reported

J43
SE
1/2-1
0.907 mi.
4789 ft.

164 FRANKLIN STREET
164 FRANKLIN ST
SECAUCUS TOWN, NJ

Site 1 of 2 in cluster J

SHWS **S108253983**
VCP **N/A**

Relative:
Higher

Actual:
44 ft.

SHWS:

Site ID:	227636
Status:	CLOSED
Home Owner:	Yes
PI Number:	297838
X Coord Site:	Not reported
X Coord PI:	Not reported
Y Coord Site:	Not reported
Y Coord PI:	Not reported

VCP:

Incident Number:	06-07-05-0938-45
MOA Execution Date:	10/11/2006
Type Of Vcp File:	CURRENT
Pi Number:	297838
Case Type(Case Type):	MOA
Case Contact: Department	Not reported
Case Contact Name:	CAROLE GENATT
Case Contact: Organization	Not reported
Case Contact: Address: Line1	280 SWEETMANS LA
Case Contact: Address: Line2	Not reported
Case Contact: Address: Line3	Not reported
Case Contact City,St,Zip:	Englishtown, NJ 07726

44
North
1/2-1
0.921 mi.
4861 ft.

VORAC CO DIV OF SEAGRAVE COATING CORP
320 PATERSON PLANK RD
CARLSTADT BORO, NJ

SHWS **S107915269**
HIST HWS **N/A**

Relative:
Lower

Actual:
5 ft.

SHWS:

Site ID:	76415
Status:	CLOSED
Home Owner:	No
PI Number:	G000003855
X Coord Site:	Not reported

VORAC CO DIV OF SEAGRAVE COATING CORP (Continued) **S107915269**

X Coord PI:	Not reported
Y Coord Site:	Not reported
Y Coord PI:	Not reported

HIST SHWS:

Case Status:	**Active**
Status Date:	7/13/2005
Case ID:	167222
Contact:	Bureau of Field Operations - Northern
Sub Section Label:	A: Sites with On-Site Sources of Contamination
Site Municipality:	0205
Remedial Level Code:	B
Classification exception area dt:	None
Classification exception area dt:	Not reported
Deed Notice Status:	None
Deed Notice Date:	Not reported
Engineering Control Status:	None
Engineering Control Date:	Not reported
National Priorities List Status:	Not reported
National Priorities List Date:	Not reported
X Coordinate:	611116
Y Coordinate:	724553
Coordinate System:	NJ State Plane (NAD83) - USFEET

J45 **158 FRANKLIN STREET** **SHWS** **S107915814**
SE **158 FRANKLIN ST** **HIST HWS** **N/A**
1/2-1 **SECAUCUS TOWN, NJ 07094**
0.921 mi.
4865 ft. **Site 2 of 2 in cluster J**

Relative:
Higher

Actual:
48 ft.

SHWS:

Site ID:	196102
Status:	CLOSED
Home Owner:	Yes
PI Number:	257396
X Coord Site:	Not reported
X Coord PI:	Not reported
Y Coord Site:	Not reported
Y Coord PI:	Not reported

HIST SHWS:

Case Status:	**Active**
Status Date:	6/30/2005
Case ID:	257396
Contact:	County Environmental Health Act
Sub Section Label:	A: Sites with On-Site Sources of Contamination
Site Municipality:	0909
Remedial Level Code:	C1
Classification exception area dt:	None
Classification exception area dt:	Not reported
Deed Notice Status:	None
Deed Notice Date:	Not reported
Engineering Control Status:	None
Engineering Control Date:	Not reported
National Priorities List Status:	Not reported
National Priorities List Date:	Not reported
X Coordinate:	Not reported

158 FRANKLIN STREET (Continued) **S107915814**

Y Coordinate: Not reported
Coordinate System: Not reported

K46 **840 6TH ST** **SHWS** **S106212122**
SSE **840 6TH ST** **HIST HWS** **N/A**
1/2-1 **SECAUCUS TOWN, NJ 07094** **NJ Release**
0.933 mi.
4928 ft. **Site 1 of 2 in cluster K**

Relative:
Higher

Actual:
30 ft.

SHWS:
Site ID: 143544
Status: PENDING
Home Owner: Yes
PI Number: 190241
X Coord Site: 613123
X Coord PI: 613123
Y Coord Site: 714454
Y Coord PI: 714454

HIST SHWS:
Case Status: **Active**
Status Date: 2/24/2003
Case ID: 190241
Contact: County Environmental Health Act
Sub Section Label: A: Sites with On-Site Sources of Contamination
Site Municipality: 0909
Remedial Level Code: C1
Classification exception area dt: None
Classification exception area dt: Not reported
Deed Notice Status: None
Deed Notice Date: Not reported
Engineering Control Status: None
Engineering Control Date: Not reported
National Priorities List Status: Not reported
National Priorities List Date: Not reported
X Coordinate: 613123
Y Coordinate: 714454
Coordinate System: NJ State Plane (NAD83) - USFEET

NJ Release:
Facility ID: 48344 Case Number: 03-02-24-1226-06
Date Received: 2/24/2003 Nature of Incident: Not reported
Operator: Not reported
Incident Type: Underground Storage Tank Incident Location: RESIDENCE AT
Location: Not reported
Other Location: Not reported
Contact Name: Not reported
Caller Name: Not reported
Caller Title: Not reported
Caller Address: Not reported
Caller City,St,Zip: Not reported
Caller Telephone: Not reported
Facility Type: Residential
Facility Phone: Not reported
Incident Date: 2/24/2003 Incident Time: Not reported
Substance(s): Not reported
Substance Type: Not reported Substance Identity: Not reported

840 6TH ST (Continued) **S106212122**

CAS Number:	Not reported	A310 Letter:	Not reported
TCPA Chemical:	Not reported	Hazrds Material:	Not reported
COMU:	Not reported	Ref. Code:	Not reported
Amnt Released:	Not reported	Contained:	Not reported
Release Type:	Not reported	Release VE:	Not reported
Injuries:	No		
Public Exposure:	No	Facility Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Not reported	Receiving Water:	Not reported
Status at Spill:	Not reported		
NJ Spill Date:	Not reported	NJ Spill Time:	Not reported
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported		
Other Date:	Not reported	Other Time:	Not reported
Other Name:	Not reported	Other Title:	Not reported

Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	Not reported
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Telephone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Description:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Telephone:	Not reported
Incident Date:	Not reported
Incident time:	Not reported
Incident ITM:	Not reported
Comments: Not reported	
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	2/24/2003
Reporter Type:	Other
Reporter Name:	REDACTED
Reporter Title:	REDACTED
Reporter Org:	REDATED
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Terminated
Incident Category:	Other
Incident Source:	KANTOR
Incident Address:	840 6TH ST
Incident Address 2:	Not reported
Incident City,St,Zip:	Secaucus Town, NJ
Incident County:	Hudson
DEP Requested:	No
Confidential:	Not reported
Notify Type:	Not reported

840 6TH ST (Continued) **S106212122**

Road Closed:	No
Direction:	Not reported
Responsible Party:	Not reported
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	Not reported
Responsible Party County:	Not reported
Responsible Party City,St,Zip:	Not reported
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

K47 **834 6TH STREET** **SHWS S108518900**
SSE **834 6TH ST** **VCP N/A**
1/2-1 **SECAUCUS TOWN, NJ 07094**
0.936 mi.
4944 ft. **Site 2 of 2 in cluster K**

Relative: Higher

Actual: 30 ft.

SHWS:

Site ID:	342578
Status:	CLOSED
Home Owner:	Yes
PI Number:	423677
X Coord Site:	Not reported
X Coord PI:	Not reported
Y Coord Site:	Not reported
Y Coord PI:	Not reported

VCP:

Incident Number:	07-02-05-1436-55
MOA Execution Date:	3/21/2007
Type Of Vcp File:	CURRENT
Pi Number:	423677
Case Type(Case Type):	MOA
Case Contact: Department	Not reported
Case Contact Name:	JOSEPH D'AMICO
Case Contact: Organization	Not reported
Case Contact: Address: Line1	834 6TH ST
Case Contact: Address: Line2	Not reported
Case Contact: Address: Line3	Not reported
Case Contact City,St,Zip:	Secaucus Town, NJ 07094

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48 **177 HUBER STREET** **SHWS S109299814**
SE **177 HUBER ST** **N/A**
1/2-1 **SECAUCUS TOWN, NJ**
0.955 mi.
5044 ft.

Relative: Higher

Actual: 54 ft.

SHWS:

Site ID:	218289
Status:	CLOSED
Home Owner:	Yes
PI Number:	284996
X Coord Site:	Not reported

177 HUBER STREET (Continued) **S109299814**

X Coord PI: Not reported
Y Coord Site: Not reported
Y Coord PI: Not reported

L49 **SEAGRAVE COATINGS CORP** **SHWS** **S109309431**
North **320 PATERSON PLANK RD** **N/A**
1/2-1 **CARLSTADT BORO, NJ**
0.984 mi.
5196 ft. **Site 1 of 3 in cluster L**

Relative:
Lower

Actual:
2 ft.

SHWS:
Site ID: 76415
Status: ACTIVE
Home Owner: No
PI Number: 167222
X Coord Site: 611116
X Coord PI: 611116
Y Coord Site: 724553
Y Coord PI: 724553

L50 **UNITED RENTALS HWY TECHNOLOGIES INC** **SHWS** **S109304266**
North **316 PATERSON PLANK RD** **N/A**
1/2-1 **CARLSTADT BORO, NJ**
0.990 mi.
5227 ft. **Site 2 of 3 in cluster L**

Relative:
Lower

Actual:
2 ft.

SHWS:
Site ID: 51273
Status: CLOSED
Home Owner: No
PI Number: 016573
X Coord Site: Not reported
X Coord PI: Not reported
Y Coord Site: Not reported
Y Coord PI: Not reported

L51 **304 PATERSON PLANK ROAD** **SHWS** **1007012489**
North **304 PATERSON PLANK RD** **HIST HWS** **N/A**
1/2-1 **CARLSTADT BORO, NJ 07072**
0.993 mi.
5242 ft. **Site 3 of 3 in cluster L**

Relative:
Lower

Actual:
2 ft.

SHWS:
Site ID: 64909
Status: ACTIVE
Home Owner: No
PI Number: G000025040
X Coord Site: 612372
X Coord PI: 612372
Y Coord Site: 722670
Y Coord PI: 722670

HIST SHWS:
Case Status: **Active**

304 PATERSON PLANK ROAD (Continued) **1007012489**

Status Date:	5/10/1995
Case ID:	G000025040
Contact:	CAS
Sub Section Label:	A: Sites with On-Site Sources of Contamination
Site Municipality:	0205
Remedial Level Code:	C1
Classification exception area dt:	None
Classification exception area dt:	Not reported
Deed Notice Status:	None
Deed Notice Date:	Not reported
Engineering Control Status:	None
Engineering Control Date:	Not reported
National Priorities List Status:	Not reported
National Priorities List Date:	Not reported
X Coordinate:	612372
Y Coordinate:	722670
Coordinate System:	NJ State Plane (NAD83) - USFEET

Count: 20 records. ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
SECAUCUS	1000263742	MERIT OIL CORP	400 ROUTE 3 WEST	07094	FINDS,RCRA-NLR
EAST RUTHERFORD	1000306329	WFAN TRANSMITTER C-O EMMIS BROADCA	RTE 3 W AT RTE 20 N	07073	FINDS,RCRA-NLR
CARLSTADT	1000441799	ARSYNCO INC - ACETO CHEMICAL COMPA	FOOT OF 13TH STREET	07072	CORRACTS,MANIFEST,RELEASE,RC
SECAUCUS	1000785984	NJDOT	RTE 3 EB MP 8.6 UNDER E END	07094	FINDS,RCRA-NLR
SECAUCUS	1001127719	NJDOT	RTE 3 & WOOD AVE	07094	RCRA-NLR
CARLSTADT	1003863256	MODERN TRANSPORTATION	TO ROUTE #17 NORTH	07072	CERCLIS-NFRAP
SECAUCUS	1004751660	SUNOCO SERVICE STATION	249 RTE 3 E & HOLMBOLDT ST	07094	RCRA-NLR
EAST RUTHERFORD	1004751808	BJS WHOLESALE CLUB #0008	300 RTE 17 N	07073	RCRA-CESQG
EAST RUTHERFORD	1004752907	BEST KITCHENS & BATHS INC	43 RTE 17 S	07073	FINDS,RCRA-NLR
EAST RUTHERFORD	1004753821	MARINE ELECTRIC SYSTEMS INC	33B RTE 17 S	07073	FINDS,RCRA-CESQG
EAST RUTHERFORD	1009224531	MUNFITTRICK TRANSPORT	ROUTE 17 NORTH	07073	MANIFEST
EAST RUTHERFORD	1010324762	ALLIED BUILDING PRODUCTS CORP	200 RTE 17 NORTH WAREHOUSE	07073	RCRA-SQG
EAST RUTHERFORD	1012141358	NJDOT ROUTE 3 IMPROVEMENTS	RTE 3 MILE MARKER 3.80	07073	FINDS
SECAUCUS TOWN	S105009040	NJ DOT ROUTE 3 PARCEL R12	RTE 3	07094	HIST HWS
SECAUCUS	S106588570	FORMER MOTOR FREIGHT FACILITY	250 RTE 3 & RTE 153	07094	VCP
EAST RUTHERFORD BOR(	S108656266	UNIVERSAL OIL PRODUCTS	ROUTE 17 & PATERSON PLANK ROAD	07073	BROWNFIELDS
EAST RUTHERFORD	S109246701	NEW JERSEY SPORTS & EXPOSITION AUT	RTE 20 S	07073	MANIFEST
SECAUCUS	S109780310	SHELL OIL CO	RTE 3 EB & RTE 153	07094	MANIFEST
EAST RUTHERFORD BOR(	S110746949	LOWE'S HOME IMPROVEMENT	ROUTE 17 & WILLAMS ST	07073	BROWNFIELDS
EAST RUTHERFORD BOR(	S110747129	ROUTE 17/UOP TRACT	ROUTE 17	07073	BROWNFIELDS

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 03/31/2011
Date Data Arrived at EDR: 04/13/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 62

Source: EPA
Telephone: N/A
Last EDR Contact: 07/12/2011
Next Scheduled EDR Contact: 10/24/2011
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 3
Telephone 215-814-5418

EPA Region 4
Telephone 404-562-8033

EPA Region 5
Telephone 312-886-6686

EPA Region 6
Telephone: 214-655-6659

EPA Region 7
Telephone: 913-551-7247

EPA Region 8
Telephone: 303-312-6774

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 03/31/2011
Date Data Arrived at EDR: 04/13/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 62

Source: EPA
Telephone: N/A
Last EDR Contact: 07/12/2011
Next Scheduled EDR Contact: 10/24/2011
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 05/16/2011
Next Scheduled EDR Contact: 08/29/2011
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal Delisted NPL site list

DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 03/31/2011
Date Data Arrived at EDR: 04/13/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 62

Source: EPA
Telephone: N/A
Last EDR Contact: 07/12/2011
Next Scheduled EDR Contact: 10/24/2011
Data Release Frequency: Quarterly

Federal CERCLIS list

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 02/25/2011
Date Data Arrived at EDR: 03/01/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 62

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 06/14/2011
Next Scheduled EDR Contact: 09/12/2011
Data Release Frequency: Quarterly

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPAa??s Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 12/10/2010
Date Data Arrived at EDR: 01/11/2011
Date Made Active in Reports: 02/16/2011
Number of Days to Update: 36

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 07/15/2011
Next Scheduled EDR Contact: 10/24/2011
Data Release Frequency: Varies

Federal CERCLIS NFRAP site List

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 02/25/2011
Date Data Arrived at EDR: 03/01/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 62

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 06/14/2011
Next Scheduled EDR Contact: 09/12/2011
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 03/09/2011
Date Data Arrived at EDR: 03/15/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 91

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 05/16/2011
Next Scheduled EDR Contact: 08/29/2011
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 06/15/2011
Date Data Arrived at EDR: 07/07/2011
Date Made Active in Reports: 08/08/2011
Number of Days to Update: 32

Source: Environmental Protection Agency
Telephone: (212) 637-3660
Last EDR Contact: 07/07/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 06/15/2011
Date Data Arrived at EDR: 07/07/2011
Date Made Active in Reports: 08/08/2011
Number of Days to Update: 32

Source: Environmental Protection Agency
Telephone: (212) 637-3660
Last EDR Contact: 07/07/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 06/15/2011
Date Data Arrived at EDR: 07/07/2011
Date Made Active in Reports: 08/08/2011
Number of Days to Update: 32

Source: Environmental Protection Agency
Telephone: (212) 637-3660
Last EDR Contact: 07/07/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 06/15/2011
Date Data Arrived at EDR: 07/07/2011
Date Made Active in Reports: 08/08/2011
Number of Days to Update: 32

Source: Environmental Protection Agency
Telephone: (212) 637-3660
Last EDR Contact: 07/07/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Varies

Federal institutional controls / engineering controls registries

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 03/16/2011
Date Data Arrived at EDR: 03/25/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 81

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 09/26/2011
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 03/16/2011
Date Data Arrived at EDR: 03/25/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 81

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 09/26/2011
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 04/05/2011
Date Data Arrived at EDR: 04/05/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 70

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 07/05/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Annually

State- and tribal - equivalent CERCLIS

SHWS: Known Contaminated Sites in New Jersey

The Known Contaminated Sites in New Jersey includes sites under the purview of the Site Remediation Program which have contamination present at levels greater than the applicable cleanup criteria for soil and/or groundwater standards. The sites appearing in Known Contaminated Sites in New Jersey are classified as either active, where the site is assigned to a specific remedial program area, or pending, where the site is awaiting assignment to a specific remedial program area. Sites where no further action (NFA) designation has been given are not included in this report unless there are other areas of identified contamination which have not been remediated. This report includes sites being remediated under all of the various regulatory programs administered by the Site Remediation Program such as: Federal Superfund Program, Federal Resource Conservation and Recovery Act (RCRA), New Jersey's Industrial Site Recovery Act (ISRA), New Jersey's Underground Storage of Hazardous Substances Act, New Jersey's Spill Compensation and Control Act, New Jersey's Solid Waste Management Act, New Jersey's Water Pollution Control Act.

Date of Government Version: 05/04/2011
Date Data Arrived at EDR: 06/01/2011
Date Made Active in Reports: 06/29/2011
Number of Days to Update: 28

Source: New Jersey Department of Environmental Protection
Telephone: 609-292-8761
Last EDR Contact: 06/01/2011
Next Scheduled EDR Contact: 09/12/2011
Data Release Frequency: Varies

HWS RE-EVAL: Site Re-Evaluation Report

The locations were removed from the Known Contaminated Sites list for a variety of reasons. Some of the sites were taken off the list because they were inactive, some were not assigned a case worker and some were no longer contaminated. Inspectors from the DEP are now undertaking a full re-evaluation of each of the locations statewide. That includes visual and environmental tests to see whether contamination still exists.

Date of Government Version: 09/20/2007
Date Data Arrived at EDR: 10/12/2007
Date Made Active in Reports: 12/03/2007
Number of Days to Update: 52

Source: Department of Environmental Protection
Telephone: 609-984-3081
Last EDR Contact: 06/01/2011
Next Scheduled EDR Contact: 09/12/2011
Data Release Frequency: No Update Planned

HIST HWS: Known Contaminated Sites Listing

The Known Contaminated Sites in New Jersey report is a municipal listing of sites where contamination of soil and/or ground water is confirmed at levels greater than the applicable cleanup criteria or standards. Remedial activities are underway or required at the sites with an on-site source(s) of contamination and at locations where the source(s) of contamination is unknown. Sites with completed remedial work that require engineering and/or institutional controls have reporting measures in place to ensure the effectiveness of past actions, and some include maintenance and/or monitoring

Date of Government Version: 05/09/2008
Date Data Arrived at EDR: 11/14/2008
Date Made Active in Reports: 11/26/2008
Number of Days to Update: 12

Source: Department of Environmental Protection
Telephone: 209-292-2943
Last EDR Contact: 03/16/2009
Next Scheduled EDR Contact: 06/15/2009
Data Release Frequency: No Update Planned

State and tribal landfill and/or solid waste disposal site lists

SWF/LF: Solid Waste Facility Directory

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 02/01/2011
Date Data Arrived at EDR: 05/12/2011
Date Made Active in Reports: 05/23/2011
Number of Days to Update: 11

Source: Department of Environmental Protection
Telephone: 609-984-6741
Last EDR Contact: 08/09/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Quarterly

NON OP LF: Non-Operating Landfills

The landfills described in this document are non-operating and historic landfills identified by, or reported to, the Department. Working with local and regional environmental agencies, community representatives, and through review of historic materials the Site Remediation Program is developing this inventory to prevent injury to human and ecological resources.

Date of Government Version: 06/26/2008
Date Data Arrived at EDR: 09/30/2010
Date Made Active in Reports: 10/15/2010
Number of Days to Update: 15

Source: Department of Environmental Protection
Telephone: 609-984-6650
Last EDR Contact: 06/30/2011
Next Scheduled EDR Contact: 10/10/2011
Data Release Frequency: Varies

State and tribal leaking storage tank lists

LUST: UST Active Remediation Sites Listing

A listing of regulated Underground Storage Tanks that have a cleanup underway.

Date of Government Version: 07/07/2011
Date Data Arrived at EDR: 07/08/2011
Date Made Active in Reports: 08/03/2011
Number of Days to Update: 26

Source: New Jersey Department of Environmental Protection
Telephone: 609-292-8761
Last EDR Contact: 07/08/2011
Next Scheduled EDR Contact: 09/12/2011
Data Release Frequency: Varies

HIST LUST: Historical Leaking USTs
This listing is no longer updated or maintained by the DEP.

Date of Government Version: 09/17/2002
Date Data Arrived at EDR: 01/27/2006
Date Made Active in Reports: 02/08/2006
Number of Days to Update: 12

Source: Department of Environment Protection
Telephone: 609-292-8761
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 01/31/2011
Date Data Arrived at EDR: 02/01/2011
Date Made Active in Reports: 03/21/2011
Number of Days to Update: 48

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: Quarterly

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 03/03/2011
Date Data Arrived at EDR: 03/18/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 45

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: Semi-Annually

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 05/17/2011
Date Data Arrived at EDR: 05/19/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 26

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: Quarterly

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 03/07/2011
Date Data Arrived at EDR: 05/20/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 25

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 08/02/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 05/10/2011
Date Data Arrived at EDR: 05/11/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 34

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 11/04/2009
Date Data Arrived at EDR: 05/04/2010
Date Made Active in Reports: 07/07/2010
Number of Days to Update: 64

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 08/02/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 05/16/2011
Date Data Arrived at EDR: 05/17/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 28
Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: Quarterly

State and tribal registered storage tank lists

UST: Underground Storage Tank Data
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 06/03/2011
Date Data Arrived at EDR: 07/05/2011
Date Made Active in Reports: 07/26/2011
Number of Days to Update: 21
Source: Department of Environmental Protection
Telephone: 609-341-3121
Last EDR Contact: 05/16/2011
Next Scheduled EDR Contact: 08/29/2011
Data Release Frequency: Varies

MAJOR FACILITIES: List of Major Facilities
Major facilities means all facilities, located on one or more contiguous or adjacent properties owned or operated by the same person, having total combined storage capacity of 20,000 gallons or more for hazardous substances other than petroleum or petroleum products, or 200,000 gallons or more for hazardous substances of all kinds.

Date of Government Version: 05/09/2011
Date Data Arrived at EDR: 05/10/2011
Date Made Active in Reports: 05/23/2011
Number of Days to Update: 13
Source: Department of Environmental Protection
Telephone: 609-292-1690
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 05/18/2011
Date Data Arrived at EDR: 05/26/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 19
Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: Quarterly

INDIAN UST R8: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 05/16/2011
Date Data Arrived at EDR: 05/17/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 28
Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: Quarterly

INDIAN UST R7: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 04/01/2011
Date Data Arrived at EDR: 06/01/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 13
Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 08/02/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 05/17/2011
Date Data Arrived at EDR: 05/19/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 26

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: Quarterly

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 03/07/2011
Date Data Arrived at EDR: 05/04/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 41

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 08/02/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 03/03/2011
Date Data Arrived at EDR: 03/18/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 45

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: Semi-Annually

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 01/01/2011
Date Data Arrived at EDR: 02/23/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 68

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 05/10/2011
Date Data Arrived at EDR: 05/11/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 34

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: Semi-Annually

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010
Date Data Arrived at EDR: 02/16/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 55

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: Varies

State and tribal institutional control / engineering control registries

ENG CONTROLS: Declaration Environmental Restriction/Deed Notice Sites
Legal Document that restricts the use of contaminated property; holds owner(s) to the regulatory/statutory requirements for cleanup.

Date of Government Version: 06/08/2011
Date Data Arrived at EDR: 07/20/2011
Date Made Active in Reports: 08/03/2011
Number of Days to Update: 14

Source: Department of Environmental Protection
Telephone: 609-341-3121
Last EDR Contact: 05/31/2011
Next Scheduled EDR Contact: 09/12/2011
Data Release Frequency: Varies

INST CONTROL: Classification Exception Area Sites
A Classification Exception Area is an institutional control providing notice that ground water contamination exists in a particular location above State standards.

Date of Government Version: 06/08/2011
Date Data Arrived at EDR: 07/20/2011
Date Made Active in Reports: 08/03/2011
Number of Days to Update: 14

Source: Department of Environmental Protection
Telephone: 609-341-3121
Last EDR Contact: 05/31/2011
Next Scheduled EDR Contact: 09/12/2011
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

PF: Publicly Funded Cleanups Site Status Report
The report focuses on publicly funded cleanups and features progress achieved and underway at all sites that are being addressed by the NJDEP with public funds.

Date of Government Version: 12/31/2003
Date Data Arrived at EDR: 04/25/2005
Date Made Active in Reports: 05/06/2005
Number of Days to Update: 11

Source: Department of Environmental Protection
Telephone: 609-292-9418
Last EDR Contact: 08/02/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: Annually

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 02/25/2011
Date Data Arrived at EDR: 04/05/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 70

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 07/05/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Varies

VCP: Voluntary Cleanup Program Sites
Through the VCP, responsible parties, developers, local officials, or individuals may work with the department to remediate non-priority contaminated sites that pose no immediate threat to human health or the environment.

Date of Government Version: 10/18/2010
Date Data Arrived at EDR: 11/22/2010
Date Made Active in Reports: 01/07/2011
Number of Days to Update: 46

Source: Department of Environmental Protection
Telephone: 609-341-3121
Last EDR Contact: 07/11/2011
Next Scheduled EDR Contact: 10/24/2011
Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

State and tribal Brownfields sites

BROWNFIELDS: Brownfields Database

Brownfields are identified as former or current commercial or industrial use sites that are presently vacant or underutilized, on which there is suspected to have been a discharge of a contamination to the soil or groundwater at concentrations greater than applicable cleanup criteria.

Date of Government Version: 08/04/2011
Date Data Arrived at EDR: 08/05/2011
Date Made Active in Reports: 08/11/2011
Number of Days to Update: 6

Source: Department of Environmental Protection
Telephone: 609-292-1251
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: Annually

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites

Included in the listing are brownfields properties addresses by Cooperative Agreement Recipients and brownfields properties addressed by Targeted Brownfields Assessments. Targeted Brownfields Assessments-EPA's Targeted Brownfields Assessments (TBA) program is designed to help states, tribes, and municipalities--especially those without EPA Brownfields Assessment Demonstration Pilots--minimize the uncertainties of contamination often associated with brownfields. Under the TBA program, EPA provides funding and/or technical assistance for environmental assessments at brownfields sites throughout the country. Targeted Brownfields Assessments supplement and work with other efforts under EPA's Brownfields Initiative to promote cleanup and redevelopment of brownfields. Cooperative Agreement Recipients-States, political subdivisions, territories, and Indian tribes become Brownfields Cleanup Revolving Loan Fund (BCRLF) cooperative agreement recipients when they enter into BCRLF cooperative agreements with the U.S. EPA. EPA selects BCRLF cooperative agreement recipients based on a proposal and application process. BCRLF cooperative agreement recipients must use EPA funds provided through BCRLF cooperative agreement for specified brownfields-related cleanup activities.

Date of Government Version: 03/29/2011
Date Data Arrived at EDR: 03/29/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 77

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 06/27/2011
Next Scheduled EDR Contact: 10/10/2011
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 06/27/2011
Next Scheduled EDR Contact: 10/10/2011
Data Release Frequency: No Update Planned

HIST LF: Solid Waste Facility Directory
Old or non-permitted solid waste facilities/landfills that are not included in the current solid waste facilities/landfills database.

Date of Government Version: 06/10/2003
Date Data Arrived at EDR: 02/19/2004
Date Made Active in Reports: 03/09/2004
Number of Days to Update: 19
Source: Department of Environmental Protection
Telephone: 609-984-6880
Last EDR Contact: 02/19/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SWRCY: Approved Class B Recycling Facilities
"Class B recyclable material" means a source separated recyclable material which is subject to Department approval prior to receipt, storage, processing or transfer at a recycling center in accordance with N.J.S.A. 13:1E-99.34b.

Date of Government Version: 03/01/2011
Date Data Arrived at EDR: 05/11/2011
Date Made Active in Reports: 05/23/2011
Number of Days to Update: 12
Source: Department of Environmental Protection
Telephone: 609-984-6650
Last EDR Contact: 05/11/2011
Next Scheduled EDR Contact: 08/22/2011
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52
Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US CDL: Clandestine Drug Labs
A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 02/02/2011
Date Data Arrived at EDR: 03/17/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 46
Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 06/07/2011
Next Scheduled EDR Contact: 09/19/2011
Data Release Frequency: Quarterly

US HIST CDL: National Clandestine Laboratory Register
A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 09/01/2007
Date Data Arrived at EDR: 11/19/2008
Date Made Active in Reports: 03/30/2009
Number of Days to Update: 131
Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

Local Land Records

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 02/01/2011
Date Data Arrived at EDR: 02/04/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 87

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: Varies

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 12/09/2005
Date Data Arrived at EDR: 12/11/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 31

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 07/11/2011
Next Scheduled EDR Contact: 09/05/2011
Data Release Frequency: Varies

LIENS: Environmental LIENS

A listing of properties with environmental liens. The listing includes sites from the Site Remediation & Waste Management Program Sites where the Department has placed either a 1st Priority or Regular Spill Fund Lien against. 1st Priority Type Lien - a lien placed against the property where the discharged occurred providing that the owners of the property have some responsibility towards the discharge. First Priority Lien is superior to other types of liens. Non-Priority (Regular) Type Lien - a lien placed against the Responsible Party & their revenues and all real and personal property, other than the real property comprising the location of the discharge.

Date of Government Version: 03/07/2011
Date Data Arrived at EDR: 04/20/2011
Date Made Active in Reports: 05/23/2011
Number of Days to Update: 33

Source: Department of Environmental Protection
Telephone: 609-341-3121
Last EDR Contact: 05/23/2011
Next Scheduled EDR Contact: 09/05/2011
Data Release Frequency: Varies

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 12/31/2010
Date Data Arrived at EDR: 01/05/2011
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 51

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 07/05/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Annually

NJ Release: Hazardous Material Incident Database

Hazardous material release. Initial notification information reported to the Department of Environmental Protection's Environmental Action Line and the office has not conducted any investigations to determine its validity or accuracy.

Date of Government Version: 04/26/2011
Date Data Arrived at EDR: 05/27/2011
Date Made Active in Reports: 06/30/2011
Number of Days to Update: 34

Source: Department of Environmental Protection
Telephone: 609-341-3121
Last EDR Contact: 06/13/2011
Next Scheduled EDR Contact: 09/26/2011
Data Release Frequency: Semi-Annually

NJ Spills: Spills

Initial notification information of hazardous material incidents, where there is land contamination, reported to the Department of Environmental Protection's Environmental Action Line. The DEP has not conducted any investigation to determine its validity or accuracy.

Date of Government Version: 04/26/2011
Date Data Arrived at EDR: 05/27/2011
Date Made Active in Reports: 06/30/2011
Number of Days to Update: 34

Source: Department of Environmental Protection
Telephone: 609-341-3121
Last EDR Contact: 06/13/2011
Next Scheduled EDR Contact: 09/26/2011
Data Release Frequency: Annually

Other Ascertainable Records

RCRA-NonGen: RCRA - Non Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 06/15/2011
Date Data Arrived at EDR: 07/07/2011
Date Made Active in Reports: 08/08/2011
Number of Days to Update: 32

Source: Environmental Protection Agency
Telephone: (212) 637-3660
Last EDR Contact: 07/07/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Varies

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 01/12/2011
Date Data Arrived at EDR: 02/11/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 80

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 08/09/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 07/22/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 08/12/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 112

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 06/14/2011
Next Scheduled EDR Contact: 09/26/2011
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/31/2010
Date Data Arrived at EDR: 04/05/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 70

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Varies

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 02/25/2011
Date Data Arrived at EDR: 03/16/2011
Date Made Active in Reports: 03/21/2011
Number of Days to Update: 5

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 06/15/2011
Next Scheduled EDR Contact: 09/26/2011
Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 09/14/2010
Date Data Arrived at EDR: 10/21/2010
Date Made Active in Reports: 01/28/2011
Number of Days to Update: 99

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 06/02/2011
Next Scheduled EDR Contact: 09/12/2011
Data Release Frequency: Varies

MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 02/08/2011
Date Data Arrived at EDR: 03/09/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 54

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 06/08/2011
Next Scheduled EDR Contact: 09/19/2011
Data Release Frequency: Semi-Annually

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/17/2010
Date Made Active in Reports: 03/21/2011
Number of Days to Update: 94

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 05/27/2011
Next Scheduled EDR Contact: 09/12/2011
Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2006
Date Data Arrived at EDR: 09/29/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 64

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 06/30/2011
Next Scheduled EDR Contact: 10/10/2011
Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 05/27/2011
Next Scheduled EDR Contact: 09/12/2011
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25
Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 05/27/2011
Next Scheduled EDR Contact: 09/12/2011
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

SSTS: Section 7 Tracking Systems
Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77
Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 08/03/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System
The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 01/07/2011
Date Data Arrived at EDR: 01/21/2011
Date Made Active in Reports: 03/21/2011
Number of Days to Update: 59
Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 06/27/2011
Next Scheduled EDR Contact: 10/10/2011
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 11/01/2010
Date Data Arrived at EDR: 11/10/2010
Date Made Active in Reports: 02/16/2011
Number of Days to Update: 98

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 07/22/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 03/18/2010
Date Data Arrived at EDR: 04/06/2010
Date Made Active in Reports: 05/27/2010
Number of Days to Update: 51

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 06/13/2011
Next Scheduled EDR Contact: 09/26/2011
Data Release Frequency: Quarterly

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 01/11/2011
Date Data Arrived at EDR: 01/13/2011
Date Made Active in Reports: 02/16/2011
Number of Days to Update: 34

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 07/12/2011
Next Scheduled EDR Contact: 10/24/2011
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 04/14/2010
Date Data Arrived at EDR: 04/16/2010
Date Made Active in Reports: 05/27/2010
Number of Days to Update: 41

Source: EPA
Telephone: (212) 637-3000
Last EDR Contact: 06/14/2011
Next Scheduled EDR Contact: 09/26/2011
Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 03/01/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 62

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 05/27/2011
Next Scheduled EDR Contact: 09/12/2011
Data Release Frequency: Biennially

CHROME: Chromate Chemical Production Waste Sites

Known chromate chemical production waste sites.

Date of Government Version: 09/17/2009
Date Data Arrived at EDR: 11/23/2009
Date Made Active in Reports: 12/16/2009
Number of Days to Update: 23

Source: Department of Environmental Protection
Telephone: 609-984-4071
Last EDR Contact: 05/20/2011
Next Scheduled EDR Contact: 08/29/2011
Data Release Frequency: Varies

UIC: Underground Injection Wells Database

A listing of underground injection well locations. The UIC Program is responsible for regulating the construction, operation, permitting, and closure of injection wells that place fluids underground for storage or disposal.

Date of Government Version: 01/09/2009
Date Data Arrived at EDR: 02/25/2009
Date Made Active in Reports: 03/11/2009
Number of Days to Update: 14

Source: Department of Environmental Protection
Telephone: 609-292-0407
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Varies

HIST MAJOR FACILITIES: List of Major Facilities

Major facilities means all facilities, located on one or more contiguous or adjacent properties owned or operated by the same person, having total combined storage capacity of 20,000 gallons or more for hazardous substances other than petroleum or petroleum products, or 200,000 gallons or more for hazardous substances of all kinds. This file contains detail information that is no longer available by the Department of Environmental Protection due to security concerns.

Date of Government Version: 01/02/2002
Date Data Arrived at EDR: 01/11/2006
Date Made Active in Reports: 01/11/2006
Number of Days to Update: 0

Source: Department of Environmental Protection
Telephone: 609-633-7476
Last EDR Contact: 02/02/2009
Next Scheduled EDR Contact: 05/04/2009
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2010
Date Data Arrived at EDR: 07/20/2011
Date Made Active in Reports: 08/11/2011
Number of Days to Update: 22

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 07/20/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: Annually

DRYCLEANERS: Drycleaner List

A listing of registered drycleaners.

Date of Government Version: 06/01/2011
Date Data Arrived at EDR: 06/01/2011
Date Made Active in Reports: 06/29/2011
Number of Days to Update: 28

Source: Department of Environmental Protection
Telephone: 609-292-2795
Last EDR Contact: 05/31/2011
Next Scheduled EDR Contact: 08/29/2011
Data Release Frequency: Varies

ISRA: ISRA Database

The ISRA process begins with determining if the Act applies to your type of business and transaction. The provisions of ISRA only apply to industrial establishments. What is an industrial establishment? The term "industrial establishment" refers to the type of business operations and transactions that would subject a facility to review under ISRA. An industrial establishment must meet each of the following three criteria: The place of business or real property at which such business is conducted, having a North American Industry Classification System (NAICS) code listed in N.J.A.C. 7:26 B - Appendix C subject to the specified exceptions and limitations. The place of business must have been engaged in operations on or after December 31, 1983; and The place of business must involve the generation, manufacture, refining, transportation, treatment, storage, handling, or disposal of hazardous substances or hazardous wastes.

Date of Government Version: 03/31/2011
Date Data Arrived at EDR: 04/26/2011
Date Made Active in Reports: 05/23/2011
Number of Days to Update: 27

Source: Department of Environmental Protection
Telephone: 609-984-3081
Last EDR Contact: 06/29/2011
Next Scheduled EDR Contact: 10/10/2011
Data Release Frequency: Quarterly

NJPDES: New Jersey Pollutant Discharge Elimination System Dischargers

The NJPDES contains the names, addresses and other information of all permitted New Jersey Pollutant Discharge Elimination Sytem dischargers.

Date of Government Version: 05/24/2011
Date Data Arrived at EDR: 05/24/2011
Date Made Active in Reports: 06/29/2011
Number of Days to Update: 36

Source: Department of Environmental Protection
Telephone: 609-984-4428
Last EDR Contact: 05/24/2011
Next Scheduled EDR Contact: 09/05/2011
Data Release Frequency: Varies

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 12/08/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 34

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 07/22/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: Semi-Annually

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 03/07/2011
Date Data Arrived at EDR: 03/09/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 54

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 07/15/2011
Next Scheduled EDR Contact: 11/07/2011
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 08/17/2010
Date Data Arrived at EDR: 01/03/2011
Date Made Active in Reports: 03/21/2011
Number of Days to Update: 77

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 06/14/2011
Next Scheduled EDR Contact: 09/26/2011
Data Release Frequency: Varies

FINANCIAL ASSURANCE: Financial Assurance Information Listing

Financial Assurance information.

Date of Government Version: 05/11/2011
Date Data Arrived at EDR: 06/30/2011
Date Made Active in Reports: 07/26/2011
Number of Days to Update: 26

Source: Department of Environmental Protection
Telephone: 609-341-3121
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: Semi-Annually

PCB TRANSFORMER: PCB Transformer Registration Database

The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 01/01/2008
Date Data Arrived at EDR: 02/18/2009
Date Made Active in Reports: 05/29/2009
Number of Days to Update: 100

Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 08/05/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: Varies

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 07/22/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: N/A

COAL ASH DOE: Sleam-Electric Plan Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: Varies

EDR PROPRIETARY RECORDS

EDR Proprietary Records

Manufactured Gas Plants: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Historical Auto Stations: EDR Proprietary Historic Gas Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Historical Cleaners: EDR Proprietary Historic Dry Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 12/31/2007
Date Data Arrived at EDR: 08/26/2009
Date Made Active in Reports: 09/11/2009
Number of Days to Update: 16

Source: Department of Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 05/26/2011
Next Scheduled EDR Contact: 09/05/2011
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 12/31/2010
Date Data Arrived at EDR: 05/12/2011
Date Made Active in Reports: 05/24/2011
Number of Days to Update: 12

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 08/09/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Annually

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2008
Date Data Arrived at EDR: 12/01/2009
Date Made Active in Reports: 12/14/2009
Number of Days to Update: 13

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 07/15/2011
Next Scheduled EDR Contact: 10/10/2011
Data Release Frequency: Annually

RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2010
Date Data Arrived at EDR: 06/24/2011
Date Made Active in Reports: 06/30/2011
Number of Days to Update: 6

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 05/31/2011
Next Scheduled EDR Contact: 09/12/2011
Data Release Frequency: Annually

VT MANIFEST: Hazardous Waste Manifest Data
Hazardous waste manifest information.

Date of Government Version: 05/13/2011
Date Data Arrived at EDR: 05/20/2011
Date Made Active in Reports: 07/08/2011
Number of Days to Update: 49

Source: Department of Environmental Conservation
Telephone: 802-241-3443
Last EDR Contact: 07/25/2011
Next Scheduled EDR Contact: 11/07/2011
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 07/06/2010
Date Made Active in Reports: 07/26/2010
Number of Days to Update: 20

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 06/20/2011
Next Scheduled EDR Contact: 10/03/2011
Data Release Frequency: Annually

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Electric Power Transmission Line Data
Source: Rextag Strategies Corp.
Telephone: (281) 769-2247
U.S. Electric Transmission and Power Plants Systems Digital GIS Data

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Child Care Center Listings
Source: Department of Human Services
Telephone: 609-292-1018

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetlands Inventory
Source: Department of Environmental Protection
Telephone: 609-984-2243

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

BLOCK 107.02, LOT 3
BOUNDED BY NJ-120, I-95, & S. CONNECTION ROAD
EAST RUTHERFORD, NJ 07073

TARGET PROPERTY COORDINATES

Latitude (North):	40.80690 - 40° 48' 24.8''
Longitude (West):	74.0697 - 74° 4' 10.9''
Universal Tranverse Mercator:	Zone 18
UTM X (Meters):	578470.2
UTM Y (Meters):	4517526.5
State Plane X (Feet):	611236.4
State Plane Y (Feet):	719141.1
Elevation:	6 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	40074-G1 WEEHAWKEN, NJ
Most Recent Revision:	1995

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

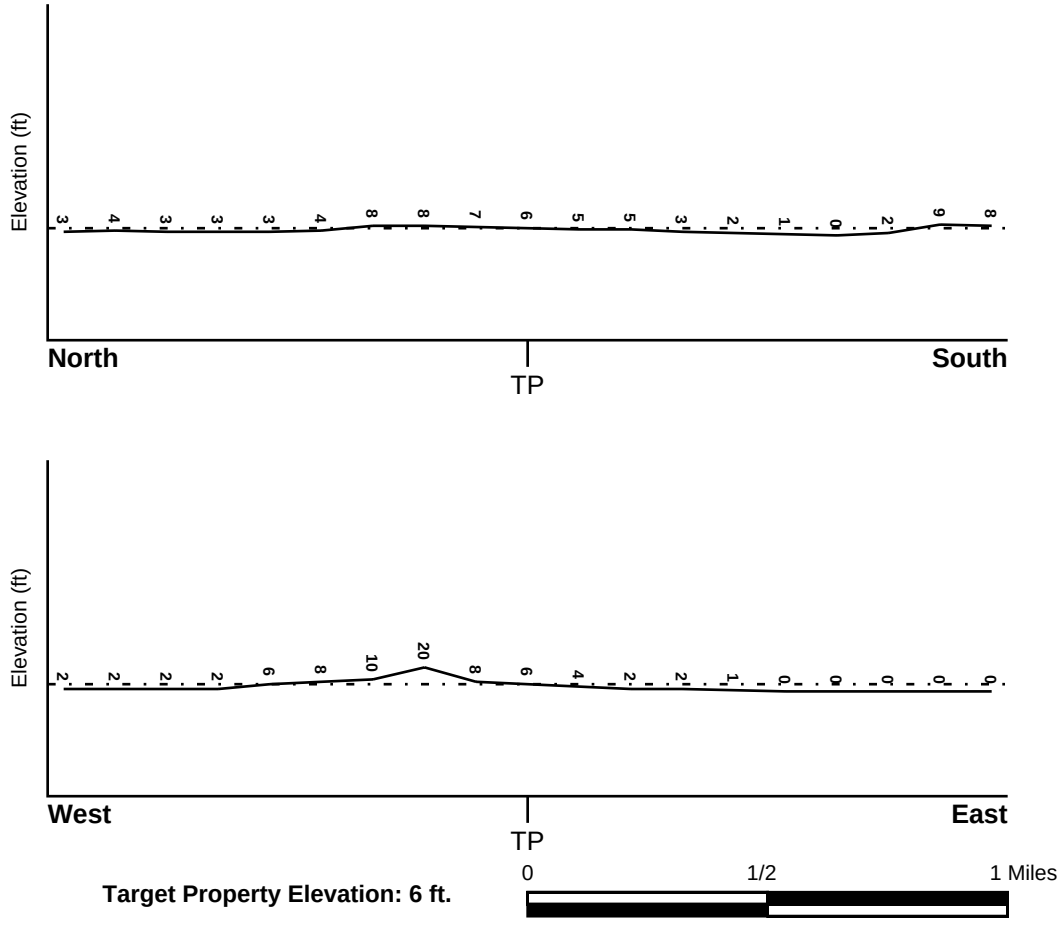
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General SE

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
BERGEN, NJ	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property: 34003C - FEMA DFIRM Flood data

Additional Panels in search area: 34017C - FEMA DFIRM Flood data

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
WEEHAWKEN	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site−specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

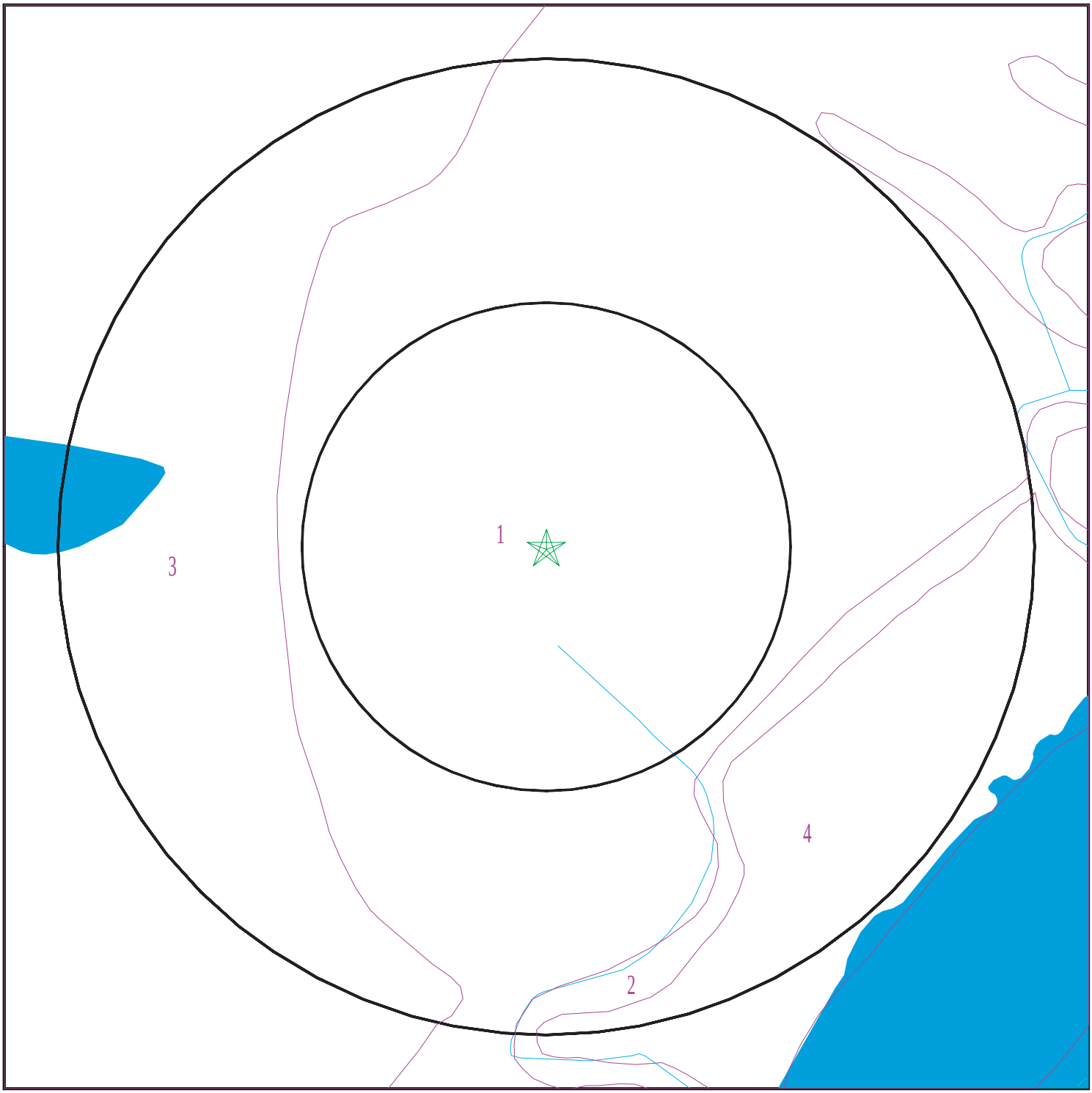
Era:	Mesozoic
System:	Triassic
Series:	Triassic
Code:	Tr *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratified Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 3145301.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	Block 107.02, Lot 3	CLIENT:	Langan Engineering
ADDRESS:	Bounded By NJ-120, I-95, & S. Connection Road East Rutherford NJ 07073	CONTACT:	Danielle Bisson
LAT/LONG:	40.8069 / 74.0697	INQUIRY #:	3145301.2s
		DATE:	August 11, 2011 3:26 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Udorthents

Soil Surface Texture:
Hydrologic Group: Not reported

Soil Drainage Class: Moderately well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

Soil Map ID: 2

Soil Component Name: Water

Soil Surface Texture:
Hydrologic Group: Not reported

Soil Drainage Class:
Hydric Status: Unknown

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

Soil Map ID: 3

Soil Component Name: Urban land

Soil Surface Texture:
Hydrologic Group: Not reported

Soil Drainage Class:
Hydric Status: Unknown

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

Soil Map ID: 4

Soil Component Name: Transquaking

Soil Surface Texture: mucky peat

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Very poorly drained

Hydric Status: All hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	14 inches	mucky peat	A-8	Highly organic soils, Peat.	Max: 141.14 Min: 14.11	Max: Min:
2	29 inches	44 inches	mucky peat	A-8	Highly organic soils, Peat.	Max: 141.14 Min: 14.11	Max: Min:

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
3	70 inches	90 inches	muck	A-8	Highly organic soils, Peat.	Max: 141.14 Min: 14.11	Max: Min:
4	14 inches	29 inches	mucky peat	A-8	Highly organic soils, Peat.	Max: 141.14 Min: 14.11	Max: Min:
5	44 inches	70 inches	mucky peat	A-8	Highly organic soils, Peat.	Max: 141.14 Min: 14.11	Max: Min:

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

PHYSICAL SETTING SOURCE MAP - 3145301.2s



- County Boundary
- Major Roads
- Contour Lines
- Airports
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data

SITE NAME:	Block 107.02, Lot 3	CLIENT:	Langan Engineering
ADDRESS:	Bounded By NJ-120, I-95, & S. Connection Road East Rutherford NJ 07073	CONTACT:	Danielle Bisson
		INQUIRY #:	3145301.2s
LAT/LONG:	40.8069 / 74.0697	DATE:	August 11, 2011 3:26 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: NJ Radon

Radon Test Results

City	Num Tests	# > 4 pCi/L	% > pCi/L
ALLENDALE BORO	918	71	8.000
ALPINE BORO	259	36	14.000
BERGENFIELD BORO	2495	39	2.000
BOGOTA BORO	738	19	3.000
CARLSTADT BORO	280	16	6.000
CLIFFSIDE PARK BORO	478	24	5.000
CLOSTER BORO	1028	51	5.000
CRESSKILL BORO	1003	117	12.000
DEMAREST BORO	695	44	6.000
DUMONT BORO	1581	47	3.000
EAST RUTHERFORD BORO	320	7	2.000
EDGEWATER BORO	321	33	10.000
ELMWOOD PARK BORO	646	5	1.000
EMERSON BORO	761	13	2.000
ENGLEWOOD CITY	2056	135	7.000
ENGLEWOOD CLIFFS BOR	618	32	5.000
FAIR LAWN BORO	1859	25	1.000
FAIRVIEW BORO	396	13	3.000
FORT LEE BORO	1151	57	5.000
FRANKLIN LAKES BORO	1774	363	20.000
GARFIELD CITY	526	4	1.000
GLEN ROCK BORO	1698	57	3.000
HACKENSACK CITY	928	61	7.000
HARRINGTON PARK BORO	553	21	4.000
HASBROUCK HEIGHTS BO	1056	143	14.000
HAWORTH BORO	427	25	6.000
HILLSDALE BORO	1266	67	5.000
HO-HO-KUS BORO	444	37	8.000
LEONIA BORO	980	119	12.000
LITTLE FERRY BORO	421	2	0.000
LODI BORO	890	28	3.000
LYNDHURST TWP	1109	39	4.000
MAHWAH TWP	3039	392	13.000
MAYWOOD BORO	1036	59	6.000
MIDLAND PARK BORO	615	36	6.000
MONTVALE BORO	974	95	10.000
MOONACHIE BORO	78	0	0.000
NEW MILFORD BORO	873	10	1.000
NORTH ARLINGTON BORO	798	36	5.000
NORTHVALE BORO	415	6	1.000
NORWOOD BORO	354	9	3.000
OAKLAND BORO	1798	270	15.000
OLD TAPPAN BORO	646	42	7.000
ORADELL BORO	988	36	4.000
PALISADES PARK BORO	786	37	5.000
PARAMUS BORO	2277	42	2.000
PARK RIDGE BORO			

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

	1886	195	10.000
RAMSEY BORO	1346	121	9.000
RIDGEFIELD BORO	830	47	6.000
RIDGEFIELD PARK VILL	406	9	2.000
RIDGEWOOD VILLAGE	3760	150	4.000
RIVER EDGE BORO	766	34	4.000
RIVER VALE TWP	1203	61	5.000
ROCHELLE PARK TWP	522	8	2.000
ROCKLEIGH BORO	33	1	3.000
RUTHERFORD BORO	1371	70	5.000
SADDLE BROOK TWP	1005	17	2.000
SADDLE RIVER BORO	417	43	10.000
SOUTH HACKENSACK TWP	79	0	0.000
TEANECK TWP	2825	124	4.000
TENAFLY BORO	1248	114	9.000
TETERBORO BORO	6	0	0.000
UPPER SADDLE RIVER B	1372	194	14.000
WALDWICK BORO	1115	28	3.000
WALLINGTON BORO	256	6	2.000
WASHINGTON TWP	619	48	8.000
WESTWOOD BORO	1123	22	2.000
WOOD-RIDGE BORO	621	52	8.000
WOODCLIFF LAKE BORO	875	82	9.000
WYCKOFF TWP	2299	151	7.000

Federal EPA Radon Zone for BERGEN County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for BERGEN COUNTY, NJ

Number of sites tested: 1094

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area	0.730 pCi/L	98%	2%	0%
Basement	1.310 pCi/L	93%	6%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetlands Inventory
Source: Department of Environmental Protection
Telephone: 609-984-2243

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Services, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

New Jersey Public-Community Water-Supply Wells
Source: Department of Environmental Protection, Geological Survey
Telephone: 609-984-6587

New Jersey Monitoring Wells
Source: Department of Environmental Quality
Telephone: 609-984-6587
Ambient Groundwater Quality of the New Jersey Part of the Newark Basin. Natural groundwater quality in the Newark Basin summarize natural groundwater quality in sedimentary bedrock formations of the Newark basin part of the Piedmont physiographic province of New Jersey.

OTHER STATE DATABASE INFORMATION

RADON

State Database: NJ Radon
Source: Department of Environmental Protection
Telephone: 609-984-5425
Radon Test Results

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STREET AND ADDRESS INFORMATION

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APPENDIX F

Areas Of Concern

APPENDIX F

Areas Of Concern

APPENDIX F - AREAS OF CONCERN

In accordance with N.J.A.C. 7:26E3.1(c)1.v., a narrative shall be provided for each area of environmental concern describing the (1) Type; (2) Age; (3) Dimensions of each container/area; (4) Location; (5) Chemical Content; (6) Integrity (i.e., tank test reports, description of drum storage pad); (7) Volume; (8) Construction materials; and, (9) Inventory control records, unless a Department-approved leak detection system, pursuant to N.J.A.C. 7:1E or 7:14B, has always been in place and there is no discharge history.

Per the NJDEP Preliminary Assessment/Site Investigation Form (dated 9/7/11), only nine (9) AOCs were identified on the property, out of the 38 potential AOCs listed on the PA/SI form (Section H2). These nine AOCs are listed below.

Within this Preliminary Assessment Report (PAR), a total of nine (9) potentially contaminated Areas of Concern (AOCs) have been identified which formerly or currently exist on the subject property. A diligent inquiry has been completed regarding the current and historic operations and through an inspection of the property (22 August 2011) in developing this PAR and in the identification of the potential AOCs.

Langan has indicated within this PAR where AOCs will be sampled to evaluate whether or not any contaminants are present above the potentially applicable remediation standards. Sampling will be completed and findings will be summarized in a Site Investigation Report to be submitted pursuant to the NJDEP Technical Regulations (7:26E). The following AOCs are shown on Figure 3.

AOC 1: Aboveground Storage Tank (AST) and Associated Piping

Two aboveground diesel storage tanks are present in the basement of the transmitter building. Specifically, the 275-gallon and 200-gallon steel ASTs are situated within a concrete berm. The tanks are used to store diesel fuel for the emergency generator. The tanks were fully visible and were intact. Evidence of staining was noted on the surrounding concrete floor (See AOC 7). Should the facility ever be decommissioned, the contents of the two tanks would need to

be drained and removed from the facility. These activities should be performed in accordance with any local or State requirements.

Two Diesel Aboveground Storage Tanks

2) Age:	Estimated 1950s
3) Dimensions of each container/area:	Approximately 5' by 3'
4) Location:	Basement of the transmitter building, within a concrete berm
5) Chemical Content:	Diesel Fuel
6) Integrity:	Tanks Intact, staining noted on concrete floor
7) Volume:	Approximately 275 and 250 gallons, each
8) Construction materials:	Steel
9) Inventory control records:	Not Available

Langan recommends that these ASTs be properly decommissioned prior to site redevelopment.

AOC 4: Chemical Storage Cabinet/Closet

The following materials were stored in the garage, basement, and boiler room of the transmitter building (see AOC 14):

- Two ASTs of diesel fuel (See AOC 1);
- Two 5-gallon containers of roofing sealant;
- Two nitrogen gas cylinders;
- One 55-gallon steel drum containing silica sealant;
- One 30-gallon drum with unknown contents;
- Approximately twenty 5-gallon containers of paint; and,
- Various cans of aerosol paint, floor finisher, and cleaning products.

Floor drains and staining were not observed in the garage, basement or boiler room. During the property inspection, these areas were covered with debris and storage containers, obscuring a clear view of the floor, as such drains may present on the property.

Storage Areas

2) Age:	Estimated 1950s
3) Dimensions of each container/area:	Container size noted above
4) Location:	Garage, basement, and boiler room
5) Chemical Content:	Noted above
6) Integrity:	Intact stained concrete floor
7) Volume:	Estimated volume noted above
8) Construction materials:	Plastic, metal, and steel
9) Inventory control records:	Not Available

Langan recommends removal and disposal of the debris/containers, followed by a final inspection of the transmitter building floors for stains, cracks, and floor drains.

AOC 7: Discolored or Spill Areas

Staining was noted on the concrete floor, adjacent to and beneath the emergency generator. The generator and stained floor was observed in the basement of the transmitter building. The generator operates on diesel fuel, supplied by two ASTs (AOC 1). The stained area was covered with a "speedy-dry" material to absorb the spilled contents. There were no floor drains in the visible area and the stained concrete was intact.

Concrete Staining adjacent to the generator

2) Age:	Unknown
3) Dimensions of each container/area:	Approximately 2' by 2' stained area
4) Location:	Basement of the transmitter building
5) Chemical Content:	Diesel Fuel
6) Integrity:	Concrete floor intact, where staining noted

7) Volume:	Unknown
8) Construction materials:	Concrete floor
9) Inventory control records:	Not Available

Langan collected concrete samples in August 2011 of the stained area to determine the potential impacts. During the sampling activities, no cracks in the concrete were observed. These concrete results will be provided in the Site Investigation Report (SIR).

AOC 11 – Electrical Transformers and Capacitors

Electrical transformers and capacitors were currently and historically located on the property. Historically, transformers were located on a concrete pad at the rear of the transmitter building; however, they are no longer present. The sheds, beneath the three radio towers, currently contain transformers and electrical capacitors with non-PCB (dry-type) containing materials. There was no evidence of staining noted on or near these transformers or capacitors.

According to aerial photographs and topographic maps, the towers and transmitter building date back to the 1950s and were relocated in the 1970s. Therefore, based on the age of the facility, there is a potential that the former transformers may have contained PCBs. As such, subsurface investigations were conducted near the rear of the transmitter building to investigate the former staging area. A PCB detection was noted in the soil immediately adjacent to the pad.

Transformers and capacitors

2) Age:	Estimated 1950s/1970s
3) Dimensions of each container/area:	18 inches by 18 inches
4) Location:	Rear of transmitter building and in three radio tower sheds
5) Chemical Content:	Currently-no PCBs, historically-potentially PCBs
6) Integrity:	Intact, no staining noted
7) Volume:	Unknown
8) Construction materials:	Metal

9) Inventory control records:	Not Available

Further investigation is recommended to delineate the PCB detection within the soil near the former transformer. This sampling was conducted in August 2011 and will be presented in the Site Investigation Report (SIR). No investigation is needed for the shed transformers, since staining was not observed and the current containers do not containing PCBs.

AOC 12: Floor Drain Collection System

Floor drains were not observed in the transmitter building basement or garage during the inspection. And based on the shallow water table, floor drains are not expected. However, a thorough inspection of the floors could not be completed due to the debris and containers obscuring the floor inspection.

Floor Drains

2) Age:	Estimated 1950s
3) Dimensions of each container/area:	Unknown
4) Location:	Transmitter building basement or garage
5) Chemical Content:	Unknown
6) Integrity:	Unknown
7) Volume:	Unknown
8) Construction materials:	Metal
9) Inventory control records:	Not Applicable

Although floor drains are not expected and were not observed during the inspection, Langan recommends a final inspection of the floors after the debris and containers are removed and properly disposed.

AOC 14: Hazardous Material Storage or Handling Areas

The following materials were stored in the garage, basement, and boiler room of the transmitter building (see AOC 4 above):

- Two ASTs of diesel fuel (See AOC 1);
- Two 5-gallon containers of roofing sealant;
- Two nitrogen gas cylinders;
- One 55-gallon steel drum containing silica sealant;
- One 30-gallon drum with unknown contents;
- Approximately twenty 5-gallon containers of paint; and,
- Various cans of aerosol paint, floor finisher, and cleaning products.

Floor drains and staining were not observed in the garage, basement or boiler room. During the property inspection, these areas were covered with debris and storage containers, obscuring a clear view of the floor, as such drains may present on the property.

Storage Areas

2) Age:	Estimated 1950s
3) Dimensions of each container/area:	Container size noted above
4) Location:	Garage, basement, and boiler room
5) Chemical Content:	Noted above
6) Integrity:	Intact stained concrete floor
7) Volume:	Estimated volume noted above
8) Construction materials:	Plastic, metal, and steel
9) Inventory control records:	Not Available

Langan recommends proper removal and disposal of the debris/containers, followed by a final inspection of the transmitter building floors.

AOC 15: Historic Fill or any other Fill Material

Based on aerial photographs, topographic maps, and Jack McCormick and Associates Environmental Impact Study (EIS) dated 1972 for the Giants Stadium, it appears historic fill material has been placed on site prior to the 1980s, specifically, some time between the 1950s and 1970s, when the property was developed and the surrounding roadways were being improved (Route 20, currently Route 120). The fill material also includes a soil mound extending from the transmitter building to each radio tower (approximately 1,300 feet) along the northeast portion of the property. The soil mound provides support for the above ground pipes that contain the electric lines for the towers. The top of the soil mound is approximately five feet above the surface grade and approximately twenty feet wide.

The nature and source of the material used to raise the property elevation (estimated between 1950s and 1980s) and the soil mound are unknown. According to the 1972 EIS, the majority of the property was filled with "Route 20 East Fill". Additionally, the New Jersey Geological Survey's (NJGS) Historic Fill Quadrangle map (Figure 4) indicates the property contains historic fill. Historic fill in New Jersey is known to contain polycyclic aromatic hydrocarbons (PAHs) and metals in concentrations above NJDEP Soil Remediation Standards (SRS).

Site investigations have been performed on the property to evaluate the fill material and are detailed in the Site Investigation Report/Remedial Action Workplan (SIR/RAW) provided under separate cover. Langan collected soil samples and the soil analytical results confirmed the presence of PAHs, metals, PCBs, antimony, chlordane, and total petroleum hydrocarbons (TPH) in the soil. The PAHs and metals are typical historic fill compounds; however, PCBs, TPH, antimony, and chlordane are not typical of historic fill. Therefore, these compounds were further investigated (details provided in the SIR/RAW), and PCBs and chlordane were not delineated. As such, these compounds appear to be typical of the fill material placed throughout the property.

Historic fill and fill material

2) Age:	Placed between 1950s and 1980s
3) Dimensions of each container/area:	Property wide with varying depths

4) Location:	Throughout the property
5) Chemical Content:	PAHs, metals (including antimony), PCBs, chlordane and TPH
6) Integrity:	Intact stained concrete floor
7) Volume:	Not available
8) Construction materials:	Fill material
9) Inventory control records:	Not available

Based on the previous investigations and review of figures and maps, Langan has confirmed the presence of historic fill and other fill material throughout the property. The fill material includes PAHs, metals, PCBs, antimony, TPH, and chlordane. The TPH and antimony have been delineated; however, PCBs and chlordane have not and are believed to be ubiquitous throughout the property.

No further action is necessary as the historic fill and fill material are either delineated or is ubiquitous throughout the property.

AOC 33: Surface Water Bodies

Tidal and non-tidal wetlands were observed on the property during the site inspection. The non-tidal wetlands are currently located on the western portion of the property and the tidally influenced wetlands are located on the eastern portion of the property. Historically, the aerial photographs and topographic maps have noted wetlands and associated drainage ditches throughout the property. Currently and historically, the tidal and non-tidal wetlands are connected to the Hackensack River via Cedar Creek and an unnamed tributary. The wetlands have been mapped by NJDEP as emergent and forested wetlands. These wetlands have been delineated by wetland scientists.

Open water ditches

2) Age:	Prior to 1900s
3) Dimensions of each container/area:	Variable

4) Location:	Historically throughout the property, currently western and eastern portions of property
5) Chemical Content:	Unknown
6) Integrity:	No applicable
7) Volume:	Not applicable
8) Construction materials:	Fill material
9) Inventory control records:	Not available

Tidal and non-tidal wetlands have been identified and delineated on the property. Langan will perform site investigation activities, including a Baseline Ecological Evaluation (BEE), to evaluate these areas as potential ecological receptors.

AOC 38: Groundwater

Based on the soil boring data collected and the hydrology of the area, the groundwater beneath the property is shallow and tidally influenced. Due to the historic and non-historic fill present throughout the site, a groundwater investigation is recommended to evaluate the groundwater quality beneath the property.

Groundwater

2) Age:	Not applicable
3) Dimensions of each container/area:	Property wide
4) Location:	Beneath the property
5) Chemical Content:	PAHs and metals
6) Integrity:	Not applicable
7) Volume:	Not calculated
8) Construction materials:	Not applicable
9) Inventory control records:	Not applicable

Based on historic fill and non-historic fill compounds detected in the soil, Langan conducted a groundwater quality evaluation via temporary well points. PAHs and metals were detected in the groundwater. The results of the investigation are provided in the SIR/RAW. No further investigation is required.

SUMMARY OF AOCs

Area of Concern	Designation	Description	Recommendation
Aboveground Storage Tanks	AOC 1	Two aboveground storage tanks (ASTs) located in basement of transmitter building	Properly decommissioned ASTs
Chemical Storage/Hazardous material storage	AOC 4 & AOC 14	Various sized containers located in garage, basement and boiler room of transmitter building.	Containers should be removed and properly disposed. After removal a floor inspection is recommended
Discolored Spill Area	AOC 7	Discolored/stained concrete observed beneath emergency generator	Concrete sampling recommended
Transformers	AOC 11	Former electric transformers located in rear of transmitter building. Transformers and capacitors located in radio tower sheds	Soil and concrete sampling conducted and no further investigation is recommended. No investigation required for sheds.
Floor Drains	AOC 12	No floor drains observed; portions of building slab covered with debris and/or containers	Inspect slabs for floor drains following debris removal
Historic Fill	AOC 15	Historic Fill located site wide	No further soil investigation
Surface Water Bodies	AOC 33	Tidal and non-tidal wetlands on the eastern and western portions of the property	Conduct SI and Baseline Ecological Evaluation (BEE)
Groundwater	AOC 38	Site-Wide groundwater.	Determine if groundwater quality has been impacted by historic fill

APPENDIX G

Environmental Permits

APPENDIX G – ENVIRONMENTAL PERMITS

The subject property was identified in the Environmental Data Resource (EDR) Radius Map (see Appendix E) in the RCRA Non-Gen (1000259157 and 1000306329) under two different names (WEVD and WFAN). The property was also noted in the FINDs (NJD982742181 and NJD986567766) database related to the generator information. The property names, under Non-Gen, were Radio Station WEVD and WFAN Transmitter C-O Emmis Broadcasting. The property was a large quantity generator under the name WFAN in 1988 and a small quantity generator in 1989 under WEVD. No violations were found. According to EDR, since 2006/2007 the property did not generate hazardous waste.

Langan also conducted an online search through NJDEP Data Miner and the property was listed as a hazardous waste generator under permit #NJD982742181. Again, no violations reported and the permit is not active. Note, former permit number NJD986567766 was not found in the NJDEP Data Miner.

\\langan.com\data\EP\data2\100234201\Office Data\Reports\Environmental\Preliminary Assessment Report\Appendix G Permits.doc

APPENDIX H

OPRA Requests

APPENDIX H – OPRA REQUESTS

Langan submitted a request on the New Jersey Department of Environmental Protection (NJDEP) Open Public Records Act (OPRA) website on 12 August 2011. The copy of this request is provided in this appendix. Langan received one reply from the NJDEP on 18 August 2011, which is provided in this appendix.

The reply from the NJDEP was a Compliance Evaluation Summary (CES), dated 16 June 2006. The CES indicates the inspection of a freshwater wetland (the subject property) during the construction of the adjacent Meadowlands Xanadu. The CES did not indicate any environmental concerns about the subject property.

Additionally, Langan contacted the following agencies via telephone on 12 August 2011:

- East Rutherford Fire Department
- East Rutherford Building Department
- Bergen County Department of Health Services

To date, Langan has not received replies from these agencies. An assessment of the presence of Areas of Concern (AOCs) will be completed when and if other records become available for review.

Additionally, Langan used the NJDEP GeoWeb program to determine whether the subject property or adjacent properties were currently in the NJDEP database for environmental records. The program was searched for the following:

- NJEMS Sites
- Deed Notice Areas
- Groundwater Contamination Areas (CEAs and CKAs)
- Known Contaminated Sites

The results of the search indicated no environmental records on the subject property. Several NJEMS sites are located near the subject property. A summary of these NJEMS sites are

included in this appendix. Additionally, two Known Contaminated Sites (Xanadu and Giant Jets Stadium) are located adjacent to the subject property. A summary of this KCL site is provided in this appendix.

On 29 August 2011, Langan conducted a search of the NJDEP Soil and Hazardous Waste Management Program (SHWMP) to determine whether the property was listed in the SHWMP database. The results, included in this appendix, indicated the site was not listed in the NJDEP SHWMP database

\\langan.com\data\EP\data2\100234201\Office Data\Reports\Environmental\Preliminary Assessment Report\Appendix H OPRA Requests.doc

State of New Jersey
Department of Environmental Protection
GOVERNMENT RECORDS REQUEST FORM

IMPORTANT NOTICE

Please read this entire form carefully as it contains important information concerning the response to your record request, accessing records, disputing denials, and your rights concerning government records. For further information, access WWW.NJ.GOV/DEP/OPRA.

Requestor Information

First Name:	DANIELLE	MI	Last Name	BISSON	
Company:	LANGAN ENGINEERING & ENVIRONMENTAL SERVICES				
Mailing Address:	619 RIVER DRIVE CENTER 1				
City:	Elmwood Park	State: NJ	Zip: 07407	Email:	dbisson@langan.com
Business Telephone:	(201) 794-6900			Extension	4479
Facsimile Telephone:	(201) 794-7501				

State Use Only

Tracking #	112297
Received Date	08/12/2011
Access Method	Send Electronic copies

All matters relating to the response and access of any records identified for this request should be directed to:

NJDEP – Office of Record Access
401 East State Street
Mail Code 401-06Q
PO Box 420
Trenton, New Jersey 08625-0420
Tele #: (609) 341-3121
Fax #: (609) 292-1177

Record Request Details:

Property Desc: Undeveloped Environmental documentation concerning underground storage tanks, soil or groundwater investigation documents, Right To Know, discharges/spills of hazardous substances/wastes

Disposition Notes

Based on this record request, responsive records have been identified and will be faxed when received from the program, to your attention.Requestor may contact the Office of Record Access at 609-341-3121 to obtain further information.

Addendum Disposition Notes: NONE

Record Request Response

In Progress	-	Open	
Filled	-	Closed	X
Denied	-	Closed	
Partial	-	Closed	

Matthew J. Cosper 08/17/2011

Custodian Signature | Date

Access to Government Records Under the New Jersey Open Public Records Act (N.J.S.A. 47:1A-1 et seq.)

Information Regarding the Requested Records		
If your request is in reference to a single facility, please provide the name of the facility, and the name of the operator name of the facility:	Facility Name: Disney Parcel Operator Name:	
Please provide the owner name the facility or parcel of land:	Owner Name:	
If your request is in reference to a specific parcel of land, please provide the street address, block, lot and property owner of the parcel of land: (Note: if the property in question is over multiple blocks and lots, please list all in the description field below)	Street Address 1: Bounded by NJ-120, I-95, & S. Connection Street Address 2: Block: 107.02 Lot: 3	
If your request is in reference to a facility, site or parcel of land, please provide the Municipality and County where the facility, site or parcel of land is located:	County: Bergen Municipality: East Rutherford Boro	
If the request is in reference to a particular permit issued by NJDEP, please provide the type of permit and any identifying numbers such as permit, incident or case numbers. (i.e. Fishing, Hunting, Hazardous Waste, Solid Waste, Land Use, NJPDES, Pesticides, Stream Encroachment, TWA, UST, Water Allocation)	List Permit Type:	List ID Numbers:
If your request is in reference to an individual, please provide the individual's name and type, and if the individual is a DEP employee, your relationship with the individual:	Individual's name: Type of Individual: Relationship:	
If the an individual was specified above, the individual was DEP Licensed, please specify the license type the individual holds:	License Type:	

The New Jersey Department of Environmental Protection has responded to your submitted Open Public Records Act (OPRA) record request. The following information will help you understand the response and your next available actions.

Tracking #: This is the Department's assigned Tracking # to your OPRA record request, which should be used in all corresponding matters.

Record Request Response:

- **In Progress** – Based on the nature of the request, the records sought, and/or the manner to which the records may exists, the Department requires additional time to investigate and respond to the request.
- **Filled** – Based on the information provided in your request, the Department was able to investigate and respond to your record request.
- **Denied** – Based on the nature of the request and/or the records sought, the Department has denied your request pursuant to a specific exemption(s) cited in N.J.S.A. 47:1A-1 seq.
- **Partial** – The Department has identified both responsive government records and records being denied based on the nature of the request and/or the records sought, that do not meet the definition of a government record pursuant to a specific exemption(s) cited in N.J.S.A. 47:1A-1 seq.

Disposition Notes: Provides detailed information concerning the Department's response to your request.

Accessing Records: Dependent on the volume of records and your interest, there are four (4) methods available to access the responsive government records:

- **File Review** – Schedule a file review with the Department to directly access the records and take notes or tag records of interest for copying. Copying can be performed by either the Department's onsite Copying Unit at State duplication fee costs or by the requester employing a Copy Vendor Service. If there are records stored in archives, a five-day processing period will be included prior to scheduling a review.
- **Copy Request** – All records of interest will be copied by the Department's onsite Copying Unit at State duplication fee costs unless a Copy Vendor Service is employed.
- **Electronic Records Request** – Dependant on the size & nature of the e-records, the Department will email the records or provide a CD or DVD.
- **Fax Request** – Based on the number of pages, the Department faxes the responsive records.
- **Web Access** – The responsive records can be access directly through the Department's web site. Web address will be provided.

Access to Government Records Under the New Jersey Open Public Records Act (N.J.S.A. 47:1A-1 et seq.)

1. The fees for duplication of a government record are specified below. We will notify you of any special charges, special service charges or other additional charges authorized by State law or regulation before processing your request. Payment shall be made by cash, check or money order payable to the State of New Jersey and mailed to the address specified below.

Hard Copies:	Letter & Legal size	= $0.05 per page	**Electronic Records:** CDs = $2.00 per CD
	Oversized Maps (Color)	= $5.00 per map	DVDs = $2.00 per DVD
	Oversized Maps (B&W)	= $3.00 per map	

* A **special service fee** will be applied to all copy jobs where time is expended preparing the records to be copied (removing staples, bindings, etc) and reassembling the records. The fee will be based on the direct salary costs of the individual making the copies.

2. Pursuant to OPRA (C.47:1A-5c & C47:1A-5d), the Department will apply service fees for any extraordinary expenditure of time and effort to accommodate a request. The service fees will be based upon the actual direct cost of providing the service or extraordinary time. If the requester objects to the fee, the request is closed and access to the records is not granted.

   An **extraordinary time service fee** will be charged for those requests that required the Department to expend extraordinary effort and time investigating, preparing and providing the responsive records. These requests normal require the involvement of numerous record custodians, file officers and staff through different Department Program Areas based on the general broadness of the request and not specifying a particular record but a category of records. The extraordinary time service fee is incurred prior to the Department notifying the requester due to the fact that the Department is unable to estimate the extraordinary time that may be required on a particular request until all of the staff needed to respond to the request have completed their activities. The Department charges $68.65/Hr Fee for extraordinary time (EOT) service fees.

   A **special service fee** will be charged for a request that requires a specific Department employee to expend an extraordinary effort and time in order for the Department to provide the records. Such activities include but shall not be limited to converting electronic records from one medium to another medium, preparation of records for copying such as the disassembly (e.g. removal of staples & bindings) and reassembly of files, reviewing of records for responsiveness and privilege information, redaction of records. The actual direct costs of the Department's employee will be charged.

3. By law, the Department must notify you that it grants or denies a request for access to government records within seven business days after the custodian of the record requested receives the request, provided that the record is currently available and not in storage. If the record requested is not currently available or is in storage, the custodian will advise you within seven business days when the record can be made available and the estimated cost. You may agree with the custodian to extend the time for making records available, or granting or denying your request.

4. You may be denied access to a government record if your request would substantially disrupt agency operations and the custodian is unable to reach a reasonable solution with you.

5. If the Department was unable to comply with your request for access to a government record, the custodian will indicate the reasons for denial on the request form.

6. Except as otherwise provided by law or by agreement with the requester, if the custodian of the record requested fails to respond to you within seven business days of receiving a request form, the failure to respond will be considered a denial of your request.

7. **Resolution of Disputed Findings:**

   In the event that a requester does not agree with the Department's record response, the requester should:

   No Records - Reexamined the request details to evaluate if all of the information was provided that could aid the Department in locating records. The Department's ability to identify records of interest is in direct correlation to matching the Department information with the information provided on the request. Such important identifiers are Facility/Site Name, Address, Case #, Permit #, Block/Lot.

   Denial - If your request for access to a government record has been denied or unfilled within the time permitted by law, you have a right to challenge the decision by the Department to deny access. The Department denies access to records only when those records do not meet the definition of a government record and/or public access is not allowed pursuant to the law. At your option, you may either:

   a. Contact the Office of Record Access to re-visit the matter or provide further explanation.

   b. Institute a proceeding in the Superior Court of New Jersey

   c. File a complaint in writing with the Government Records Council (GRC). You may contact the GRC by toll-free telephone at 866-850-0511, by mail at PO Box 819, Trenton, NJ, 08625, by e-mail at *grc@dca.state.nj.us*, or at their web site at *www.state.nj.us/grc*. The Council can also respond to other questions about the law.

8. Information provided on this form may be subject to disclosure under the Open Public Records Act.

Access to Government Records Under the New Jersey Open Public Records Act (N.J.S.A. 47:1A-1 et seq.)

Revised Addendum Disposition Notes: NONE

State of New Jersey
Department of Environmental Protection

OFFICE OF RECORD ACCESS
401 E. State Street
401-06Q
PO Box 420
Trenton, New Jersey 08625-0420

FAX

TO: DANIELLE BISSON
LANGAN ENGINEERING & ENVIRONMENTAL SERVICES

FAX #: (201) 794-7501

FROM: Office of Record Access
Tele #: (609) 341-3121
Fax: (609) 292-1177

DATE: 08/18/2011

TOTAL PAGES:

REQUEST TRACKING #: **112297**

RE: Submitted record request to the NJDEP. See enclosed documents for further information.

OPRA Request #: 112297 Date Submitted: 08/12/2011 11:57:40 Date Received: 08/12/2011

First Name	M. I.	Last Name
Danielle		Bisson

Mailing Address: 619 River Drive Center 1
ELMWOOD PARK
NJ - N 07407

Phone: (201) 794-6900 x 4479 ☐ Unlisted
Fax: (201) 794-7601 x
E-Mail: dbisson@langan.com
Affiliation: Langan Engineering & Environmental Services

Access Method: Send Electronic copies
Litigation: ○ Yes ● No
Convicted: ○ Yes ● No
Enforcement: ● Yes ○ No
SRP:: ● Yes ○ No
Related ID Nos.:
Permit Type:
License Type:

Individual:
Ind. Type:
Relationship:
Address: Bounded by NJ-120, I-95, & S. Conn
County: Bergen
City: East Rutherford Boro
Block: 107.02 Lot: 3
Facility Name: Disney Parcel
Owner:
Operator:

Request Details: Property Desc: Undeveloped . Environmental documentation concerning underground storage tanks, soil or groundwater investigation documents, Right Know, discharges/spills of hazardous substances/wastes

Compliance Evaluation Summary

Date Printed: 08/15/11

Activity: SCI 060001 *Standard Compliance Inspection (0200-04-0002.1)

Title Description: 6/16/06 Compl. Inspection

Start Date/Time: 06/16/2006 11:00 AM **End Date/Time:** 06/16/2006 1:00 PM

Lead Investigator: Smollin, Raymond

Other Investigators: Arnett, Jan

Persons Interviewed: Robert A. Sulak, VP, Senior Project Manager, The Mills Corporation
Ryan A. Gormley, Project Manager, The Mills Corporation

Witnesses:

Program Interest Location: MEADOWLANDS MILLS
0200-04-0002.1 (COASTAL AND LAND USE)
PATERSON PLANK RD,
EAST RUTHERFORD BORO, BERGEN COUNTY

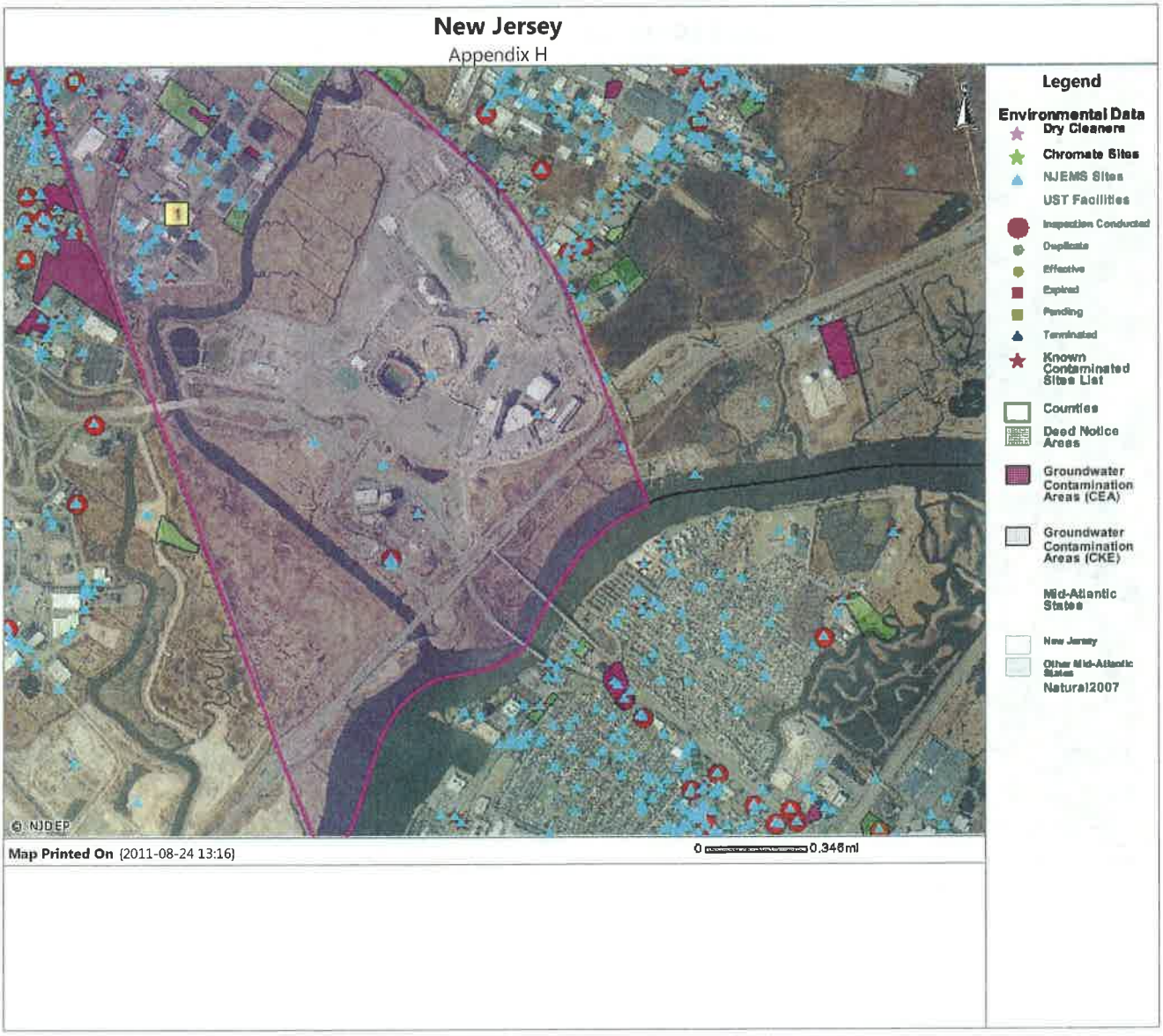
Program Interest Mailing Address: ,

Responsible Entity(s): MEADOWLANDS MILLS

Block(s) and Lot(s): Block 107.02 Lot 1, Block 107.02 Lot 3 P/O, Block 128 Lot 9 P/O

General Comments:

Permit compliance inspection found the remaining freshwater wetland intact. This wetland is outside the perimeter road and has not been impacted. Inspected two headwalls carrying Cedar Creek under the road and into the wetlands. These are to be replaced later in the project. Concerns about the future of the project were discussed, including concerns that some plans show the outer roadway expanded into the FWW. Project managers say the road will stay where it is located. Also the interior wetlands were filled by permit for parking for a baseball stadium. This stadium does not appear on all of the plans. Again, project managers assured us that the stadium would be built. At the time of our inspection the owner of the Somerset Patriots team, who is to be the owner of the Meadowlands Outfielders in the new stadium, held a press conference in the parking lot and stated that Mills had reneged on the deal to build the stadium. In addition, Mills was not forthcoming about the height of the indoor ski ramp to be built. It now appears to be over 200 feet high. Mills had to meet height limitations because of view blocking possibilities and the fact that the building is in the vicinity of Teterboro Airport. At this point the project is in compliance but further Compliance inspections are recommended to ensure compliance.


New Jersey
Appendix H
Legend
Environmental Data
Dry Cleaners
Chromate Sites
NJEMS Sites
UST Facilities
Inspection Conducted
Duplicate
Effective
Expired
Pending
Terminated
Known Contaminated Sites List
Counties
Deed Notice Areas
Groundwater Contamination Areas (CEA)
Groundwater Contamination Areas (CKE)
Mid-Atlantic States
New Jersey
Other Mid-Atlantic States
Natural2007
© NJDEP
Map Printed On (2011-08-24 13:16)
0
0.346mi

Block 107.02, Lot 3

NJDEP Geo-Web Results



Legend

Environmental Data
- Chromate Sites
- NJEMS Sites
- Known Contaminated Sites List
- Counties
- Deed Notice Areas
- Groundwater Contamination Areas (CEA)
- Groundwater Contamination Areas (CKE)

Mid-Atlantic States
- New Jersey
- Other Mid-Atlantic States

Natural2007

Map Printed On (2011-08-29 14:33)

0 0.23mi

Comments Site Limits Shown in Blue Outline.

*

Details of " NJEMS Sites "

Attribute	Value
NJEMS Site ID	351520
Site Name	NJ NETS @ MEADOWLANDS COMPLEX
Address Line 1	50 RT 120
Address Line 2	
City	EAST RUTHERFORD
ZIP Code	07073
County	BERGEN
Municipality	EAST RUTHERFORD BORO
NJSPC Easting (X)	610,961.00
NJSPC Northing (Y)	721,294.00
More Information For This Site	
Program	RADIATION - X-RAY FACILITY MEDICAL
Start Date	11/9/2004 12:00:00 AM
Program Interest Name	NJ NETS
Active	N
Preferred ID Number	433929
Program Interest ID	433929

*

Details of " NJEMS Sites "

Attribute	Value
NJEMS Site ID	352748
Site Name	AT&T WIRELESS @ MEADOWLANDS COMPLEX
Address Line 1	50 RT 120
Address Line 2	
City	EAST RUTHERFORD
ZIP Code	07073
County	BERGEN
Municipality	EAST RUTHERFORD BORO
NJSPC Easting (X)	610,961.00
NJSPC Northing (Y)	721,294.00
More Information For This Site	
Program	RIGHT-TO-KNOW - POLLUTION PREVENTION/RIGHT TO KNOW
Start Date	8/8/2005 4:16:54 PM
Program Interest Name	AT&T WIRELESS
Active	Y
Preferred ID Number	00000012348
Program Interest ID	260460

*

Details of " NJEMS Sites "

Attribute	Value
NJEMS Site ID	322199
Site Name	RYDER TRUCK RENTAL @ MEADOWLANDS COMPLEX
Address Line 1	50 RT 120
Address Line 2	
City	EAST RUTHERFORD
ZIP Code	07073
County	BERGEN
Municipality	EAST RUTHERFORD BORO
NJSPC Easting (X)	610,961.00
NJSPC Northing (Y)	721,294.00
More Information For This Site	
Program	HAZARDOUS WASTE - HW GENERATOR
Start Date	9/19/1991 12:00:00 AM
Program Interest Name	RYDER TRUCK RENTAL INC
Active	N
Preferred ID Number	NJC876019928
Program Interest ID	388615

*

Details of " NJEMS Sites "

Attribute	Value
NJEMS Site ID	390553
Site Name	VERIZON WIRELESS RUTHERFORD #2 @ MEADOWLANDS COMPLEX
Address Line 1	50 RT 120
Address Line 2	
City	EAST RUTHERFORD
ZIP Code	07073
County	BERGEN
Municipality	EAST RUTHERFORD BORO
NJSPC Easting (X)	610,961.00
NJSPC Northing (Y)	721,294.00
More Information For This Site	
Program	RIGHT-TO-KNOW - POLLUTION PREVENTION/RIGHT TO KNOW
Start Date	1/22/2009 12:00:00 AM
Program Interest Name	VERIZON WIRELESS - RUTHERFORD 2
Active	Y
Preferred ID Number	00000041671
Program Interest ID	488226

*

Details of " NJEMS Sites "

Attribute	Value
NJEMS Site ID	21932
Site Name	SULLIVAN BROTHERS PRINTERS
Address Line 1	MEADOWLANDS SPORTS COMPLEX
Address Line 2	
City	EAST RUTHERFORD
ZIP Code	07852
County	BERGEN
Municipality	EAST RUTHERFORD BORO
NJSPC Easting (X)	609,862.00
NJSPC Northing (Y)	721,099.00
More Information For This Site	
Program	RIGHT-TO-KNOW - POLLUTION PREVENTION/RIGHT TO KNOW
Start Date	1/31/1989 12:00:00 AM
Program Interest Name	SULLIVAN BROTHERS PRINTERS
Active	Y
Preferred ID Number	29897000000
Program Interest ID	28727
More Information For This Site	
Program	HAZARDOUS WASTE - HW GENERATOR
Start Date	
Program Interest Name	SULLIVAN BROTHERS PRINTERS
Active	N
Preferred ID Number	NJR000033951
Program Interest ID	172764
More Information For This Site	
Program	SITE REMEDIATION - S1 WASTEWATER TREATMENT LICENSE
Start Date	3/24/1999 12:00:00 AM
Program Interest Name	SULLIVAN BROTHERS PRINTERS
Active	Y
Preferred ID Number	291021
Program Interest ID	291021
Program	SITE REMEDIATION - SRP-PI
Start Date	3/24/1999 12:00:00 AM
Program Interest Name	SULLIVAN BROTHERS PRINTERS
Active	Y
Preferred ID Number	291021
Program Interest ID	291021

*

Details of " NJEMS Sites "

Attribute	Value
NJEMS Site ID	157849
Site Name	CONTINENTAL AIRLINES ARENA
Address Line 1	PATERSON PLANK RD
Address Line 2	
City	EAST RUTHERFORD BORO
ZIP Code	07070
County	BERGEN
Municipality	EAST RUTHERFORD BORO
NJSPC Easting (X)	611,769.00
NJSPC Northing (Y)	720,354.00
More Information For This Site	
Program	LAND USE - COASTAL AND LAND USE
Start Date	8/18/2003 12:00:00 AM
Program Interest Name	MEADOWLANDS XANADU GEOTECHNICAL PROGRAM
Active	Y
Preferred ID Number	0212-03-0004.1
Program Interest ID	207760
More Information For This Site	
Program	SITE REMEDIATION - S1 WASTEWATER TREATMENT LICENSE
Start Date	3/4/2004 12:00:00 AM
Program Interest Name	GIANT JETS STADIUM
Active	Y
Preferred ID Number	222673
Program Interest ID	222673
Program	SITE REMEDIATION - SRP-PI
Start Date	3/4/2004 12:00:00 AM
Program Interest Name	GIANT JETS STADIUM
Active	Y
Preferred ID Number	222673
Program Interest ID	222673
More Information For This Site	
Program	LAND USE - COASTAL AND LAND USE
Start Date	8/18/2003 12:00:00 AM
Program Interest Name	MEADOWLANDS MILLS
Active	Y
Preferred ID Number	0200-04-0002.1
Program Interest ID	225176

*

Details of " NJEMS Sites "

Attribute	Value
NJEMS Site ID	309111
Site Name	NJDOT BRIDGE BLS BIN #0204151
Address Line 1	RT 3
Address Line 2	
City	EAST RUTHERFORD
ZIP Code	07073
County	BERGEN
Municipality	EAST RUTHERFORD BORO
NJSPC Easting (X)	609,007.00
NJSPC Northing (Y)	719,441.00
More Information For This Site	
Program	HAZARDOUS WASTE - HW GENERATOR
Start Date	
Program Interest Name	NJ DOT-BRIDGE BLS BIN0204151
Active	N
Preferred ID Number	NJD986641488
Program Interest ID	414129

*

Details of " NJEMS Sites "

Attribute	Value
NJEMS Site ID	332405
Site Name	TRUCK TRANSFER SERVICES INC
Address Line 1	RT 3 E
Address Line 2	
City	EAST RUTHERFORD
ZIP Code	07073
County	BERGEN
Municipality	EAST RUTHERFORD BORO
NJSPC Easting (X)	609,007.00
NJSPC Northing (Y)	719,441.00
More Information For This Site	
Program	HAZARDOUS WASTE - HW GENERATOR
Start Date	3/11/1993 12:00:00 AM
Program Interest Name	TRUCK TRANSFER SERVICES INC
Active	N
Preferred ID Number	NJC876038365
Program Interest ID	397369

*

Details of " NJEMS Sites "

Attribute	Value
NJEMS Site ID	179598
Site Name	NJ MEADOWLANDS COMM
Address Line 1	RT 3
Address Line 2	
City	EAST RUTHERFORD BORO
ZIP Code	07073
County	BERGEN
Municipality	EAST RUTHERFORD BORO
NJSPC Easting (X)	609,007.00
NJSPC Northing (Y)	719,441.00
More Information For This Site	
Program	LAND USE - COASTAL AND LAND USE
Start Date	8/20/2004 12:00:00 AM
Program Interest Name	NJ MEADOWLANDS COMMISSION
Active	Y
Preferred ID Number	0000-04-0022.1
Program Interest ID	235311

*

Details of " NJEMS Sites "

Attribute	Value
NJEMS Site ID	54112
Site Name	PETER PAN MOTEL
Address Line 1	RT 3 E
Address Line 2	
City	EAST RUTHERFORD
ZIP Code	07073
County	BERGEN
Municipality	EAST RUTHERFORD BORO
NJSPC Easting (X)	609,007.00
NJSPC Northing (Y)	719,441.00
More Information For This Site	
Program	SITE REMEDIATION - S1 WASTEWATER TREATMENT LICENSE
Start Date	3/30/1992 12:00:00 AM
Program Interest Name	PETER PAN MOTEL INC
Active	Y
Preferred ID Number	022967
Program Interest ID	81423
Program	SITE REMEDIATION - SRP-PI
Start Date	3/30/1992 12:00:00 AM
Program Interest Name	PETER PAN MOTEL INC
Active	Y
Preferred ID Number	022967
Program Interest ID	81423

*

Details of " NJEMS Sites "

Attribute	Value
NJEMS Site ID	309031
Site Name	NJDOT BRIDGE BIN #0204152 STRUCTURE #0204152
Address Line 1	RT 3
Address Line 2	
City	EAST RUTHERFORD
ZIP Code	07073
County	BERGEN
Municipality	EAST RUTHERFORD BORO
NJSPC Easting (X)	609,007.00
NJSPC Northing (Y)	719,441.00
More Information For This Site	
Program	HAZARDOUS WASTE - HW GENERATOR
Start Date	
Program Interest Name	NJ DOT BRIDGE BLS BIN0204152
Active	N
Preferred ID Number	NJD986641496
Program Interest ID	414092

*

Details of " NJEMS Sites "

Attribute	Value
NJEMS Site ID	272378
Site Name	CAROLINA FREIGHT CARRIERS
Address Line 1	RT 3
Address Line 2	
City	EAST RUTHERFORD
ZIP Code	07073
County	BERGEN
Municipality	EAST RUTHERFORD BORO
NJSPC Easting (X)	609,007.00
NJSPC Northing (Y)	719,441.00
More Information For This Site	
Program	HAZARDOUS WASTE - HW GENERATOR
Start Date	1/28/1992 12:00:00 AM
Program Interest Name	CAROLINA FREIGHT CARRIERS
Active	N
Preferred ID Number	NJC876024118
Program Interest ID	344270

*

Details of " NJEMS Sites "

Attribute	Value
NJEMS Site ID	313376
Site Name	OLD DOMINION FREIGHT LINE INC
Address Line 1	RT 3 W
Address Line 2	
City	EAST RUTHERFORD
ZIP Code	07073
County	BERGEN
Municipality	EAST RUTHERFORD BORO
NJSPC Easting (X)	609,007.00
NJSPC Northing (Y)	719,441.00
More Information For This Site	
Program	HAZARDOUS WASTE - HW GENERATOR
Start Date	9/24/1991 12:00:00 AM
Program Interest Name	OLD DOMINION FREIGHT LINE
Active	N
Preferred ID Number	NJC876020132
Program Interest ID	380608

*

Details of " NJEMS Sites "

Attribute	Value
NJEMS Site ID	337366
Site Name	WESTERN HARVEST CARRIERS INC
Address Line 1	RT 3
Address Line 2	
City	EAST RUTHERFORD
ZIP Code	07073
County	BERGEN
Municipality	EAST RUTHERFORD BORO
NJSPC Easting (X)	609,007.00
NJSPC Northing (Y)	719,441.00
More Information For This Site	
Program	HAZARDOUS WASTE - HW GENERATOR
Start Date	11/16/1989 12:00:00 AM
Program Interest Name	WESTERN HARVEST CARRIERS INC
Active	N
Preferred ID Number	NJP000872853
Program Interest ID	401942

*

Details of " NJEMS Sites "

Attribute	Value
NJEMS Site ID	56513
Site Name	AN CORP REALTY
Address Line 1	300 RT 3
Address Line 2	& SERVICE RD
City	EAST RUTHERFORD
ZIP Code	07073
County	BERGEN
Municipality	EAST RUTHERFORD BORO
NJSPC Easting (X)	609,630.00
NJSPC Northing (Y)	718,557.00
More Information For This Site	
Program	SITE REMEDIATION - S1 WASTEWATER TREATMENT LICENSE
Start Date	8/19/1996 12:00:00 AM
Program Interest Name	AN CORP REALTY
Active	Y
Preferred ID Number	031261
Program Interest ID	84175
Program	SITE REMEDIATION - SRP-PI
Start Date	8/19/1996 12:00:00 AM
Program Interest Name	AN CORP REALTY
Active	Y
Preferred ID Number	031261
Program Interest ID	84175
More Information For This Site	
Program	HAZARDOUS WASTE - HW GENERATOR
Start Date	3/28/1996 12:00:00 AM
Program Interest Name	AN CORP REALTY
Active	N
Preferred ID Number	NJC876101668
Program Interest ID	336878

*

Details of " NJEMS Sites "

Attribute	Value
NJEMS Site ID	357109
Site Name	CALDWELL MARINE
Address Line 1	PATERSON PLANK RD
Address Line 2	
City	CARLSTADT BORO
ZIP Code	07072
County	BERGEN
Municipality	CARLSTADT BORO
NJSPC Easting (X)	613,008.00
NJSPC Northing (Y)	721,018.00
More Information For This Site	
Program	LAND USE - COASTAL AND LAND USE
Start Date	7/13/2007 12:00:00 AM
Program Interest Name	PSE&G@PLANK RD BRIDGE
Active	Y
Preferred ID Number	0000-07-0015.1
Program Interest ID	440962

*

Details of " NJEMS Sites "

Attribute	Value
NJEMS Site ID	32187
Site Name	CAROLINA FREIGHT CARRIERS CORP
Address Line 1	PATERSON PLANK RD
Address Line 2	
City	CARLSTADT
ZIP Code	07072
County	BERGEN
Municipality	CARLSTADT BORO
NJSPC Easting (X)	613,008.00
NJSPC Northing (Y)	721,018.00
More Information For This Site	
Program	RIGHT-TO-KNOW - POLLUTION PREVENTION/RIGHT TO KNOW
Start Date	2/18/1992 12:00:00 AM
Program Interest Name	CAROLINA FREIGHT CARRIERS
Active	N
Preferred ID Number	06493200005
Program Interest ID	39734
More Information For This Site	
Program	HAZARDOUS WASTE - HW GENERATOR
Start Date	10/5/2006 12:00:00 AM
Program Interest Name	CAROLINA FREIGHT CARRIERS
Active	N
Preferred ID Number	NJC876014481
Program Interest ID	344269

*

Details of " Known Contaminated Sites List "

Attribute	Value
NJEMS Site ID	157849
KCSL Name	GIANT JETS STADIUM
Address	MEADOWLAND SPORTS COMPLEX
Program Interest Number	222673
Lead Program	OBR
Case Status	Active
Status Date	3/4/2004 12:00:00 AM
Remedial Level	C3: Multi-Phased RA - Unknown or Uncontrolled Discharge to Soil or GW
Classification Exception Area (CEA) Status	None
CEA Date	
Deed Notice Status	None
Deed Notice Date	
Engineering Control	None
Engineering Control Date	
National Priority List Status	
National Priority List Date	
Unknown Source	
Contaminant Source Category	A: Sites with On-Site Sources of Contamination
County	Bergen
Municipality	East Rutherford Boro
ZIP Code	07070

*

Details of " Known Contaminated Sites List "

Attribute	Value
NJEMS Site ID	56513
KCSL Name	AN CORP REALTY
Address	RT 3 & S SERVICE RD
Program Interest Number	031261
Lead Program	BOMM
Case Status	Active
Status Date	10/18/2006 12:00:00 AM
Remedial Level	C2: Formal Design - Known Source or Release with GW Contamination
Classification Exception Area (CEA) Status	Lifted
CEA Date	6/9/2009 12:00:00 AM
Deed Notice Status	None
Deed Notice Date	
Engineering Control	None
Engineering Control Date	
National Priority List Status	
National Priority List Date	
Unknown Source	
Contaminant Source Category	A: Sites with On-Site Sources of Contamination
County	Bergen
Municipality	East Rutherford Boro
ZIP Code	07073

*

Details of " Known Contaminated Sites List "

Attribute	Value
NJEMS Site ID	12286
KCSL Name	MEADOWLANDS XANADU
Address	50 RT 120
Program Interest Number	000540
Lead Program	BUST
Case Status	Active
Status Date	10/17/2001 12:00:00 AM
Remedial Level	C2: Formal Design - Known Source or Release with GW Contamination
Classification Exception Area (CEA) Status	None
CEA Date	
Deed Notice Status	None
Deed Notice Date	
Engineering Control	None
Engineering Control Date	
National Priority List Status	
National Priority List Date	
Unknown Source	
Contaminant Source Category	A: Sites with On-Site Sources of Contamination
County	Bergen
Municipality	East Rutherford Boro
ZIP Code	07073

*

Details of " NJEMS Sites "

Attribute	Value
NJEMS Site ID	12286
Site Name	NJ SPORTS & EXPO AUTH @ MEADOWLANDS COMPLEX
Address Line 1	50 RT 120
Address Line 2	
City	EAST RUTHERFORD
ZIP Code	07073
County	BERGEN
Municipality	EAST RUTHERFORD BORO
NJSPC Easting (X)	610,790.00
NJSPC Northing (Y)	722,191.00
More Information For This Site	
Program	AIR - AIR
Start Date	
Program Interest Name	NJSEA MEADOWLANDS COMPLEX
Active	N
Preferred ID Number	01776
Program Interest ID	13156
More Information For This Site	
Program	AIR - AIR
Start Date	9/25/2000 12:00:00 AM
Program Interest Name	NJSEA MEADOWLANDS COMPLEX
Active	Y
Preferred ID Number	01769
Program Interest ID	13157
More Information For This Site	
Program	WATER QUALITY - NJPDES
Start Date	6/10/1987 12:00:00 AM
Program Interest Name	NEW JERSEY SPORTS & EXPOSITION AUTHORITY
Active	Y
Preferred ID Number	46667
Program Interest ID	46667
More Information For This Site	
Program	SITE REMEDIATION - S1 WASTEWATER TREATMENT LICENSE
Start Date	3/7/1991 12:00:00 AM
Program Interest Name	MEADOWLANDS XANADU
Active	Y
Preferred ID Number	000540
Program Interest ID	55829
Program	SITE REMEDIATION - SRP-PI
Start Date	3/7/1991 12:00:00 AM
Program Interest Name	MEADOWLANDS XANADU
Active	Y
Preferred ID Number	000540
Program Interest ID	55829

More Information For This Site	
Program	HAZARDOUS WASTE - HW GENERATOR
Start Date	
Program Interest Name	NEW JERSEY SPORTS AUTHORITY
Active	Y
Preferred ID Number	NJD980647895
Program Interest ID	91861
More Information For This Site	
Program	LAND USE - COASTAL AND LAND USE
Start Date	12/1/1997 12:00:00 AM
Program Interest Name	NJ SPORTS & EXPO AUTH @ MEADOWLANDS COMPLEX
Active	Y
Preferred ID Number	0212-04-0004.1
Program Interest ID	238350
More Information For This Site	
Program	WATER SUPPLY - WATER ALLOCATION
Start Date	11/22/2004 12:00:00 AM
Program Interest Name	MEADOWLANDS XANADU
Active	Y
Preferred ID Number	1259D
Program Interest ID	240789
More Information For This Site	
Program	WATER QUALITY - NJPDES
Start Date	11/23/2004 12:00:00 AM
Program Interest Name	MEADOWLANDS XANADU
Active	Y
Preferred ID Number	240865
Program Interest ID	240865
More Information For This Site	
Program	LAND USE - COASTAL AND LAND USE
Start Date	12/1/1997 12:00:00 AM
Program Interest Name	NJ SPORTS & EXPO AUTH @ MEADOWLANDS COMPLEX
Active	Y
Preferred ID Number	0212-04-0004.2
Program Interest ID	254827
More Information For This Site	
Program	AIR - AIR
Start Date	3/30/2006 12:00:00 AM
Program Interest Name	MEADOWLANDS XANADU
Active	Y
Preferred ID Number	03050
Program Interest ID	284385
More Information For This Site	
Program	WATER QUALITY - NJPDES
Start Date	1/25/2007 12:00:00 AM
Program Interest Name	MEADOWLANDS SPORTS COMPLEX
Active	Y
Preferred ID Number	332516

Program Interest ID	332516
More Information For This Site	
Program	SOLID WASTE - SOLID WASTE FACILITY
Start Date	
Program Interest Name	NJ SPORTS & EXPO AUTH @ MEADOWLANDS COMPLEX
Active	Y
Preferred ID Number	458394
Program Interest ID	458394
More Information For This Site	
Program	LAND USE - COASTAL AND LAND USE
Start Date	12/1/1997 12:00:00 AM
Program Interest Name	NJ SPORTS & EXPO AUTH @ MEADOWLANDS COMPLEX
Active	Y
Preferred ID Number	0212-04-0004.3
Program Interest ID	512882

New Jersey Landfill Location/Status Search Results

***DEP Bureau Allocation contacts, North phone (609)292-9880 South phone (609)984-6985**

Help with using this look up screen

Your search for :
County is equal to - "BERGEN"
Municipality"East Rutherford"
generated 2 matches.

Project Manager:	**R. Shah**
Landfill Name :	**NJ SPORTS AUTH.;NEW JERSEY SPORTS AND EXPOSITION AUTHORITY**
County :	**BERGEN**
Old ID:	**0212A/0202B**
New ID:	**0212000058**
CSL ID:	
Street Address:	
Municipality:	**EAST RUTHERFORD**
Block Number:	**108**
Lot Number:	**8-10,19-24,24A,24B,25C,26**
Private (P) or Government (G):	**G**
NPL (Super Fund) (T=Yes,F=No):	**F**
Commercial (C) or Sole Source (S):	
Pinelands:	
Watershed Zone:	**5**
Operating Status:	**CLOSED**
Date Closed:	**0**
NJPDES Number:	
Acreage:	**0**
Waste Types Accepted:	**-**
Properly Closed(T=Yes,F=No):	**F**

Project Manager:	**S. Shah**
Landfill Name :	**TROAST LF**
County :	**BERGEN**
Old ID:	**0212C**

APPENDIX I

Property Inspection Photographs

New ID:	
CSL ID:	
Street Address:	
Municipality:	EAST RUTHERFORD
Block Number:	
Lot Number:	
Private (P) or Government (G):	P
NPL (Super Fund)(T=Yes,F=No):	F
Commercial (C) or Sole Source (S):	
Pinelands:	
Watershed Zone:	0
Operating Status:	CLOSED
Date Closed:	1978
NJPDES Number:	
Acreage:	0
Waste Types Accepted:	-
Properly Closed(T=Yes,F=No):	F

Return to Search

NJ InTouch



Electrical equipment inside transmitter building.



Diesel-powered emergency generator in transmitter building basement.



Diesel AST (AOC 1) in transmitter building basement.



Paint containers in transmitter building basement (AOC 4/14).



Concrete staining beneath emergency generator (AOC 7).



Storage drums in transmitter building garage (AOC 4/14).



Storage containers (roofing sealant) in transmitter building garage (AOC 4/14).



Gas cylinders in transmitter building garage (AOC 4/14).



Sanitary pump located west of transmitter building.



Transmitter building.



North portion of site.



Radio tower FCC information.



Radio tower shed.



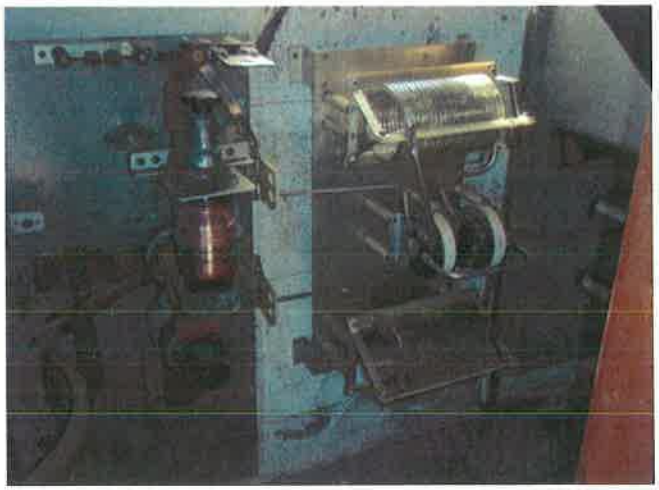
Radio tower.



Central part of the site from adjacent property.



Electrical equipment inside radio tower shed (AOC 11).



Electrical equipment inside radio tower shed.



Dry-type transformer inside radio tower shed (AOC 11).



Storage containers inside boiler room (AOC 4/14).



Storage containers inside boiler room (AOC 4/14).



Storage containers and debris inside boiler room (AOC 4/14).

APPENDIX C

SITE INVESTIGATION REPORT

SITE INVESTIGATION REPORT

For

METRO CENTRAL, LLC PROPERTY
American Dream Meadowlands
Block 107.02, Lot 3
East Rutherford, New Jersey

Prepared By:

Langan Engineering & Environmental Services
River Drive Center 1
Elmwood Park, New Jersey 07407
NJ Certificate of Authorization No: 24GA27996400



19 October 2011
100234201

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

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EXECUTIVE SUMMARY

Langan Engineering and Environmental Services, Inc. (Langan) has prepared this Site Investigation Report (SIR) for American Dream Meadowlands c/o Metro Central, LLC on behalf of Triple Five, LLC. The objective of this SIR is to present and interpret the investigative results for the Areas of Concern (AOCs) identified at the former radio tower transmission property (property). The property is located along State Highway Route 120 and Route 3 West in East Rutherford, Bergen County, New Jersey. This property is affiliated with the American Dream Meadowlands (formerly Meadowlands Xanadu) located on the Meadowlands Sports Complex.

The October 2011 Preliminary Assessment Report (PAR) prepared by Langan identified nine Areas of Concern (AOCs). These nine AOCs are listed below with their AOC designation number from the New Jersey Department of Environmental Protection's (NJDEP) PA/SI form.

- AOC 1 - Two diesel fuel (200 and 275 gallons) Aboveground Storage Tanks (ASTs);
- AOC 4 - Chemical storage cabinet/closet;
- AOC 7 - Discolored or spill area;
- AOC 11 - Electrical transformer and capacitor;
- AOC 12 - Floor drain collection system;
- AOC 14 - Hazardous material storage or handling area;
- AOC 15 - Historic fill or any other fill material;
- AOC 33 - Surface water body (Wetlands); and,
- AOC 38 - Groundwater.

These AOCs, with the exception of AOC 12 – Floor drain collection system, were investigated and the results are detailed in this SIR. Floor drains (AOC 12) are not expected to exist within the transmission building however, because of the debris and storage containers located throughout the building, the floor could not be fully inspected. The other eight AOCs were evaluated through the implementation of a surface and subsurface investigation. The investigation included the collection and laboratory analysis of soil, groundwater and concrete

samples. These samples were collected in February 2008, July 2011 and August 2011 and the results are presented in this SIR.

The soil samples obtained during these investigations identified semi-volatile organic compounds (SVOCs), poly-chlorinated biphenyls (PCBs), one pesticide compound (chlordane), extractable petroleum hydrocarbons (EPH) and metals above their NJDEP Non-Residential Soil Remediation Standards (SRS). These soil sample results confirm that there are historic fill type compounds on the property consistent with the historic fill classification as defined by the NJDEP in the Technical Requirements for Site Remediation (N.J.A.C. 7:26E-1.8 and 4.6).

The soil sample results also identified the presence of non-historic fill type compounds (antimony, EPH, PCBs and chlordane). The occurrences of antimony and EPH have been delineated within the fill material through our investigations. Antimony will be proposed to remain onsite except for concentrations of antimony in excess of its NJDEP Non-Residential SRS. EPH concentrations in excess of 1,000 mg/kg will be evaluated for possible excavation and offsite disposal. PCBs were found throughout the property with some soil samples having concentrations above its NJDEP Non-Residential SRS of 1.0 mg/kg. Further investigations will be performed for PCB concentrations above the NJDEP Non-Residential SRS and will be performed in accordance with the USEPA Toxic Substances Control Act (TSCA) including coordination with USEPA. Concentrations of PCBs between 1 and 10 mg/kg will be proposed to remain onsite in accordance with the TSCA self-implementing criteria in defined high occupancy areas. PCBs in excess of 10 mg/kg will be proposed for excavation and off-site disposal. Chlordane was found in the northernmost portion of the property and will be further investigated to delineate its extent. Chlordane will be proposed to remain onsite.

The groundwater samples collected during these investigations identified SVOCs and metals above their Groundwater Quality Standards (GWQS). The groundwater results indicate that the historic fill has influenced groundwater quality. The appropriate groundwater remedial action would be the establishment of a Classification Exception Area (CEA). A CEA is for natural groundwater quality that does not and will not meet the GWQS.

In accordance with the NJDEP Ecological Evaluation (EE) Technical Guidance document, further ecological evaluation is recommended. The potential impacts noted in the EE are related to the fill material that covers the property and adjacent properties. As capping is the presumptive

remedy for the fill material at the property, the Environmentally Sensitive Natural Resources (ESNRs) of concern will be appropriately addressed.

Additional ecological evaluations are proposed for the cyanide, DDT, chlordane EPH, and PCB detections in the soil (C-1, C-2, and S-5) and for mercury (TMW-2 and 3) in the groundwater. The results of the additional evaluation will be summarized in the Remedial Action Workplan.

A Remedial Action Workplan (RAW) including a Soil Reuse Proposal (SRP) will be developed and submitted under separate cover. The RAW will propose engineering and institutional controls as the remedial action for historic fill and non-historic fill compounds. The concrete from the demolition of the existing structures will be crushed and used on the property as fill. Any imported fill material to be place beneath the proposed "cap" (i.e. concrete, structures) will be similar in contaminant type and concentration to the existing historic fill and non-historic fill.

1.0 INTRODUCTION

On behalf of Triple Five LLC, Langan Engineering & Environmental Services (Langan) has prepared this Site Investigation Report (SIR) to summarize the site investigation (SI) activities, findings and recommendations for the Metro Central, LLC property, which will hereinafter be referred to as the "property".

The property is located at the intersections of State Highways Route 120 North and Route 3 West in the Borough of East Rutherford, Bergen County, New Jersey on a segment of the land designated as Tax Block 107.02, Lot 3 (Figures 1 and 2). This property is affiliated with the American Dream Meadowlands, formerly Meadowlands Xanadu, and is proposed for re-development as an amusement park and water park. The property is currently occupied by a vacant radio transmitter building and three radio towers, which are currently not in use.

Nine Areas of Concern (AOCs) were identified through a diligent review of current and historical documents and a recent inspection of the property (22 August 2011) and reported in the October 2011 Preliminary Assessment Report (PAR). These nine AOCs are summarized below using the number designation corresponding to the AOCs listed on the New Jersey Department of Environmental Protection (NJDEP) Preliminary Assessment/Property Investigation Form (PA/SI) form (Section H2). The locations of the nine AOCs are shown on Figure 3.

- AOC 1 - Two diesel fuel (200 and 275 gallons) Aboveground Storage Tanks (ASTs)
- AOC 4 - Chemical storage cabinet/closet
- AOC 7 - Discolored or spill area
- AOC 11 - Electrical transformer and capacitor
- AOC 12 - Floor drain collection system
- AOC 14 - Hazardous material storage or handling area
- AOC 15 - Historic fill or any other fill material
- AOC 33 - Surface water body (Wetlands)
- AOC 38 - Groundwater

Included in the 2011 PAR was a summary of a subsurface investigation performed in 2008 that included the advancement of borings and the collection of samples (soil and concrete) for laboratory analysis. The soil and concrete samples were related to discolored areas (AOC 7); former transformers (AOC 11); and, fill material, including the material used to support the electrical lines to the radio towers (AOC 15).

The 2008 investigation identified the presence of localized stained concrete that did not appear to impact the surrounding soil (AOCs 7 and 11) and historic and non-historic fill material (AOC 15) throughout the property. The chemical composition of the historic fill includes polycyclic aromatic hydrocarbons (PAHs), poly-chlorinated biphenyls (PCBs), extractable petroleum hydrocarbons (EPH) and metals above the NJDEP Non-Residential Soil Remediation Standards (SRS).

Based on the findings of the 2008 investigation and the information provided in the 2011 PAR, additional investigations were performed in 2011. Soil borings and temporary well points were advanced to collect additional information. Building concrete samples were collected to assess the feasibility of using the future demolition debris from the proposed building as fill material onsite. The results of the 2011 investigation confirmed the presence of historic fill throughout the property and that the concrete can be reused onsite. PCBs, antimony, EPH and chlordane, which are not strictly associated with historic fill, were reported above their NJDEP Non-Residential SRS but determined that they can be proposed to remain onsite. Additional investigations and actions are recommended for these non-historic fill compounds to comply with the NJDEP Technical Requirements for Site Remediation.

The 2008 and 2011 investigations were completed in conformance with the NJDEP's *Technical Requirements for Site Remediation*, (N.J.A.C. 7:26E), amended 22 February 2011); and, NJDEP's *Field Sampling Procedures Manual*, updated 20 April 2009.

The conclusions derived from the SI activities and the proposal for completion of additional activities was used to support the remedial measures outlined in the Remedial Action Workplan (RAW). The objective of the RAW is to propose remedial remedies that are protective of human health and the environment and in conformance with environmental rules and regulations. The RAW will be developed in accordance

with the NJDEP's Technical Requirements for Site Remediation. The RAW will be provided under separate cover.

Based on the identified soil compounds and their concentrations and the proposed redevelopment, the RAW will include a Soil Reuse Proposal (SRP). The SRP will provide for the re-use of the existing historic fill, non-historic fill and concrete demolition debris on the property. The SRP will also allow for the importation of fill material to the property which contains similar compounds and concentrations to raise the elevation of the property. The property will ultimately be capped using concrete and asphalt as the engineering control.

Institutional controls in the form of a Deed Notice can be established to address the remaining historic and non-historic fill compounds. The institutional controls would consist of a Deed Notice that would meet the requirements of Appendix E of the Tech Rules, N.J.A.C. 7:26E. The engineering controls would consist of a cap (engineering control) over the remaining fill materials. This remedial approach has been used for the neighboring properties (the MetLife Stadium and Meadowland Xanadu) and has been shown to be an efficient and cost effective remedial strategy for managing fill materials.

2.0 PHYSICAL SETTING

2.1 Property Description and Location

The property is situated on approximately 21.75 acres of historically filled land that is designated as Tax Block 107.02, Lot 3 in the Borough of East Rutherford, Bergen County, New Jersey. The property is bordered by the arena site and wetlands to the north, the New Jersey Turnpike to the east, Route 3 to the south, and Route 120 to the west (Figure 2)

The property is currently occupied by a radio transmitter building and three radio towers. The transmitter building and radio towers are currently not in use.

2.2 Property Ownership

The most recent Tax Assessment Roll of the Borough of East Rutherford indicates that Tax Block 107.02, Lot 3 is owned by Metro Central, LLC.

2.3 Topography

The topography of the property generally slopes from the north to the south. The elevation at the property ranges from approximately 14 feet above mean sea level to 2 feet above mean sea level (Figure 2).

The property is located within a 32-mile area identified by the New Jersey Meadowlands Data Book (2002) as the Hackensack Meadowlands District (HMD). This area is characterized by extensive marshland and shallow groundwater.

2.4 Geology

The property is located within the Hackensack River basin of the Piedmont physiographic province of the Appalachian Highlands. The generalized 1996 Bedrock Geologic Map of Northern New Jersey, published by the United States Geological Survey (USGS) and the New Jersey Geological Survey (NJGS), characterizes the underlying bedrock in the region as reddish-brown silty to sandy mudstone and siltstone belonging to the Brunswick Formation dating from the Lower Jurassic and Upper Triassic Period. The 1959 Bedrock Map of the Hackensack Meadowlands Geologic Report Series - No. 1 by Kemble Widmer, State Geologist, identifies the bedrock directly beneath the property to be red shale.

In more recent geologic times, the property vicinity was covered by glacial advances. These ice sheets scoured and eroded the Hackensack River Valley and then deposited the eroded material as they retreated. As a result, glacial till deposits from the last glacial advance cover most of the bedrock in the area.

During the last glacial advance, Lake Hackensack formed as glacial melting occurred and retreated northward. Glacial meltwaters flowing into the lake deposited alternating layers of sand, silt and clay on the lake bottom. Deposition resulted in one coarse-grain varve and one fine-grain varve per year. The term "varved clay" is used to generally identify these materials in this report. Variations in water levels since deposition have led to over-consolidation of the upper portion of this stratum.

Water levels in the ocean and lakes rose causing the natural dam which enclosed Lake Hackensack to break. The draining of the lake caused a discontinuous layer of silty sand to deposit over portions of the area. Then, rising ocean levels and the decomposition of vegetation and the tidal marshes created organic deposits (peat, or "meadowmat", and organic silt and clay) as tidal marsh areas developed in the Hackensack River basin. The term "marsh deposits" is used to generally identify the materials in this stratum in this report.

2.4.1 Property Subsurface Conditions

Subsurface conditions consist of fill materials underlain by organic silt and peat (marsh deposits). Geotechnical investigations performed by Langan have identified varved clay, glacial till and shale bedrock beneath the silt and peat strata. The majority of the property is covered by grasses and some wetlands. Based on the subsurface investigations performed by Langan, the observed subsurface strata are summarized as follows:

Surface Materials

The majority of the property is covered by grasses and some wetlands. Small areas of the property (roadway) are gravel covered.

Fill

Underlying the property is a fill material consisting of sand, silt and organics with varying proportions of gravel and miscellaneous materials such as brick, wood, plastic, glass and glass. The fill was generally

encountered in thicknesses ranging from 5 to 14 feet below current grade.

Marsh Deposits

A layer of marsh deposits consisting of dark brown peat (meadowmat) and gray to brown organic silt was encountered beneath the fill. The marsh deposits range in thickness of up to five feet, where encountered.

Varved Clay

The environmental soil borings were not advanced into the varved clay. However, geotechnical borings were advanced on the property and identify varved clay beneath the marsh deposits.

Glacial Till and Shale bedrock

The geotechnical investigation identified glacial till beneath the varved clay stratum. Shale (bedrock) was encountered below the varved clay.

2.5 Hydrogeology

The depth to groundwater varies on the property. Groundwater was encountered in the uplands (northern portion) at approximately seven feet below grade and at approximately two feet below grade in the lower elevations (eastern portion).

2.6 Surface Water

Non-tidal emergent wetlands and tidally influenced emergent wetlands are located on the western and eastern portions of the property (AOC 33), respectively. The tidally influenced wetlands are connected to the Hackensack River through an unnamed tributary to Hackensack River and an unnamed tributary to Cedar Creek. The section of the Hackensack River near the property is classified as an SE2 water body by the State of New Jersey, indicating a general surface water classification applied to saline estuarine waters.

Berry's Creek is also located approximately one mile southwest of the property. Berry's Creek is classified as an FW2-NT/SE2 water body by the State of New Jersey, indicating a general surface water classification applied to a fresh water/saline estuarine waters interface. The "NT" designation signifies that it is a non-trout water body.

3.0 TECHNICAL OVERVIEW

This section describes the site investigation (SI) sampling program, the quality of the analytical data, and an overall assessment of environmental findings. The proposed approach for assessing the soil and groundwater quality is also provided.

3.1 Investigation Sampling Program

The objective of the February 2008, July 2011 and August 2011 field activities were to determine if contaminants were present above their applicable NJDEP standards in soil and groundwater. These investigations included 47 soil borings and four temporary well points advanced throughout the property. A total of 58 soil samples were collected from the soil borings and 4 groundwater samples were collected to evaluate groundwater quality in relation to the AOCs. Additionally, concrete samples were collected to evaluate AOCs. Table 1 summarizes the complete analytical program of the 2008 and 2011 investigations.

Soil borings C-1 through C-6, D-1 through D-5, E-1, and F-1 through F-6 were advanced during the 2008 investigation. Soil borings S-1 through S-5 were advanced in July 2011 to investigate the wetland areas. Based on the results of the 2008 and the July 2011 investigation, 24 additional soil borings, 4 temporary well points and 15 concrete samples were advanced and collected in August 2011. These additional borings were advanced to delineate specific compounds (i.e., PCBs, EPH, chlordane and antimony) that exceeded the NJDEP Non-Residential SRS.

At each boring location, soil samples were collected from specified depths to evaluate the soil and fill column. In soil borings C-1 through C-6, one soil sample was collected from the fill materials (F) and one contingent soil sample was collected from underlying native (N) soils to investigate fill material (AOC 15). In soil borings D-1 through D-5, surficial soil samples were collected from the surficial soil to investigate potential impacts from the former transformers (AOC 11). In soil boring E-1, one soil sample was collected from fill materials and one contingent soil sample was collected from native soils to investigate potential impacts from the AST fill port (AOC 1). In soil borings F-1 through F-6, one soil sample was collected from fill materials and one contingent soil sample was collected from native soils (AOC 15). Finally, in soil borings S-1 through S-5, one soil sample was collected at 0 to 6 inches below grade and one contingent soil sample was collected at 6 to 12 inches below grade to investigate the wetlands (AOC 33).

Soil samples collected from fill materials in soil borings C-1 through C-6 were analyzed for priority pollutant compounds plus a library search of an additional 40 compounds (PP+40) and total petroleum hydrocarbons (TPH). Note, the results from the 2008 samples were compared to the applicable standard at the time, the NJDEP Soil Cleanup Criteria (SCC) and have also been compared to the NJDEP SRS for this report. Native samples were analyzed for specific parameters dependent on whether exceedences were detected in the fill material samples. Surficial soil samples from borings D-1 through D-5 were analyzed for PCBs. A surficial soil sample from boring E-1 was analyzed for PCBs, polycyclic hydrocarbons (PAHs) and TPH. Samples collected from fill materials in soil borings C-1 through C-6 were analyzed for PP+40 and TPH.

Surficial samples collected from soil borings S-1 through S-5 were analyzed for full target compound list/target analyte list (TCL/TAL) and extractable petroleum hydrocarbons (EPH) category 2 (Cat 2). Additionally, the delineation borings were analyzed for PCBs, antimony, chlordane and EPH. The results from these samples were compared to the NJDEP SRS, the current applicable standard. The deeper soil samples were analyzed for specific parameters dependent on whether exceedences of SRS were detected in the shallow surficial samples.

Concrete samples were also collected to investigate AOCs that exhibited staining, specifically AOC 1 (sample C-4), AOC 4/14 (sample C-3), AOC 7 (sample C-5), and AOC 11 (samples DC-1, DC-2, C-2 and C-6). The concrete samples were typically analyzed for PCBs and PAHs, with the exception of one sample (C-5) location that was analyzed for TCL/TAL and EPH.

Four temporary well points (TMW-1 through TMW-4) were advanced in August 2011 at specific locations on the property associated with AOCs. The temporary well points were installed to approximately 15 feet below grade. The wells were constructed of 1" diameter PVC riser from grade to five feet below grade and 1" diameter PVC screen from 10 to 15 feet below grade. One groundwater sample was collected from each temporary well point. Samples collected from the temporary well points were analyzed for Full TCL/TAL. The wells were abandoned after the samples were collected.

3.2 Analytical Data Quality Assessment

The overall assessment of data quality is acceptable, with the data being usable. Sample surrogates, tuning, calibration, internal standard areas and retention times were within control limits.

3.3 Overall Assessment of Impacts to the Property

The result of the 2008 and 2011 SI investigations performed by Langan indicate that semi-volatile organic compounds (SVOCs), metals, EPH, antimony, chlordane and PCBs above the NJDEP Non-Residential SRS exist within the fill material at 18 of the 30 sampling locations and in the native soils at 3 of the 4 sampling locations. These samples were collected throughout the property including the uplands and wetlands. The NJDEP Non-Residential SRS is being used as the remediation standard since the proposed redevelopment would consist of an amusement park and water park. The exceedances of the NJDEP Impact to Groundwater (IGW) SRS have been addressed through groundwater sampling. Figure 3 illustrates the locations of the soil samples collected as part of this SI, as well as the exceedences of the NJDEP SRS.

A majority of the types and concentrations of the compounds detected at the property (i.e. PAHs, arsenic, beryllium, cadmium, lead and zinc) are in accordance with the NJDEP's definition of typical historic fill material as set forth on Table 4-2 of the Technical Requirements for Site Remediation. The remaining compounds detected at the property, which are not listed on NJDEP's Historic Fill Database, consist of EPH, antimony, chlordane and PCBs. However, these compounds have been detected in the fill material throughout the property and are attributed to the fill material throughout the property.

The results of the groundwater investigation reported that volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs) and metals were found above their respective NJDEP GWQS. The VOCs have been determined to be related to a laboratory contaminant and are not a concern. The SVOCs and metal compounds were also detected in the soil related to the fill material.

4.0 FIELD AND ANALYTICAL METHODOLOGIES

The following is a discussion of methodologies utilized during the completion of the SI activities to investigate the AOCs. The work was performed in accordance with NJDEP rules and requirements.

4.1 Soil and Concrete Sampling

February 2008 Investigation

During the 14 February 2008 subsurface investigation, a Geoprobe operated by S&S Subsurface Investigations, Inc. (S&S) of Little Egg Harbor, New Jersey was utilized to advance soil borings throughout the property under the direct supervision of a Langan field representative. A total of 18 soil borings were advanced throughout the property in 2008. Soil borings C-1 through C-6, E-1, and F-1 through F-6 were advanced into the native soil. Native soil was encountered between approximately 5 to 14 feet below property grade. Soil borings D-1 through D-5 were advanced to six inches in depth to facilitate the collection of surficial soil samples. Soil borings logs are provided in Appendix B.

The soils were field screened with a photo ionization detector (PID), with any olfactory and visual characteristics also noted. Elevated PID readings were observed in native meadowmat in several borings due to the high organic content of this stratum. Elevated PID readings were also encountered in fill materials in boring C-6. No other elevated PID readings were observed. Soil characteristics were logged, and soil samples were collected from discrete six-inch intervals biased toward the depth interval indicating potential impacts (e.g., the highest PID reading, evidence of odors, sheens, etc.). When field-screening results did not identify differences in soil quality, a soil sample was collected from intervals consistent with SI objectives. Each soil sample was field homogenized, with the exception of volatile organic compounds, which were collected with a syringe from an undisturbed sample and placed in laboratory provided containers. After the designation of a sample identification number, soil samples were sealed, labeled, packed on ice, documented following proper chain of custody procedures, and delivered by courier to a NJ-certified laboratory for analysis. After the termination of each soil boring, the boreholes were backfilled, sealed, and located on a map. The analytical program is presented on Table 1.

July 2011 Investigation

During the 5 July 2011 subsurface investigation, a Langan field representative advanced five shallow soil borings using a hand auger (Figure 3). Soil borings S-1 through S-5 were advanced to one foot below grade and soil characteristics were logged. Soil was field screened with a PID and elevated PID readings were not observed; olfactory and visual characteristics were also noted. Soil samples were collected from the zero to six inch interval and the 6 to 12 inch interval. Soil borings logs are provided in Appendix A.

Each soil sample was field homogenized, with the exception of volatile organic compounds (collected with a laboratory provided EnCores™), and placed in laboratory provided containers. After the designation of a sample identification number, soil samples were sealed, labeled, packed on ice, documented following proper chain of custody procedures, and delivered by courier to a NJ-certified laboratory for analysis. After the termination of each soil boring, the

boreholes were backfilled, sealed, and located on a map. The analytical program is presented on Table 1.

August 2011 Investigation

During the 25 August 2011 subsurface investigation, samples were collected utilizing a Geoprobe operated by AWT Environmental Services, Inc. (AWT) of Sayerville, New Jersey and hand borings advanced by Langan. These soil borings and well points were completed to further delineate the AOCs and investigate groundwater quality.

A total of twenty-four borings and four temporary well points were advanced on the property. The temporary well points were installed to approximately 15 feet below grade. The wells were constructed of 1" diameter polyvinyl chloride (PVC) riser from grade to five feet below grade and 1" diameter PVC screen from 10 to 15 feet below grade. Well construction logs are provided in Appendix C.

Depth-to-water and PID readings were taken following the installation of the temporary well points. The water readings ranged from 8 to 10 feet below grade. No PID readings were observed. Due to the large volume required for TCL/TAL analysis, no water quality readings were taken. The temporary well points were purged using a peristaltic pump and disposable poly tubing. Once three well volumes were purged, the wells were sampled using a disposable poly bailer. Each groundwater sample was collected and placed in laboratory provided containers. After the designation of a sample identification number, samples were sealed, labeled, packed on ice, documented following proper chain of custody procedures, and delivered by courier to a NJ-certified laboratory for analysis. After the collection of the groundwater sample, the temporary well point was removed and the borehole was backfilled and located on a map. The analytical program is presented on Table 1.

4.2 Analytical Methods

The 2008 and July 2011 soil samples were analyzed by Veritech Laboratory of Hampton-Clarke, Inc. in Fairfield, New Jersey (NJ Certification No. 14622). The

August 2011 soil and groundwater samples were analyzed by York Analytical, Inc. of Stanford, Connecticut (NJ Certification No. CT005). The analytical methods are summarized in Table 1. Complete laboratory reports, as well as electronic data deliverables, are provided in Appendix B.

4.3 Quality Assurance/Quality Control

To ensure the quality, reproducibility, and completeness of data collected during sampling activities, the following quality assurance/quality control (QA/QC) procedures were implemented in the field during the SI.

4.3.1 Equipment Calibration

The PID was calibrated at the beginning of each field day. It was calibrated to 100 ppm (± 1 ppm) with isobutylene. If a reading was suspect, the PID's response was checked. If a poor response was observed, the PID was re-calibrated.

4.3.2 Equipment Decontamination

Decontaminated disposable equipment was utilized during sample collection.

4.3.3 QA/QC Samples

February 2008 Investigation

The QA/QC samples consisted of the analysis of a field blank and a trip blank. The collection technique for these samples was consistent with both the NJDEP's Technical Requirements and Field Sampling Procedures Manual.

Field blanks were used to place a mechanism of control on sample equipment handling, preparation, storage, decontamination and shipment and were collected individually for non-aqueous matrices. The field blank bottles were clean, laboratory provided bottles that traveled and were

stored with the environmental sample bottles for the duration of the trip from and to the laboratory. The field blank was analyzed for the same parameters (PP+40, TCL/TAL and TPH) as the environmental samples. In the field, laboratory provided deionized water was dispensed through/over the dedicated or decontaminated sampling equipment and collected in field blank bottles.

Trip blanks were used to measure possible cross contamination of samples during shipment to and from the property, and as a check on inadequate bottle cleaning or blank water of questionable quality. Trip blanks were prepared in the laboratory and consist of demonstrated analyte-free deionized water. They accompanied the sample bottles on their journey from the laboratory to the field and then back to the laboratory. The methanol trip blanks were analyzed for VOCs.

July 2011 Investigation

The QA/QC samples consisted of the analysis of a trip blank. The collection technique for these samples was consistent with both the NJDEP's Technical Requirements and Field Sampling Procedures Manual.

August 2011 Investigation

The QA/QC samples consisted of the analysis of a field blank and a trip blank. The collection technique for these samples was consistent with both the NJDEP's Technical Requirements and Field Sampling Procedures Manual.

The laboratory has reported that methylene chloride and acetone, common laboratory compounds were detected in the field and trip blanks and that these compounds are not associated with the property.

5.0 INVESTIGATION FINDINGS AND RECOMMENDATIONS

5.1 Investigation Findings

The site investigation addressed the following areas of concern (AOCs) identified in the 2011 Preliminary Assessment Report (PAR).

5.1.1 AOC 1 – Aboveground Storage Tanks

Two aboveground storage tanks (ASTs), 275-gallon and 200-gallon steel ASTs, are situated in a concrete bermed area of the transmitter building basement. During the inspection, the tanks were fully visible and there was no evidence of a spill or staining noted on the concrete floor. The remaining contents of the two tanks would need to be drained and removed from the facility, prior to being decommissioned. These activities should be performed in accordance with the local and/or State requirements.

During the inspection, a fill port for the two ASTs was noted adjacent to the garage door on the northern side of the transmitter building. A concrete pad is located beneath the fill port. Langan inspected the pad and noted staining on the concrete pad; however the pad was intact, with no cracks.

In 2008, a soil boring (E-1) was advanced immediately adjacent to the concrete pad and two soil samples (E-1F and E-1N) were collected to evaluate whether the soil had been impacted by the fill port. A sample was collected from the fill material (E-1F) and analyzed for PAHs, PCBs, and TPH, and the native sample (E-1N) was held for contingent analysis, as summarized on Table 1.

The analytical results indicated no exceedences of the NJDEP Non-Residential SRS, with the exception of the reporting limit (RL) for benzo[a]pyrene and dibenzo[a,h]anthracene. Total PCBs were above the NJDEP Residential SRS, but below the Non-Residential, therefore, no

further action was recommended for the AST fill port. The analytical results are provided in Table 2.

A concrete sample (C-4) was collected adjacent to the AST and analyzed for PAHs and PCBs to evaluate the condition of the concrete. The analytical results were below the NJDEP SRS; however, two compounds had reporting limits (RLs) above the NJDEP Non-Residential SRS. The concrete analytical results are presented in Table 2.

5.1.2 AOC 4 – Chemical Storage Closet/Cabinet

The following materials were stored in the garage, basement, and boiler room of the transmitter building (See also AOC 14):

- Two ASTs of diesel fuel (See AOC 1);
- Two 5-gallon containers of roofing sealant;
- Two nitrogen gas cylinders;
- One 55-gallon steel drum containing silica sealant;
- One 30-gallon drum with unknown contents;
- Approximately twenty 5-gallon containers of paint; and
- Various cans of aerosol paint, floor finisher, and cleaning products.

During the inspection, the concrete floor appeared intact with no cracks. However, these storage areas were littered with debris and storage containers, obscuring a clear view of the floor. Minimal staining was noted in the basement (see also AOC 7) and the garage. A concrete sample (C-3) was collected from the garage and analyzed for PAHs and PCBs to evaluate the condition of the concrete. The analytical results were below the NJDEP SRS however, two compounds had reporting limits (RLs) above the NJDEP Non-Residential SRS. The concrete analytical results are presented in Table 3.

5.1.3 AOC 7 – Discolored or Spill Area

An emergency generator is located in the basement of the transmitter building. The generator is fueled by the two diesel ASTs (AOC 1) noted above. The generator is situated on a concrete pad. Staining was noted on the concrete below the unit. During the inspection, the stained area was covered by a "speedy-dry"-type of absorbent material. The concrete appeared intact, with no cracks or floor drains.

Langan collected a concrete sample (C-5) to determine the level of impact to the concrete from the diesel fuel. The sample was analyzed for TCL/TAL and EPH. The concrete results reported concentrations of methylene chloride, aluminum and magnesium above the NJDEP Impact to Groundwater (IGW) but below the NJDEP Non-Residential SRS. The concrete analytical results are presented in Table 4.

5.1.4 AOC 11 – Electrical Transformers & Capacitors

Electrical transformers and capacitors were currently and historically located on the property. Historically, transformers were located on a concrete pad at the rear of the transmitter building. The transformers are no longer present. The sheds, beneath the three radio towers, currently contain transformers and electrical capacitors with non-PCB (dry-type) containing materials. There was no evidence of staining noted on or near these transformers or capacitors.

According to our review of aerial photographs and topographic maps, the towers and transmitter building date back to the 1950s. The radio towers were relocated in the 1970s. Based on the age of the building and radio towers, there is a potential that transformers formerly associated with the building may have contained PCBs.

Soil samples (D-1 through D-5) were collected near the rear of the transmitter building to investigate whether former transformer(s) impacted surficial soils. PCBs were reported in one of the five soil

samples (D-1). The reported PCBs concentration of 0.45 mg/kg is above its NJDEP Residential SRS but below its NJDEP Non-Residential SRS. Therefore, the soil analytical results indicated there no exceedences of NJDEP Non-Residential SRS and no further investigation is warranted. The analytical results are provided in Table 5.

Concrete samples (DC-1, DC-2, and C-2 and C-6) were also collected to evaluate if the former transformers impacted the concrete and if the concrete could be re used on the property. The concrete samples were analyzed for PCBs and PAHs and were found to be below the NJDEP Non-Residential SRS. The concrete analytical results are presented in Table 5.

In addition to the transmitter building, the radio tower sheds located beneath the three radio towers, currently contain transformers and electrical capacitors. Labels on these units indicate that they do not contain PCB material. There was no visually apparent evidence of staining noted on or adjacent to the floor of the sheds. Concrete samples were not collected due to the potential for stagnant radio currents.

5.1.5 AOC 12 – Floor Drain Collection System

Floor drains were not observed in the basement or garage of the transmitter building, however debris remaining in the building obscured a complete visual inspection of the floors in the transmitter building.

5.1.6 AOC 14 – Hazardous Material Storage or Handling Area

The following materials were stored in the garage, basement, and boiler room of the transmitter building (see AOC 4 above):

- Two ASTs of diesel fuel (See AOC 1);
- Two 5-gallon containers of roofing sealant;
- Two nitrogen gas cylinders;

- One 55-gallon steel drum containing silica sealant;
- One 30-gallon drum with unknown contents;
- Approximately twenty 5-gallon containers of paint; and
- Various cans of aerosol paint, floor finisher, and cleaning products.

During the inspection, the concrete floor appeared intact with no cracks. However, these storage areas were littered with debris and storage containers, obscuring a clear view of the floor. Minimal staining was noted in the basement (see AOC 7) and the garage. A concrete sample (C-3) was collected from the garage and analyzed for PAHs and PCBs to evaluate the condition of the concrete. The analytical results were below the NJDEP SRS; however, two compounds had reporting limits (RLs) above the NJDEP Non-Residential SRS. The concrete analytical results are presented in Table 3.

5.1.7 AOC 15 – Historic Fill and Any Other Fill Material

Based on aerial photographs, topographic maps, and the Jack McCormick and Associates Environmental Impact Study (EIS) dated 1972 for the Giants Stadium, it appears that fill material had been placed on the property prior to the 1980s. Specifically, sometime between the 1950s and 1970s, when the property was developed and the surrounding roadways were being improved (Route 20, currently Route 120).

The fill material also includes a soil mound extending from the transmitter building to each radio tower (approximately 1,300 feet) along the northeast portion of the property. The soil mound provides support for the above ground pipes that contain the electric lines for the towers. The top of the soil mound is approximately five feet above the surface grade and approximately twenty feet wide.

The nature and source of the fill material used to raise the property elevation and the soil mound are unknown. According to the 1972 EIS, the majority of the property was filled with "Route 20 East Fill".

Additionally, the New Jersey Geological Survey's (NJGS) Historic Fill Quadrangle map (Figure 4) indicates that the property contains historic fill. Historic fill in New Jersey is known to contain polycyclic aromatic hydrocarbons (PAHs) and metals in concentrations markedly above the NJDEP Soil Remediation Standards (SRS).

Fill material was also temporarily placed on the property around 2009 by the former owner and was shortly removed thereafter in 2009. This material contained lead and benzo(a)pyrene above the NJDEP SRS. This material has been removed and disposed of. This material is not considered to be a concern based on the testing results and its short term storage time. The material has been removed from the property.

In the upland areas, 26 borings (C-1 through C-6, C-1A, C-1B, C-1C, C-1D, C-1E-1, C-2A through C-2D, C-2E-1, F-1 through F-6, F-1A, F-1B, F-1C, and F-1D) were advanced in 2008 and 2011 to evaluate, investigate and delineate compounds within the fill material. A total of 32 soil samples were collected from these 26 borings. The soil samples were analyzed for PP+40 and TPH (2008 investigation) and TCL/TAL and EPH (2011 investigation). Note soil samples were collected from both the fill material (i.e., C-1F) and native material (i.e., C-1N) in 2008. The native samples were placed on hold and activated for specific compounds to provide vertical delineation. The 2011 investigation included the delineation borings (C-1A, B, C, etc.). The 2008 and 2011 sample analytical results are presented on Table 6a and 6b, respectively.

The analytical results of Langan's SI activities confirmed the presence of historic fill compounds. The results report exceedences of SVOCs, PCBs, metals, PCBs and EPH above the NJDEP Non-Residential SRS. With the exception of antimony (metal), PCBs and EPH, the compounds are indicative of historic fill, as described in NJDEP Tech Rules Table 4-2. The historic fill compounds do not require further investigation and can be proposed to remain in place. These compounds will be addressed by institutional and engineering controls.

The non-historic fill compounds (antimony, PCBs and EPH) above NJDEP's Non-Residential SRS were identified at several 2008 borings (C-1, C-2, and F-1) and were further investigated in August 2011. The delineation borings (C-1A, C-1B, C-1C, C-1D, C-1E-1, C-2A through C-2D, C-2E-1, F-1A, F-1B, F-1C, and F-1D) were analyzed for specific compounds (antimony, PCBs and EPH), as noted on Table 1. The analytical results are provided in Table 6b.

The soil samples and analytical results delineated antimony and EPH and confirmed the presence of PCBs throughout the property. Although, PCBs are not listed in the historic fill table (Table 4-2), these compounds appear to be typical of the fill material placed throughout the property and the region.

5.1.8 AOC 33 – Surface water body (wetlands)

Tidal and non-tidal wetlands were observed and are mapped on the property. The non-tidal wetlands are currently located on the western portion of the property and the tidally influenced wetlands are located on the eastern portion of the property. Historically, the aerial photographs and topographic maps have shown wetlands and associated drainage ditches throughout the property. The tidal and non-tidal wetlands are ultimately connected to the Hackensack River via unnamed tributaries. The section of the Hackensack River near the property is classified as an SE2 water body by the State of New Jersey, indicating a general surface water classification applied to saline estuarine waters.

Langan performed an environmental subsurface investigation to evaluate if the wetlands also contained the fill material, similar to AOC 15, above. A hand auger was utilized in July 2011 to advance five borings (S-1 through S-5) to a depth of 12 inches below grade (Figure 3). Soils were logged and screened with a PID for volatile organic vapors. No PID readings were detected during this investigation. Boring logs are provided in Attachment A.

Two soil samples were collected from each boring. One sample was collected from zero to six inches below grade (samples S-1A through S-5A); the second sample was collected from 6 to 12 inches below grade (samples S-1B through S-5B). The VOC sample was collected from the six to twelve inch interval. The shallow samples were analyzed for TCL/TAL, excluding VOCs. Additionally, the shallow samples were analyzed for EPH, cyanide, total organic compound (TOC) and particle size.

The analytical results for the shallow samples S-1A through S-5A indicated no exceedences of VOCs, SVOCs, EPH, and cyanide. PCBs, metals, and one pesticide (chlordane) were identified in exceedence of NJDEP's SRS. Based on the shallow sample analytical results, the deeper samples (6 to 12 inch interval) were analyzed for PCBs, metals, and one pesticide (chlordane) compound exceeded the NJDEP SRS. The analytical results from the deeper samples (samples S-1B through S-5B) indicated no exceedences of pesticides. PCBs (S-4B and S-5B) and metals (S-2B through S-5B) were reported above their respective NJDEP SRS criteria.

The soil analytical results are provided in Table 7a and exceedences are shown on Figure 3.

Additional investigations were performed on the 22nd and 25th of August 2011, to horizontally and vertically delineate the PCB and chlordane concentrations found at sample locations S-4 and S-5. The borings and depths for S-4 and S-5 are, respectively, discussed below.

Four borings (S-4A through S-4D) were advanced to 12 inches below grade (Figure 3) to horizontally delineate the PCB concentration found in boring S-4. And one deep boring (S-4) was advanced to vertically delineate the PCB concentration in boring S-4. Soils were logged and screened with a PID for volatile organic vapors.

Four borings (S-5A through S-5D) were advanced to 12 inches below grade (Figure 3) to horizontally delineate the PCB and chlordane concentrations found in boring S-5. Additionally, one deeper boring (S-5E) was advanced to vertically delineate the PCB and chlordane concentration in boring S-5. Soils were logged and screened with a PID for volatile organic vapors.

One soil sample was collected from each boring. Samples S-4A through S-4D and S-5A through S-5D was collected from 6 to 12 inches below grade. Sample S-4E was collected from 1.5 to 2 feet inches below grade and sample S-5E was collected from 3.5 to 4 feet below grade. Samples 4A through S-4E were analyzed for PCBs; samples S-5A through S-5E were analyzed for PCBs and chlordane.

The analytical results report PCB exceedences in samples S-4A through S-4C and sample S-4E. No exceedances were detected in sample S-4D. The analytical results indicated PCB exceedences in samples S-5C and S-5D. No exceedences were detected in samples S-5A, S-5B, and S-5E. With the exception of sample S-4E, the PCBs exceeded the NJDEP Non-Residential SRS, but were below 10 mg/kg. Sample location S-4E has a PCB result of 12.7 mg/kg. Chlordane was not detected at S-5A, B, D, and E, but was detected at S-5C.

No PID readings were detected during this investigation. Boring logs are provided in Attachment A. The soil analytical results are provided in Tables 7a and 7b and exceedences are shown on Figure 3.

5.1.9 AOC 38 - Groundwater

During the August 2011 environmental investigation performed at the property, four groundwater samples were collected from temporary well points (TMW-1 through TMW-4). The samples were analyzed for TCL/TAL.

The groundwater analytical results indicated concentrations of methylene chloride and several metals above their respective NJDEP GWQS in the groundwater samples. The methylene chloride compound is believed to be associated with a laboratory artifact as it was also found in the blanks. Additionally, SVOCs were detected above their NJDEP GWQS in wells TMW-3 and TMW-4. The groundwater analytical results are provided on Table 8 and Figure 3.

5.2 Conclusions and Recommendations

The following sections describe the recommendations and conclusions for the investigations performed for each AOC.

5.2.1 AOC 1 – Aboveground Storage Tanks

The building contains two aboveground diesel storage tanks that should be decommissioned. No further investigations or actions are recommended for the ASTs.

5.2.2 AOC 4/14– Chemical Storage Cabinet/ Hazardous Material Storage or Handling Area

Langan recommends removal and disposal of the debris/containers, followed by a final inspection of the transmitter building floors for stains, cracks and floor drains. No further investigations (concrete or soil) are recommended.

5.2.3 AOC 7 – Discolored or Spill Areas

The concrete results reported detections of methylene chloride, aluminum and magnesium above the NJDEP Impact to Groundwater (IGW), but below the NJDEP Non-Residential SRS. Based on the observations and results, the concrete in the spill area was intact and has not impacted the environment. No further investigation (concrete or soil) is recommended and the concrete can be re-used on the property.

5.2.4 AOC 11 – Electrical Transformers & Capacitors

The soil and concrete samples reported no exceedences of NJDEP Non-Residential SRS. Therefore, no further investigation (concrete or soil) is recommended for the transmitter building electrical transformers and capacitors.

Langan recommends sampling the concrete from the radio tower sheds.

5.2.5 AOC 12 – Floor Drains

Floor drains are not expected and were not observed during the inspection. Langan recommends a final inspection of the transmitter building floors, after the debris and containers are removed and properly disposed.

5.2.6 AOC 15 – Historic Fill

The investigation results for the soil, including wetlands (AOC 33), confirmed the presence of historic fill (PAHs and metals) throughout the property. With the exception of antimony, EPH, chlordane and PCBs the compounds and concentrations are consistent with the compounds described in NJDEP Tech Rules Table 4-2. Further investigation is recommended for antimony, EPH, chlordane and PCBs.

The historic fill will remain on the property and will be addressed with the establishment of institutional and engineering controls. A Deed Notice will be submitted in the RAW to NJDEP for approval. The Deed Notice will consist of institutional controls that will meet requirements of Appendix E of the Tech Rule, N.J.A.C. 7:26E and engineering controls that will consist of a cap (i.e. asphalt pavement, structures, and landscaped areas).

5.2.7 AOC 33 – Surface Water (Wetlands)

Tidal and non-tidal wetlands have been identified and delineated on the property, as well as investigated. The soil samples (S-1 through S-5, including S-4A through S-4E and S-5A through S-5E) were collected from the wetland areas indicate these areas are impacted by historic and non-historic fill material, including PCBs and chlordane as depicted on Tables 7a and 7b.

The SI activities have not horizontally delineated chlordane or vertically delineated the PCB concentration greater than 10 mg/kg. Both results are above the NJDEP Non-Residential SRS and are not typical of historic fill found through out the property.

5.2.8 AOC 38 - Groundwater

The groundwater analytical results indicated concentrations of methylene chloride and several metals above their respective NJDEP GWQS in the groundwater samples. Additionally, SVOCs were detected above their NJDEP GWQS in wells TMW-3 and TMW-4.

Methylene chloride was detected in concentrations ranging from 6.3 ug/L to 11 ug/L in samples TMW-1 through TMW-4. Additionally, the field blank (FB) and trip blank (TB) contained concentrations of methylene chloride at concentrations of 5.6 ug/L and 5.9 ug/L, respectively. Therefore, the methylene chloride concentrations detected in samples TMW-1 through TMW-4 are attributable to laboratory equipment and further investigation is not recommended.

The SVOC and metal concentrations exceeding their respective NJDEP GWQS are attributable to the historic fill found throughout the property and further investigation is not recommended. A Classification Exception Area (CEA) is recommended for the historic fill compounds found in the groundwater and will be included in the RAW.

6.0 ECOLOGICAL EVALUATION

An Ecological Evaluation (EE), *formerly Baseline Ecological Evaluation (BEE),* pursuant to N.J.A.C. 7:26E-3.11 was conducted at the property to identify potential ecological concerns. A Receptor Evaluation (RE) was also conducted for the SI and is provided with this report. This evaluation has been completed in accordance with the NJDEP Ecological Evaluation Technical Guidance document to satisfy the objectives of:

1. Identifying environmentally sensitive natural resources (ESNRs) on and adjacent to the property;
2. Evaluating Contaminants of Potential Ecological Concern (COPECs); and,
3. Identifying potential migration pathways to ESNRs.

The EE is qualitative in nature and is based on soil and groundwater sample results obtained during the SI activities. Specifically, the soil and groundwater sample analytical results were compared to the New Jersey Department of Environmental Protection (NJDEP) Ecological Screening Criteria (ESC).

The evaluation also included a visual inspection of the property. The August 2011 visual inspection was completed in order to evaluate habitat and wildlife, ESNRs, and migration pathways. Supplemental information for the EE was obtained from the draft Habitat Suitability Assessment and the Request for U.S. Army Corps of Engineers Jurisdictional Determination (Langan, 26 July 2011). The results of the evaluation are discussed below.

6.1 Identification of Environmentally Sensitive Natural Resources (ESNRs)

The first objective of this evaluation is the identification of environmentally sensitive natural resources (ESNRs) within the property boundaries or immediately adjacent to the property. These areas include surface water bodies, wetlands, ditches, wildlife, and vegetation. The presence or absence of these ESNRs at the property were identified using NJDEP iMap, Landscape Project, and NJ Heritage Program, and a property surveys and are described below.

6.1.1 Surface Water Bodies (Wetlands)

Langan wetland scientists delineated the non-tidal and tidal wetlands on the property. Langan performed a delineation and survey of wetlands in May and June 2011. Based on this investigation, a total of six wetland and two ditch features were identified, delineated, and surveyed. Two emergent, tidally-influenced wetland areas were identified along the eastern perimeter of the property. Two small, non-tidal emergent wetlands and a man-made drainage ditch were identified in the southern portion of the property. Two isolated, non-tidal emergent wetland areas were identified in the western portion of the property. A ditch associated with an offsite roadway system was also delineated as part of this investigation since it straddled the border of the property. Detail descriptions of the wetlands are provided in the Request for U.S. Army Corps of Engineers Jurisdictional Determination.

The tidal wetlands drain to Unnamed Tributaries (UNTs) which ultimately drain to the Hackensack River. Both tidal wetlands flow beneath the New Jersey Turnpike through culverts. The section of the Hackensack River near the property is classified as an SE2 water body by the State of New Jersey, indicating a general surface water classification applied to saline estuarine waters.

Furthermore, Langan conducted an environmental subsurface investigation to evaluate the fill material on the property. The investigation included samples collected from the wetlands. These samples are related to AOC 33-Surface water bodies.

6.1.2 Wildlife

A habitat and wildlife survey was conducted for the property, and this information is summarized in this EE. The assessment included a survey of the potential wildlife and habitat located on the Radio Tower site. During the property assessment, several birds and burrowing animals (ground hog) were observed at the property.

The assessment also included a review of the New Jersey Department of Environmental Protection (NJDEP) Natural Heritage Program database and Landscape Project to identify the potential habitat for threatened or endangered species on or immediately adjacent to the property. The following information was obtained:

- State Threatened Yellow-crowned night-heron (Nyctanassa violacea);

- Northern harrier (Circus cyaneus), which is a state endangered bird species for breeding populations, and a Species of Special Concern for non-breeding populations.

The Habitat Suitability Assessment provides the details for the potential habitat for these species, noted above.

A wildlife survey was conducted by Langan and presented in the Habitat Suitability Assessment and is briefly summarized in the EE. A total of six (6) stations located within representative habitat types on the property were chosen for this assessment. The six stations were visited to observe wildlife. Wildlife was observed and recorded at each station for approximately 15 to 20 minutes. Data on wildlife presence was collected in the field based on visual and auditory identification. Secondary indicators of wildlife presence such as tracks or scat were also recorded.

Avian species that were documented at almost every survey event include grey catbird (*Dumetella carolinensis*), redwing blackbird (*Agelaius phoeniceus*), mourning dove (*Zenaida macroura*), American robin (*Turdus migratorius*), osprey (*Pandion haliaetus*), American kestrel (*Falco sparverius*), blue-winged warbler (*Vermivora pinus*), rock dove (*Columba livia*), field sparrow (*Spizella pusilla*), song sparrow (*Melospiza melodia*), house sparrow (*Passer domesticus*), yellowthroat (*Geothlypis trichas*) and multiple transient gulls were also observed. No nests were observed during the surveys.

Evidence of mammalian species were found in less abundance and included meadow vole (*Microtus pennsylvanicus*) and groundhog (*Marmota monax*) burrows located in the upland areas, near the isolated wetlands. Raccoon (*Pryocyon lotor*) tracks were also observed adjacent to the access road. These species documented are abundant in the region and are common to urban and developed areas.

6.1.3 Vegetation

Langan identified several vegetative/ecological communities on the radio tower property during the habitat assessment: isolated emergent non-tidal wetlands (*Phragmites*); tidally-influenced emergent wetlands (*Phragmites*); non-tidal palustrine emergent wetlands; non-tidal wetland ditches; upland *Phragmites*; old field uplands; and an upland tree line area. These communities are briefly described below and further detailed in the Habitat Suitability Assessment.

Common reed (Phragmites australis), an invasive specie, dominates the vegetation community on and immediately adjacent to the property, and regionally. In addition to common reed, broadleaf cattail (*Typha latifolia*), common three square (*Scirpus pungens*), mile-a-minute vine (*Persicaria perfoliata*), and purple loosestrife (*Lythrum salicaria*) are present in the non-tidal emergent wetlands. Portions of the wetland habitats are identified on the NJDEP Landscape Project mapping as potential habitat for yellow-crowned night heron, glossy ibis, snowy egret, and northern harrier. However, during the surveys, these species were not observed.

In the old field uplands, which are sporadically mowed throughout the year, the vegetation is predominately mugwort (*Artemisia vulgaris*), foxtail (*setaria sp.*), common reed (*Phragmites australis*), goldenrod species (*solidago spp.*), and crown vetch (*vicia cracca*). There is one small area along the western boundary of the property where trees, specifically boxelder (*Acer negundo*) and tree-of-heaven (*Ailanthus altissima*) were identified.

6.2 Evaluation of Contaminants of Potential Ecological Concern (COPECs)

The second objective of this evaluation is to identify COPECs on the property. COPECs are constituents that either exhibit the ability to bioaccumulate[1], biomagnify[2], or exceed applicable standards, criteria, or guidelines. Specifically, sample analytical results are compared against screening levels that are conservative and act as risk thresholds (i.e., below these values; no risks are likely to occur). The shallow soil and groundwater data were evaluated for this EE and are discussed below.

6.2.1 Soil

Soil samples collected as part of the SI were evaluated for the identification of COPECs. Based on the observations and the habitat study, the biological activity zone was determined to be within the zero to five foot soil layer (burrowing animals). Therefore, the data set included forty-eight (48) shallow soil samples collected from zero to five foot below grade. The analytical results of these samples were compared to the NJDEP Ecological Screening Criteria (ESC), updated March 2009. The soil data is presented in Table 9A and the results are summarized below.

Volatile organic COPECs were not identified on the property. However, the following compounds were reported above their respective Ecological Screening Criteria (ESC):

- SVOCs (benzo(a)pyrene, naphthalene, Bis(2-Ethylhexyl)phthalate) at three locations;
- Total PCBs at fifteen locations;

[1] Bioaccumulate – indicates the increase in pollutant concentration from the combined intake of food and water when passing directly into aquatic species (Moriarty, 1999).

[2] Biomagnify – indicates the increase in pollutant concentration in animal tissue in successive members of a food chain (Moriarty, 1999).

- Metals (mercury, antimony, aluminum, arsenic, barium, cadmium, chromium, cobalt, copper, lead, nickel, selenium, silver, vanadium and zinc) at forty-eight locations;
- Chlordane at three locations and DDT at one location;
- TPH/EPH at one location; and,
- Cyanide at one location.

In addition to the exceedences noted above, several samples had a reporting limit (RL) greater than the ESC. These were also highlighted in Table 9A. Overall, these exceedences are slightly above the ESC and typical of the fill material placed throughout the property and within the regional area. These compounds, with the exception of cyanide, pesticides (chlordane and DDT), EPH, and PCBs (greater than 10 mg/kg) are typical of the fill material identified on the property and in the region. Similarly, these compounds also exceeded human health standards.

Cyanide, pesticides (chlordane and DDT), TPH/EPH, and PCBs (greater than 10 mg/kg) will be further investigated, delineated, and/or remediated during the remedial investigation.

6.2.2 Groundwater

Groundwater samples were collected from four (TMW-1 through TMW-4) temporary well points as part of the SI to evaluate the groundwater quality. The samples were analyzed for TCL/TAL compound list. Dissolved metals were not analyzed.

For the evaluation, the groundwater data was screened against the NJDEP Ecological Screening Criteria (ESC), updated March 2009. The saline estuarine (SE) (acute and chronic) were the selected criteria for this evaluation, however, if a SE criteria was not available, the freshwater (FW2) values were used.

These values were selected to evaluate the acute (construction) and long-term (chronic) ecological impacts the groundwater (impacted from the fill) may have on the environmental sensitive receptors on the property (wetlands). The groundwater data is presented in Table 9B and the results are summarized below.

As reported in Table 9B and similar to soil, no volatile organic COPECs were identified above the NJDEP ESC. However, the following compounds were reported above their respective Ecological Screening Criteria (ESC):

- SVOCs (anthracene, fluoranthene, fluorine, naphthalene, Bis(2-Ethylhexyl)phthalate, phenanthrene, and pyrene) exceeded at three (TMW-1, 3, and 4) locations;
- Metals* (barium, cadmium, chromium, cobalt, copper, lead, nickel, selenium, vanadium and zinc) at all four locations; and,
- Mercury was detected at two locations (TMW-2 and 3).

In addition to the exceedences noted above, several samples had a reporting limit (RL) greater than the ESC. These were also highlighted in Table 9B. The exceedences (detections and reporting limits) are believed to be associated with the turbid samples collected from the temporary well points and are biased high. Note (*) the metal exceedences are based on total metals (dissolved samples were not collected) and the criterion is for dissolved metals.

The result of this comparison, groundwater to surfacewater standards, provides an evaluation on the potential impacts highly turbid groundwater could have to the surface water bodies. The results also indicate that the groundwater is impacted by the fill material, with the exception of mercury, on the property.

Mercury was detected above the chronic (dissolved) value and two sample locations (TMW-2 and 3). This result and exceedence appears to

be related to the turbid sample. Langan recommends installing two temporary well points at these two locations and sampling for dissolved mercury and hardness.

6.3 Identification of Migration Pathways

The third objective of the EE is the evaluation of potential COPEC migration pathways to environmentally sensitive areas. During the 22 August 2011 property inspections, potential migration pathways of soil COPECs were evaluated. These potential pathways consisted of direct contact, overland flow, and groundwater.

6.3.1 Ditches and Swales

Two ditches were identified during the wetland delineation. The first ditch (Ditch 1) is located on the southwestern corner of the property, just south of the radio transmission building. Vegetation in the ditch is dominated by common reed. The ditch is classified as POW/PEM (Palustrine open water, palustrine emergent wetland). Based on our observations the ditch appears to occasionally carry excess surface water during major rain events from adjacent wetlands.

The second ditch (Ditch 2) is a linear stromwater conveyance ditch constructed to manage stormwater runoff from Route 120 and East Peripheral Road (adjacent roadways). Based on the field observations, the second ditch receives surface runoff from the East Peripheral Road and Route 120 during rain events. No visible outfalls or other conveyance features to the ditch from the property were observed, and the ditch has no obvious means of draining. Thus, it appears that surface water entering the ditch from these offsite roadways is detained and does not drain.

Based on field observations the first ditch appears to be a potential migration pathway for COPECs and second ditch does not. These ditches

also happen to capture runoff from neighboring roadways, during storm events. As such, both ditches, are designed to capture and/or transport overland flow/runoff, and are potential migration pathways. However, stressed vegetation was not observed in the ditches, additionally, seeps or sheens were not observed.

6.3.2 Overland Flow

Overland flow of soil COPECs was evaluated during the property inspection. Soil COPECs were detected at the zero to six inch interval. Therefore, there is a potential for the soil COPECs to migrate via overland flow, during heavy rain events.

6.3.3 Groundwater

The groundwater has been encountered at seven feet below grade in the northern portion of the property and at grade on the eastern portion of the property. Groundwater on the eastern portion of the property is tidally influence. The groundwater has been sampled and the analytical data has been evaluated. The data indicates that groundwater COPECs, similar to soil, exist. Therefore, groundwater is considered a possible migration pathway.

6.4 Conclusions

Based on the Tech Rule, additional evaluation is recommended if the EE determines the co-occurrence of environmentally sensitive natural resources, COPECs, and migration pathways. The EE findings are as follows

1. ESNRs exist in the form of wetlands;
2. Soil and groundwater COPECs exist and are related to the site-wide fill material; and,
3. Potential migration pathways to the ESNRs exist in the form of ditches (rain events), overland flow (during rain events), and groundwater.

In accordance with the NJDEP Ecological Evaluation (EE) Technical Guidance document, further ecological evaluation is recommended. The potential impacts noted in the EE are related to the fill material that covers the property and adjacent properties. As capping is the presumptive remedy for the fill material at the property, the ESNRs of concern will be appropriately addressed.

Additional ecological evaluations are proposed for the cyanide, DDT, chlordane EPH, and PCB detections in the soil (C-1, C-2, and S-5) and for mercury (TMW-2 and 3) in the groundwater. The results of the additional evaluation will be summarized in the Remedial Action Workplan.

TABLES

Table 1
Sample Summary Table
Site Investigation Report
Disney Parcel
East Rutherford, New Jersey

Sample ID	AOC #	Table #	Laboratory ID	Matrix	Sample Date	Start Depth	End Depth	Analysis
E-1F	AOC 1	Table 2	AC35821-001	Soil	02/14/08	0.0	0.5	PAHs, PCBs, TPH
C-1F	AOC 15	Table 6a	AC35821-003	Soil	02/14/08	3.5	4.0	PP+40, TPH
C-1N	AOC 15	Table 6a	AC35821-004	Soil	02/14/08	8.5	9.0	PP+40, TPH
C-2F	AOC 15	Table 6a	AC35821-005	Soil	02/14/08	3.0	3.5	PP+40, TPH
C-2N	AOC 15	Table 6a	AC35821-006	Soil	02/14/08	11.5	12.0	PP+40, TPH
C-3F	AOC 15	Table 6a	AC35821-007	Soil	02/14/08	3.0	3.5	PP+40, TPH
C-4F	AOC 15	Table 6a	AC35821-009	Soil	02/14/08	1.0	1.5	PP+40, TPH
C-5F	AOC 15	Table 6a	AC35821-011	Soil	02/14/08	5.5	6.0	PP+40, TPH
C-5N	AOC 15	Table 6a	AC35821-012	Soil	02/14/08	12.5	13.0	PP+40, TPH
C-6F	AOC 15	Table 6a	AC35821-013	Soil	02/14/08	7.0	7.5	PP+40, TPH
C-6N	AOC 15	Table 6a	AC35821-014	Soil	02/14/08	14.0	14.5	PP+40, TPH
F-1F	AOC 15	Table 6a	AC35821-015	Soil	02/14/08	5.0	5.5	PP+40, TPH
F-1N	AOC 15	Table 6a	AC35821-016	Soil	02/14/08	14.0	14.5	PP+40, TPH
F-2F	AOC 15	Table 6a	AC35821-017	Soil	02/14/08	6.5	7.0	PP+40, TPH
F-2N	AOC 15	Table 6a	AC35821-018	Soil	02/14/08	13.5	14.0	PP+40, TPH
F-3F	AOC 15	Table 6a	AC35821-019	Soil	02/14/08	2.0	2.5	PP+40, TPH
F-4F	AOC 15	Table 6a	AC35821-021	Soil	02/14/08	2.5	3.0	PP+40, TPH
F-5F	AOC 15	Table 6a	AC35821-023	Soil	02/14/08	7.0	7.5	PP+40, TPH
F-6F	AOC 15	Table 6a	AC35821-025	Soil	02/14/08	2.5	3.0	PP+40, TPH
D-1	AOC 11	Table 5	AC35821-027	Soil	02/14/08	0.0	0.5	PCBs
D-2	AOC 11	Table 5	AC35821-028	Soil	02/14/08	0.0	0.5	PCBs
D-3	AOC 11	Table 5	AC35821-029	Soil	02/14/08	0.0	0.5	PCBs
D-4	AOC 11	Table 5	AC35821-030	Soil	02/14/08	0.0	0.5	PCBs
D-5	AOC 11	Table 5	AC35821-031	Soil	02/14/08	0.0	0.5	PCBs
S-1A	AOC 33	Table 7a	AC60251-009	Soil	07/05/11	0.0	0.5	TAL/TCL, EPH Cat 2
S-1B	AOC 33	Table 7a	AC60251-010	Soil	07/05/11	0.5	1.0	TAL/TCL, EPH Cat 2
S-2A	AOC 33	Table 7a	AC60251-007	Soil	07/05/11	0.0	0.5	TAL/TCL, EPH Cat 2
S-2B	AOC 33	Table 7a	AC60251-008	Soil	07/05/11	0.5	1.0	TAL/TCL, EPH Cat 2
S-3A	AOC 33	Table 7a	AC60251-005	Soil	07/05/11	0.0	0.5	TAL/TCL, EPH Cat 2
S-3B	AOC 33	Table 7a	AC60251-006	Soil	07/05/11	0.5	1.0	TAL/TCL, EPH Cat 2
S-4A*	AOC 33	Table 7a	AC60251-003	Soil	07/05/11	0.0	0.5	TAL/TCL, EPH Cat 2
S-4B*	AOC 33	Table 7a	AC60251-004	Soil	07/05/11	0.5	1.0	TAL/TCL, EPH Cat 2
S-5A*	AOC 33	Table 7a	AC60251-001	Soil	07/05/11	0.0	0.5	TAL/TCL, EPH Cat 2
S-5B*	AOC 33	Table 7a	AC60251-002	Soil	07/05/11	0.5	1.0	TAL/TCL, EPH Cat 2
S-4A**	AOC 33	Table 7b	11H0862-05	Soil	08/22/11	0.5	1.0	PCBs

Table 1
Sample Summary Table
Site Investigation Report
Disney Parcel
East Rutherford, New Jersey

Sample ID	AOC #	Table #	Laboratory ID	Matrix	Sample Date	Start Depth	End Depth	Analysis
S-4B**	AOC 33	Table 7b	11H0862-06	Soil	08/22/11	0.5	1.0	PCBs
S-4C	AOC 33	Table 7b	11H0862-07	Soil	08/22/11	0.5	1.0	PCBs
S-4D	AOC 33	Table 7b	11H0862-08	Soil	08/22/11	0.5	1.0	PCBs
S-4E	AOC 33	Table 7b	11H0862-09	Soil	08/22/11	1.5	2.0	PCBs
S-5A**	AOC 33	Table 7b	11H0862-01	Soil	08/22/11	0.5	1.0	PCBs, Chlordane
S-5B**	AOC 33	Table 7b	11H0862-02	Soil	08/22/11	0.5	1.0	PCBs, Chlordane
S-5C	AOC 33	Table 7b	11H0862-03	Soil	08/22/11	0.0	0.5	PCBs, Chlordane
S-5D	AOC 33	Table 7b	11H0862-04	Soil	08/22/11	0.5	1.0	PCBs, Chlordane
S-5E	AOC 33	Table 7b	11H0954-19	Soil	08/25/11	3.5	4.0	PCBs, Chlordane
C-4	AOC 1	Table 2	11H0862-014	Concrete	08/23/11	---	---	PCBs/PAHs
C-3	AOCs 4&14	Table 3	11H0862-13	Concrete	08/23/11	---	---	PCBs/PAHs
C-5	AOC 7	Table 4	11H0862-15	Concrete	08/23/11	---	---	TAL/TCL, EPH Cat 2
DC-1	AOC 11	Table 5	AC35821-032	Concrete	02/14/08	---	---	PCBs
DC-2	AOC 11	Table 5	AC35821-033	Concrete	02/14/08	---	---	PCBs
C-2	AOC 11	Table 5	11H0862-12	Concrete	08/23/11	---	---	PAHs
C-6	AOC 11	Table 5	11H0862-16	Concrete	08/23/11	---	---	PCBs
TMW-1	AOC 38	Table 8	11H0954-13	Groundwater	8/25/2011	---	---	TAL/TCL
TMW-2	AOC 38	Table 8	11H0954-18	Groundwater	8/25/2011	---	---	TAL/TCL
TMW-3	AOC 38	Table 8	11H0954-20	Groundwater	8/25/2011	---	---	TAL/TCL
TMW-4	AOC 38	Table 8	11H0954-21	Groundwater	8/25/2011	---	---	TAL/TCL
C-1A	AOC 15	Table 6b	11H0954-01	Soil	08/25/11	3.5	4.0	EPH Cat 2
C-1B	AOC 15	Table 6b	11H0954-02	Soil	08/25/11	3.5	4.0	EPH Cat 2
C-1C	AOC 15	Table 6b	11H0954-03	Soil	08/25/11	3.5	4.0	EPH Cat 2
C-1D	AOC 15	Table 6b	11H0954-04	Soil	08/25/11	3.5	4.0	EPH Cat 2
C-1E-1	AOC 15	Table 6b	11H0954-05	Soil	08/25/11	6.5	7.0	EPH Cat 2
C-2A	AOC 15	Table 6b	11H0954-07	Soil	08/25/11	3	3.5	Antimony
C-2B	AOC 15	Table 6b	11H0954-08	Soil	08/25/11	3	3.5	Antimony
C-2C	AOC 15	Table 6b	11H0954-09	Soil	08/25/11	3	3.5	Antimony
C-2D	AOC 15	Table 6b	11H0954-10	Soil	08/25/11	3	3.5	Antimony
C-2E-1	AOC 15	Table 6b	11H0954-11	Soil	08/25/11	8	8.5	Antimony
F-1A	AOC 15	Table 6b	11H0954-14	Soil	08/25/11	5.0	5.5	PCBs
F-1B	AOC 15	Table 6b	11H0954-15	Soil	08/25/11	5.0	5.5	PCBs
F-1C	AOC 15	Table 6b	11H0954-16	Soil	08/25/11	5.0	5.5	PCBs
F-1D	AOC 15	Table 6b	11H0954-17	Soil	08/25/11	5.0	5.5	PCBs

Notes:
EPH Cat 2 = category 2 extractable petroleum hydrocarbons; PAH = polycyclic aromatic hydrocarbons; PCB = polychlorinated biphenyls; PP+40 = priority pollutants plus 40; TAL/TCL: target compound list/target analyte list

Samples noted with a * and ** were inadvertedly named the same in the field. And are further discussed below and in the text.
* Samples collected from the first sample location S-4 and S-5. The A/B indicates the sample depths.
** Samples were collected as delienation borings S-4A, S-4B, S-5A, and S-5B . These samples were collected from 0.5 to 1.0.

Table 2
AOC 1 - AST Analytical Results
Disney Parcel
East Rutherford, New Jersey

Client ID:	NJDEP Residential Soil Remediation Standards (mg/kg)	NJDEP Non-Residential Soil Remediation Standards (mg/kg)	NJDEP Impact to Groundwater Soil Remediation Standards (mg/kg)	E-1F		C-4	
Lab ID:				AC35821-001		11H0862-014	
Collection Date:				2/14/2008		8/23/2011	
Sample Depth:				0 - 0.5		---	
Units:				Result	RL	Result	RL
PAHs							
Acenaphthene	3,400	37,000	74	ND	0.37	ND	0.5
Acenaphthylene	---	300,000	---	ND	0.37	ND	0.5
Anthracene	17,000	30,000	1,500	ND	0.37	ND	0.5
Benzo[a]anthracene	0.6	2	0.5	ND	0.37	ND	0.5
Benzo[a]pyrene	0.2	0.2	0.2	ND	0.37	ND	0.5
Benzo[b]fluoranthene	0.6	2	2	ND	0.37	ND	0.5
Benzo[g,h,i]perylene	380,000	30,000	---	ND	0.37	ND	0.5
Benzo[k]fluoranthene	6	23	16	ND	0.37	ND	0.5
Chrysene	62	230	52	ND	0.37	ND	0.5
Dibenzo[a,h]anthracene	0.2	0.2	0.5	ND	0.37	ND	0.5
Fluoranthene	2,300	24,000	840	ND	0.37	ND	0.5
Fluorene	2,300	24,000	110	ND	0.37	ND	0.5
Indeno[1,2,3-cd]pyrene	0.6	2	5	ND	0.37	ND	0.5
Naphthalene	6	17	16	ND	0.37	ND	0.5
Phenanthrene	---	300,000	---	ND	0.37	ND	0.5
Pyrene	1,700	18,000	550	ND	0.37	ND	0.5
PCBS							
Total PCBs	0.2	1	---	ND		**0.24**	
Aroclor-1016	0.2	1	0.2	ND	0.028	ND	0.051
Aroclor-1221	0.2	1	0.2	ND	0.028	ND	0.051
Aroclor-1232	0.2	1	0.2	ND	0.028	ND	0.051
Aroclor-1242	0.2	1	0.2	ND	0.028	ND	0.051
Aroclor-1248	0.2	1	0.2	ND	0.028	ND	0.051
Aroclor-1254	0.2	1	0.2	ND	0.028	0.128	0.051
Aroclor-1260	0.2	1	0.2	ND	0.028	0.112	0.051
Aroclor-1262	---	---	---	ND	0.028	ND	0.051
Other Parameters							
Total Petroleum Hydrocarbons	5,100	5,100	5,100	ND	67	NA	

Notes:
Bold and Boxed with Yellow Highlight = Exceedance of NJDEP Residential or Non-Residential Soil Remediation Standards
Gray Highlight = Reporting Limit higher than NJDEP Soil Remediation Standards
ND = Non-Detect
NA = Not Analyzed
Sample C-4 is a concrete sample.

TABLE 3
AOC 4+14 CHEMICAL/HAZARDOUS STORAGE AREAS ANALYTICAL RESULTS
DISNEY PARCEL
EAST RUTHERFORD, NEW JERSEY

Client ID:	NJDEP Residential Soil Remediation Standards (mg/kg)	NJDEP Non-Residential Soil Remediation Standards (mg/kg)	NJDEP Impact to Groundwater Soil Remediation Standards (mg/kg)	C-3	
Lab ID:				11H0862-13	
Collection Date:				8/23/2011	
Matrix:				Concrete	
Units:				Result	RL
PAHs					
Acenaphthene	3,400	37,000	74	ND	0.5
Acenaphthylene	---	300,000	---	ND	0.5
Anthracene	17,000	30,000	1,500	ND	0.5
Benzo[a]anthracene	0.6	2	0.5	ND	0.5
Benzo[a]pyrene	0.2	0.2	0.2	ND	0.5
Benzo[b]fluoranthene	0.6	2	2	ND	0.5
Benzo[g,h,i]perylene	380,000	30,000	---	ND	0.5
Benzo[k]fluoranthene	6	23	16	ND	0.5
Chrysene	62	230	52	ND	0.5
Dibenzo[a,h]anthracene	0.2	0.2	0.5	ND	0.5
Fluoranthene	2,300	24,000	840	ND	0.5
Fluorene	2,300	24,000	110	ND	0.5
Indeno[1,2,3-cd]pyrene	0.6	2	5	ND	0.5
Naphthalene	6	17	16	ND	0.5
Phenanthrene	---	300,000	---	ND	0.5
Pyrene	1,700	18,000	550	ND	0.5
PCBS					
Total PCBs	0.2	1	---	ND	0.051
Aroclor-1016	0.2	1	0.2	ND	0.051
Aroclor-1221	0.2	1	0.2	ND	0.051
Aroclor-1232	0.2	1	0.2	ND	0.051
Aroclor-1242	0.2	1	0.2	ND	0.051
Aroclor-1248	0.2	1	0.2	ND	0.051
Aroclor-1254	0.2	1	0.2	ND	0.051
Aroclor-1260	0.2	1	0.2	ND	0.051
Aroclor-1262	---	---	---	ND	0.051
Aroclor-1268	---	---	---	ND	0.051

Notes:

ND = Non-Detect

Gray Highlight - Reporting Limit higher than NJDEP Soil Remediation Standards

Table 4
AOC 7 - Discolored and Spill Areas Analytical Results
Disney Parcel
East Rutherford, New Jersey

SampleID		NJDEP SRP Residential Soil Remediation Standard	NJDEP SRP Non-Residential Soil Remediation Standard	NJDEP Impact to Groundwater Soil Remediation Standard	C-5	
YorkID					11H0862-15	
Sampling Date					8/23/2011 3:00:00 PM	
DilutionFactor					10	
ClientMatrix		Soil	Soil	Soil	Concrete	
RptUnits		mg/Kg	mg/Kg	mg/kg	mg/kg dry	
Compound	CASNumber				Result	MDL
Volatile Organics, TCL (Target Compound List)		mg/kg dry	mg/kg dry	mg/kg dry	mg/kg dry	
1,1,1-Trichloroethane	71-55-6	290	4,200	0.2	ND	0.0021
1,1,2,2-Tetrachloroethane	79-34-5	1	3	0.005	ND	0.0013
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	76-13-1	~	~	~	ND	0.0013
1,1,2-Trichloroethane	79-00-5	2	6	0.01	ND	0.0013
1,1-Dichloroethane	75-34-3	8	24	0.2	ND	0.0015
1,1-Dichloroethylene	75-35-4	11	150	0.005	ND	0.0029
1,2,4-Trichlorobenzene	120-82-1	73	820	0.4	ND	0.0011
1,2-Dibromo-3-chloropropane	96-12-8	0.08	0.2	0.005	ND	0.0029
1,2-Dibromoethane	106-93-4	0.008	0.04	0.005	ND	0.0015
1,2-Dichloroethane	107-06-2	0.9	3	0.005	ND	0.0014
1,2-Dichloropropane	78-87-5	2	5	0.005	ND	0.00048
2-Butanone	78-93-3	3,100	44,000	0.6	ND	0.0057
2-Hexanone	591-78-6	~	~	~	ND	0.0019
4-Methyl-2-pentanone	108-10-1	~	~	~	ND	0.0058
Acetone	67-64-1	70,000	~	12	ND	0.0068
Benzene	71-43-2	2	5	0.005	ND	0.0011
Bromodichloromethane	75-27-4	1	3	~	ND	0.0014
Bromoform	75-25-2	81	280	0.02	ND	0.0013
Bromomethane	74-83-9	25	59	~	ND	0.0027
Carbon disulfide	75-15-0	7,800	110,000	4	ND	0.0014
Carbon tetrachloride	56-23-5	0.6	2	0.005	ND	0.0023
Chlorobenzene	108-90-7	510	7,400	0.4	ND	0.00077
Chloroethane	75-00-3	220	1,100	~	ND	0.0017
Chloroform	67-66-3	0.6	2	0.2	ND	0.00079
Chloromethane	74-87-3	4	12	~	ND	0.0020
cis-1,2-Dichloroethylene	156-59-2	230	560	0.2	ND	0.0021
cis-1,3-Dichloropropylene	10061-01-5	2	7	0.005	ND	0.00077
Dibromochloromethane	124-48-1	3	8	0.005	ND	0.0015
Dichlorodifluoromethane	75-71-8	490	230,000	25	ND	0.0018
Ethyl Benzene	100-41-4	7,800	110,000	8	ND	0.00077
Methyl tert-butyl ether (MTBE)	1634-04-4	110	320	0.2	ND	0.00083
Methylene chloride	75-09-2	34	97	0.007	0.023	0.023
o-Xylene	95-47-6	~	~	~	ND	0.0011
p- & m- Xylenes	1330-20-7P/M	~	~	~	0.0023	0.012
Styrene	100-42-5	90	260	2	ND	0.00094
Tetrachloroethylene	127-18-4	2	5	0.005	ND	0.0011
Toluene	108-88-3	6,300	91,000	4	ND	0.00051
trans-1,2-Dichloroethylene	156-60-5	300	720	~	ND	0.0014
trans-1,3-Dichloropropylene	10061-02-6	2	7	0.005	ND	0.0015
Trichloroethylene	79-01-6	7	20	0.007	ND	0.0013
Trichlorofluoromethane	75-69-4	23,000	340,000	22	ND	0.0020
Vinyl Chloride	75-01-4	0.7	2	0.005	ND	0.0021
Xylenes, Total	1330-20-7	12,000	170,000	12	ND	0.0023

Table 4
AOC 7 - Discolored and Spill Areas Analytical Results
Disney Parcel
East Rutherford, New Jersey

SampleID		NJDEP SRP Residential Soil Remediation Standard	NJDEP SRP Non-Residential Soil Remediation Standard	NJDEP Impact to Groundwater Soil Remediation Standard	C-5	
YorkID					11H0862-15	
Sampling Date					8/23/2011 3:00:00 PM	
DilutionFactor					10	
ClientMatrix		Soil	Soil	Soil	Concrete	
RptUnits		mg/Kg	mg/Kg	mg/kg	mg/kg dry	
Compound	**CASNumber**				**Result**	**MDL**
Semi-Volatiles, EPA TCL List		mg/kg dry	mg/kg dry	mg/kg dry	mg/kg dry	
1,2,4-Trichlorobenzene	120-82-1	73	820	0.4	ND	0.277
1,2-Dichlorobenzene	95-50-1	5,300	59,000	11	ND	0.223
1,3-Dichlorobenzene	541-73-1	5,300	59,000	12	ND	0.242
1,4-Dichlorobenzene	106-46-7	5	13	1	ND	0.174
2,4,5-Trichlorophenol	95-95-4	6,100	68,000	~	ND	0.138
2,4,6-Trichlorophenol	88-06-2	19	74	~	ND	0.249
2,4-Dichlorophenol	120-83-2	180	2,100	~	ND	0.208
2,4-Dimethylphenol	105-67-9	1,200	14,000	~	ND	0.163
2,4-Dinitrophenol	51-28-5	120	1,400	~	ND	0.427
2,4-Dinitrotoluene	121-14-2	0.7	3	~	ND	0.223
2,6-Dinitrotoluene	606-20-2	0.7	3	~	ND	0.242
2-Chloronaphthalene	91-58-7	~	~	~	ND	0.155
2-Chlorophenol	95-57-8	310	2,200	~	ND	0.296
2-Methylnaphthalene	91-57-6	230	2400	~	ND	0.177
2-Methylphenol	95-48-7	310	3,400	~	ND	0.187
2-Nitroaniline	88-74-4	39	23,000	~	ND	0.264
2-Nitrophenol	88-75-5	~	~	~	ND	0.174
3,3'-Dichlorobenzidine	91-94-1	1	4	~	ND	0.128
3- & 4-Methylphenols	100-01-6	~	~	~	ND	0.229
3-Nitroaniline	99-09-2	~	~	~	ND	0.184
4,6-Dinitro-2-methylphenol	534-52-1	6	68	~	ND	0.385
4-Bromophenyl phenyl ether	101-55-3	~	~	~	ND	0.212
4-Chloro-3-methylphenol	59-50-7	~	~	~	ND	0.0548
4-Chloroaniline	106-47-8	~	~	~	ND	0.201
4-Chlorophenyl phenyl ether	7005-72-3	~	~	~	ND	0.147
4-Nitroaniline	100-02-7	~	~	~	ND	0.169
4-Nitrophenol	56-57-5	~	~	~	ND	0.184
Acenaphthene	83-32-9	3,400	37,000	74	ND	0.295
Acenaphthylene	208-96-8	NR	300,000	~	ND	0.143
Anthracene	120-12-7	17,000	30,000	1500	ND	0.126
Benzo(a)anthracene	56-55-3	0.6	2	0.5	ND	0.197
Benzo(a)pyrene	50-32-8	0.2	0.2	0.2	ND	0.133
Benzo(b)fluoranthene	205-99-2	0.6	2	2	ND	0.194
Benzo(g,h,i)perylene	191-24-2	380,000	30,000	~	ND	0.153
Benzo(k)fluoranthene	207-08-9	6	23	16	ND	0.197
Benzoic acid	65-85-0	~	~	~	ND	0.348
Benzyl alcohol	100-51-6	~	~	~	ND	0.165
Benzyl butyl phthalate	85-68-7	1,200	14,000	~	ND	0.212
Bis(2-chloroethoxy)methane	111-91-1	~	~	~	ND	0.188
Bis(2-chloroethyl)ether	111-44-4	0.4	2	~	ND	0.173
Bis(2-chloroisopropyl)ether	108-60-1	23	67	~	ND	0.189
Bis(2-ethylhexyl)phthalate	117-81-7	35	140	~	0.628	0.17
Chrysene	218-01-9	62	230	52	ND	0.205
Di-n-butyl phthalate	84-74-2	6,100	68,000	~	ND	0.152
Di-n-octyl phthalate	117-84-0	2,400	27,000	~	ND	0.229
Dibenzo(a,h)anthracene	53-70-3	0.2	0.2	0.5	ND	0.129
Dibenzofuran	132-64-9	~	~	~	ND	0.164
Diethyl phthalate	84-66-2	49,000	550,000	~	ND	0.267
Dimethyl phthalate	131-11-3	~	~	~	ND	0.147
Fluoranthene	206-44-0	2,300	24,000	840	ND	0.295
Fluorene	86-73-7	2,300	24,000	110	ND	0.143
Hexachlorobenzene	118-74-1	0.3	1	~	ND	0.0829
Hexachlorobutadiene	87-68-3	6	25	~	ND	0.204
Hexachlorocyclopentadiene	77-47-4	45	110	~	ND	0.378
Hexachloroethane	67-72-1	35	140	~	ND	0.183
Indeno(1,2,3-cd)pyrene	193-39-5	0.6	2	5	ND	0.188
Isophorone	78-59-1	510	2,000	~	ND	0.189
N-nitroso-di-n-propylamine	621-64-7	0.2	0.3	~	ND	0.133
N-Nitrosodiphenylamine	86-30-6	99	390	~	ND	0.295
Naphthalene	91-20-3	6	17	16	ND	0.152
Nitrobenzene	98-95-3	31	340	~	ND	0.229
Pentachlorophenol	87-86-5	3	10	~	ND	0.143
Phenanthrene	85-01-8	~	300,000	~	ND	0.188
Phenol	108-95-2	18,000	210,000	~	ND	0.204
Pyrene	129-00-0	1,700	18,000	550	ND	0.182

Table 4
AOC 7 - Discolored and Spill Areas Analytical Results
Disney Parcel
East Rutherford, New Jersey

SampleID		NJDEP SRP Residential Soil Remediation Standard	NJDEP SRP Non-Residential Soil Remediation Standard	NJDEP Impact to Groundwater Soil Remediation Standard	C-5	
YorkID					11H0862-15	
Sampling Date					8/23/2011 3:00:00 PM	
DilutionFactor					10	
ClientMatrix		Soil	Soil	Soil	Concrete	
RptUnits		mg/Kg	mg/Kg	mg/kg	mg/kg dry	
Compound	**CASNumber**				**Result**	**MDL**
PCBs, EPA TCL List		mg/kg dry	mg/kg dry	mg/kg dry	mg/kg dry	
Aroclor 1016	12674-11-2	~	~	~	ND	0.00803
Aroclor 1221	11104-28-2	~	~	~	ND	0.00803
Aroclor 1232	11141-16-5	~	~	~	ND	0.00803
Aroclor 1242	53469-21-9	~	~	~	ND	0.00804
Aroclor 1248	12672-29-6	~	~	~	ND	0.00804
Aroclor 1254	11097-69-1	~	~	~	ND	0.00692
Aroclor 1260	11096-82-5	~	~	~	ND	0.00692
Total PCBs	1336-36-3	0.2	1	0.2	0.0328	0.00692
Pesticides, EPA TCL List		mg/kg dry	mg/kg dry	mg/kg dry	mg/kg dry	
4,4'-DDD	72-54-8	3	13	~	ND	0.00150
4,4'-DDE	72-55-9	2	9	~	ND	0.00192
4,4'-DDT	50-29-3	2	8	~	ND	0.00151
Aldrin	309-00-2	0.04	0.2	~	ND	0.00215
alpha-BHC	319-84-6	0.1	0.5	~	ND	0.00253
beta-BHC	319-85-7	0.4	2	~	ND	0.00212
Chlordane, total	57-74-9	~	~	~	ND	0.0134
delta-BHC	319-86-8	~	~	~	ND	0.00183
Dieldrin	60-57-1	0.04	0.2	~	ND	0.00198
Endosulfan I	959-98-8	470	6,800	~	ND	0.00163
Endosulfan II	33213-65-9	470	6,800	~	ND	0.00205
Endosulfan sulfate	1031-07-8	470	6,800	~	ND	0.00172
Endrin	72-20-8	23	340	~	ND	0.00203
Endrin aldehyde	7421-93-4	~	~	~	ND	0.00226
Endrin ketone	53494-70-5	~	~	~	ND	0.00147
gamma-BHC (Lindane)	58-89-9	0.4	2	~	ND	0.00233
Heptachlor	76-44-8	0.1	0.7	~	ND	0.00268
Heptachlor epoxide	1024-57-3	0.07	0.3	~	ND	0.00147
Methoxychlor	72-43-5	390	5,700	~	ND	0.00866
Toxaphene	8001-35-2	0.6	3	~	ND	0.336
Metals, Target Analyte		mg/kg dry	mg/kg dry	mg/kg dry	mg/kg dry	
Aluminum	7429-90-5	78,000	~	3900	**11000**	1.28
Antimony	7440-36-0	31	450	6	0.975	0.142
Arsenic	7440-38-2	19	19	19	5.46	0.193
Barium	7440-39-3	16,000	59,000	1300	72.8	0.244
Beryllium	7440-41-7	16	140	0.5	ND	0.008
Cadmium	7440-43-9	78	78	1	ND	0.132
Calcium	7440-70-2	~	~	~	64900	0.044
Chromium	7440-47-3	~	~	~	25.7	0.081
Cobalt	7440-48-4	1,600	590	59	13.1	0.081
Copper	7440-50-8	3,100	45,000	7300	62.3	0.142
Iron	7439-89-6	~	~	~	20000	0.559
Lead	7439-92-1	400	800	59	5.68	0.102
Magnesium	7439-95-4	~	~	~	7790	0.834
Manganese	7439-96-5	11,000	5,900	42	**400**	0.081
Nickel	7440-02-0	1,600	23,000	31	20.4	0.071
Potassium	7440-09-7	~	~	~	1480	2.77
Selenium	7782-49-2	390	5,700	7	2.67	0.215
Silver	7440-22-4	390	5,700	1	ND	0.092
Sodium	7440-23-5	~	~	~	2260	6.84
Thallium	7440-28-0	5	79	3	ND	0.193
Vanadium	7440-62-2	78	1,100	~	39.6	0.081
Zinc	7440-66-6	23,000	110,000	600	97.9	0.071
Mercury	7439-97-6	23	65	0.1	ND	0.0987
Total Solids		%	%	%	%	
% Solids	solids	~	~	~	98.3	---
EPH NJ CC		mg/kg	mg/kg	mg/kg	mg/kg	
Total EPH Hydrocarbons		5,100	5,100	5,100	496	120
NOTES:						
Notes:						
Bold and Boxed with Blue Highlight = Exceedance of NJDEP Impact to Groundwater Soil Remediation Standards						
ND = Non-Detect						

Table 5
AOC 11 - Electrical Transformers Analytical Results
Disney Parcel
East Rutherford, New Jersey

Client ID:	NJDEP Residential Soil Remediation Standards (mg/kg)	NJDEP Non-Residential Soil Remediation Standards (mg/kg)	NJDEP Impact to Groundwater Soil Remediation Standards (mg/kg)	D-1		D-2		D-3		D-4		D-5		DC-1		DC-2		C-2		C-6	
Lab ID:				AC35821-027		AC35821-028		AC35821-029		AC35821-030		AC35821-031		AC35821-032		AC35821-033		11H0862-12		11H0862-16	
Collection Date:				2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		8/23/2011		8/23/2011	
Sample Depth:				0 - 0.5		0 - 0.5		0 - 0.5		0 - 0.5		0 - 0.5		---		---		---		---	
Units:				Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
PCBS																					
Total PCBs	0.2	1	---	**0.45**	0.034	ND	0.029	ND	0.027	ND	0.027	ND	0.027	0.07	0.026	0.12	0.027			ND	0.051
Aroclor-1016	0.2	1	0.2	ND	0.034	ND	0.029	ND	0.027	ND	0.027	ND	0.027	ND	0.026	ND	0.027			ND	0.051
Aroclor-1221	0.2	1	0.2	ND	0.034	ND	0.029	ND	0.027	ND	0.027	ND	0.027	ND	0.026	ND	0.027			ND	0.051
Aroclor-1232	0.2	1	0.2	ND	0.034	ND	0.029	ND	0.027	ND	0.027	ND	0.027	ND	0.026	ND	0.027			ND	0.051
Aroclor-1242	0.2	1	0.2	ND	0.034	ND	0.029	ND	0.027	ND	0.027	ND	0.027	ND	0.026	ND	0.027	NA		ND	0.051
Aroclor-1248	0.2	1	0.2	ND	0.034	ND	0.029	ND	0.027	ND	0.027	ND	0.027	ND	0.026	ND	0.027			ND	0.051
Aroclor-1254	0.2	1	0.2	ND	0.034	ND	0.029	ND	0.027	ND	0.027	ND	0.027	0.07	0.026	0.12	0.027			ND	0.051
Aroclor-1260	0.2	1	0.2	**0.45**	0.034	0.098	0.029	0.045	0.027	ND	0.027	ND	0.027	ND	0.026	ND	0.027			ND	0.051
Aroclor-1262	---	---	---	ND	0.034	ND	0.029	ND	0.027	ND	0.027	ND	0.027	ND	0.026	ND	0.027			ND	0.051
PAHs																					
Acenaphthene	3,400	37,000	74															ND	0.5	ND	0.5
Acenaphthylene	---	300,000	---															ND	0.5	ND	0.5
Anthracene	17,000	30,000	1,500															ND	0.5	ND	0.5
Benzo[a]anthracene	0.6	2	0.5															ND	0.5	ND	0.5
Benzo[a]pyrene	0.2	0.2	0.2															ND	0.5	ND	0.5
Benzo[b]fluoranthene	0.6	2	2															ND	0.5	ND	0.5
Benzo[g,h,i]perylene	380,000	30,000	---															ND	0.5	ND	0.5
Benzo[k]fluoranthene	6	23	16	NA		NA		NA		NA		NA		NA		NA		ND	0.5	ND	0.5
Chrysene	62	230	52															ND	0.5	ND	0.5
Dibenzo[a,h]anthracene	0.2	0.2	0.5															ND	0.5	ND	0.5
Fluoranthene	2,300	24,000	840															ND	0.5	ND	0.5
Fluorene	2,300	24,000	110															ND	0.5	ND	0.5
Indeno[1,2,3-cd]pyrene	0.6	2	5															ND	0.5	ND	0.5
Naphthalene	6	17	16															ND	0.5	ND	0.5
Phenanthrene	---	300,000	---															ND	0.5	ND	0.5
Pyrene	1,700	18,000	550															ND	0.5	ND	0.5

Notes:
Bold and Boxed with Yellow Highlight = Exceedance of NJDEP Residential or Non-Residential Soil Remediation Standards
Gray Highlight = Reporting Limit higher than NJDEP Soil Remediation Standards
ND = Non-Detect
NA = Not Analyzed
Samples DC-1, DC-2, C-2, and C-6 are concrete samples.

Table 6a
AOC 15 - Historic Fill and Non-Historic Fill Analytical Results
Disney Parcel
East Rutherford, New Jersey

Client ID:	NJDEP Residential Soil Remediation Standards (mg/kg)	NJDEP Non-Residential Soil Remediation Standards (mg/kg)	NJDEP Impact to Groundwater Soil Remediation Standards (mg/kg)	C-1F		C-1N		C-2F		C-2N		C-3F		C-4F		C-5F		C-5N		C-6F		C-6N	
Lab ID:				AC35821-003		AC35821-004		AC35821-005		AC35821-006		AC35821-007		AC35821-009		AC35821-011		AC35821-012		AC35821-013		AC35821-014	
Collection Date:				2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008	
Sample Depth:				3.5 - 4		8.5 - 9		3 - 3.5		11.5 - 12		3 - 3.5		1 - 1.5		5.5 - 6		12.5 - 13		7 - 7.5		14 - 14.5	
Units:				Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
Volatile Organics																							
:TotalVolatileTic	---	---	---	97.2 J	NA			ND	NA			ND	NA	ND	NA	101.4 J	NA			9.06 J	NA		
1,1,1-Trichloroethane	290	4,200	0.2	ND	0.22			ND	0.1			ND	0.084	ND	0.069	ND	0.23			ND	0.21		
1,1,2,2-Tetrachloroethane	1	3	0.005	ND	0.22			ND	0.1			ND	0.084	ND	0.069	ND	0.23			ND	0.21		
1,1,2-Trichloroethane	2	6	0.01	ND	0.22			ND	0.1			ND	0.084	ND	0.069	ND	0.23			ND	0.21		
1,1-Dichloroethane	8	24	0.2	ND	0.22			ND	0.1			ND	0.084	ND	0.069	ND	0.23			ND	0.21		
1,1-Dichloroethene	11	150	0.005	ND	0.22			ND	0.1			ND	0.084	ND	0.069	ND	0.23			ND	0.21		
1,2-Dichlorobenzene	5,300	59,000	11	ND	0.22			ND	0.1			ND	0.084	ND	0.069	0.6	0.23			ND	0.21		
1,2-Dichloroethane	0.9	3	0.005	ND	0.11			ND	0.05			ND	0.042	ND	0.035	ND	0.11			ND	0.1		
1,2-Dichloropropane	2	5	0.005	ND	0.22			ND	0.1			ND	0.084	ND	0.069	ND	0.23			ND	0.21		
1,3-Dichlorobenzene	5,300	59,000	12	ND	0.22			ND	0.1			ND	0.084	ND	0.069	0.25	0.23			ND	0.21		
1,4-Dichlorobenzene	5	13	1	ND	0.22			ND	0.1			ND	0.084	ND	0.069	4	0.23			ND	0.21		
2-Butanone	3,100	44,000	0.6	ND	0.22			ND	0.1			ND	0.084	ND	0.069	ND	0.23			ND	0.21		
2-Chloroethylvinylether	---	---	---	ND	1.1			ND	0.5			ND	0.42	ND	0.35	ND	1.1			ND	1		
2-Hexanone	---	---	---	ND	0.22			ND	0.1			ND	0.084	ND	0.069	ND	0.23			ND	0.21		
4-Methyl-2-Pentanone	---	---	---	ND	0.22			ND	0.1			ND	0.084	ND	0.069	ND	0.23			ND	0.21		
Acetone	70,000	---	12	ND	1.1			ND	0.5			ND	0.42	ND	0.35	ND	1.1			ND	1		
Acrolein	---	---	---	ND	1.1			ND	0.5			ND	0.42	ND	0.35	ND	1.1			ND	1		
Acrylonitrile	---	---	---	ND	0.22			ND	0.1			ND	0.084	ND	0.069	ND	0.23			ND	0.21		
Benzene	2	5	0.005	ND	0.11			ND	0.05			ND	0.042	ND	0.035	ND	0.11			ND	0.1		
Bromodichloromethane	1	3	0.005	ND	0.22			ND	0.1			ND	0.084	ND	0.069	ND	0.23			ND	0.21		
Bromoform	81	280	0.02	ND	0.22	NA		ND	0.1	NA		ND	0.084	ND	0.069	ND	0.23	NA		ND	0.21	NA	
Bromomethane	25	59	0.03	ND	0.22			ND	0.1			ND	0.084	ND	0.069	ND	0.23			ND	0.21		
Carbon disulfide	7,800	110,000	4	ND	0.22			ND	0.1			ND	0.084	ND	0.069	ND	0.23			0.26	0.21		
Carbon tetrachloride	0.6	2	0.005	ND	0.22			ND	0.1			ND	0.084	ND	0.069	ND	0.23			ND	0.21		
Chlorobenzene	510	7,400	0.4	ND	0.22			ND	0.1			ND	0.084	ND	0.069	0.53	0.23			0.42	0.21		
Chloroethane	220	1,100	---	ND	0.22			ND	0.1			ND	0.084	ND	0.069	ND	0.23			ND	0.21		
Chloroform	0.6	2	0.2	ND	0.22			ND	0.1			ND	0.084	ND	0.069	ND	0.23			ND	0.21		
Chloromethane	4	12	---	ND	0.22			ND	0.1			ND	0.084	ND	0.069	ND	0.23			ND	0.21		
cis-1,2-Dichloroethene	230	560	0.2	ND	0.22			ND	0.1			ND	0.084	ND	0.069	ND	0.23			ND	0.21		
cis-1,3-Dichloropropene	2	7	0.005	ND	0.22			ND	0.1			ND	0.084	ND	0.069	ND	0.23			ND	0.21		
Dibromochloromethane	3	8	0.005	ND	0.22			ND	0.1			ND	0.084	ND	0.069	ND	0.23			ND	0.21		
Ethylbenzene	7,800	110,000	8	ND	0.22			ND	0.1			ND	0.084	ND	0.069	ND	0.23			ND	0.21		
m&p-Xylenes	12,000	170,000	12	ND	0.44			ND	0.2			ND	0.17	ND	0.14	ND	0.46			ND	0.42		
Methylene chloride	34	97	0.007	ND	0.22			ND	0.1			ND	0.084	ND	0.069	ND	0.23			ND	0.21		
o-Xylene	12,000	170,000	12	ND	0.22			ND	0.1			ND	0.084	ND	0.069	ND	0.23			ND	0.21		
Styrene	90	260	2	ND	0.22			ND	0.1			ND	0.084	ND	0.069	ND	0.23			ND	0.21		
Tetrachloroethene	2	5	0.005	ND	0.22			ND	0.1			ND	0.084	ND	0.069	ND	0.23			ND	0.21		
Toluene	6,300	91,000	4	ND	0.22			ND	0.1			ND	0.084	ND	0.069	ND	0.23			ND	0.21		
trans-1,2-Dichloroethene	300	720	0.4	ND	0.22			ND	0.1			ND	0.084	ND	0.069	ND	0.23			ND	0.21		
trans-1,3-dichloropropene	2	7	0.005	ND	0.22			ND	0.1			ND	0.084	ND	0.069	ND	0.23			ND	0.21		
Trichloroethene	7	20	0.007	ND	0.22			ND	0.1			ND	0.084	ND	0.069	ND	0.23			ND	0.21		
Vinyl chloride	0.7	2	0.005	ND	0.22			ND	0.1			ND	0.084	ND	0.069	ND	0.23			ND	0.21		
Semi-Volatile Organic Compounds																							
:TotalSemiVolatileTic	---	---	---	49.84 J	NA			43.6 J	NA			81.78 J	NA	36.17 J	NA	627.6 J	NA			8817 J	NA		
1,2,4-Trichlorobenzene	73	820	0.4	ND	1.2	ND	1.3	ND	4.1			ND	0.43	ND	0.39	ND	3.8			ND	1.9	ND	0.95
1,2-Diphenylhydrazine				ND	1.2	ND	1.3	ND	4.1			ND	0.43	ND	0.39	ND	3.8			ND	1.9	ND	0.95
2,4,5-Trichlorophenol	6,100	68,000	44	ND	1.2	NA		ND	4.1			ND	0.43	ND	0.39	ND	3.8			ND	1.9	NA	
2,4,6-Trichlorophenol	19	74	0.2	ND	1.2	NA		ND	4.1			ND	0.43	ND	0.39	ND	3.8			ND	1.9	NA	
2,4-Dichlorophenol	180	2,100	0.2	ND	1.2	NA		ND	4.1			ND	0.43	ND	0.39	ND	3.8			ND	1.9	NA	
2,4-Dimethylphenol	1,200	14,000	0.7	ND	1.2	NA		ND	4.1			ND	0.43	ND	0.39	ND	3.8			ND	1.9	NA	
2,4-Dinitrophenol	120	1,400	0.3	ND	3	NA		ND	10			ND	1.1	ND	0.97	ND	9.5			ND	4.8	NA	
2,4-Dinitrotoluene	0.7	3	0.2	ND	1.2	ND	1.3	ND	4.1	NA		ND	0.43	ND	0.39	ND	3.8	NA		ND	1.9	ND	0.95
2,6-Dinitrotoluene	0.7	3	0.2	ND	1.2	ND	1.3	ND	4.1			ND	0.43	ND	0.39	ND	3.8			ND	1.9	ND	0.95
2-Chloronaphthalene	---	---	---	ND	1.2	ND	1.3	ND	4.1			ND	0.43	ND	0.39	ND	3.8			ND	1.9	ND	0.95
2-Chlorophenol	310	2,200	0.5	ND	1.2	NA		ND	4.1			ND	0.43	ND	0.39	ND	3.8			ND	1.9	NA	
2-Methylnaphthalene	230	2,400	5	ND	1.2	ND	1.3	ND	4.1			ND	0.43	ND	0.39	ND	3.8			ND	1.9	ND	0.95
2-Methylphenol	310	3,400	---	ND	1.2	NA		ND	4.1			ND	0.43	ND	0.39	ND	3.8			ND	1.9	NA	
2-Nitroaniline	39	23,000	---	ND	1.2	ND	1.3	ND	4.1			ND	0.43	ND	0.39	ND	3.8			ND	1.9	ND	0.95
2-Nitrophenol	---	---	---	ND	1.2	NA		ND	4.1			ND	0.43	ND	0.39	ND	3.8			ND	1.9	NA	
3&4-Methylphenol	31	340	---	ND	1.2	NA		ND	4.1			ND	0.43	ND	0.39	ND	3.8			ND	1.9	NA	
3,3'-Dichlorobenzidine	1	4	0.2	ND	1.2	ND	1.3	ND	4.1			ND	0.43	ND	0.39	ND	3.8			ND	1.9	ND	0.95
3-Nitroaniline	---	---	---	ND	1.2	ND	1.3	ND	4.1			ND	0.43	ND	0.39	ND	3.8			ND	1.9	ND	0.95

Table 6a
AOC 15 - Historic Fill and Non-Historic Fill Analytical Results
Disney Parcel
East Rutherford, New Jersey

Client ID:	NJDEP Residential Soil Remediation Standards (mg/kg)	NJDEP Non-Residential Soil Remediation Standards (mg/kg)	NJDEP Impact to Groundwater Soil Remediation Standards (mg/kg)	C-1F		C-1N		C-2F		C-2N		C-3F		C-4F		C-5F		C-5N		C-6F		C-6N	
Lab ID:				AC35821-003		AC35821-004		AC35821-005		AC35821-006		AC35821-007		AC35821-009		AC35821-011		AC35821-012		AC35821-013		AC35821-014	
Collection Date:				2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008	
Sample Depth:				3.5 - 4		8.5 - 9		3 - 3.5		11.5 - 12		3 - 3.5		1 - 1.5		5.5 - 6		12.5 - 13		7 - 7.5		14 - 14.5	
Units:				Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
4,6-Dinitro-2-methylphenol	6	68	0.3	ND	3	NA		ND	10			ND	1.1	ND	0.97	ND	9.5			ND	4.8	NA	
4-Bromophenyl-phenylether	---	---	---	ND	1.2	ND	1.3	ND	4.1			ND	0.43	ND	0.39	ND	3.8			ND	1.9	ND	0.95
4-Chloro-3-methylphenol	---	---	---	ND	1.2	NA		ND	4.1			ND	0.43	ND	0.39	ND	3.8			ND	1.9	NA	
4-Chloroaniline	---	---	---	ND	1.2	ND	1.3	ND	4.1			ND	0.43	ND	0.39	ND	3.8			ND	1.9	ND	0.95
4-Chlorophenyl-phenylether	---	---	---	ND	1.2	ND	1.3	ND	4.1			ND	0.43	ND	0.39	ND	3.8			ND	1.9	ND	0.95
4-Nitroanilline	---	---	---	ND	1.2	ND	1.3	ND	4.1			ND	0.43	ND	0.39	ND	3.8			ND	1.9	ND	0.95
4-Nitrophenol	---	---	---	ND	1.2	NA		ND	4.1			ND	0.43	ND	0.39	ND	3.8			ND	1.9	NA	
Acenaphthene	3,400	37,000	74	1.1 J	1.2	ND	1.3	ND	4.1			ND	0.43	ND	0.39	4.8	3.8			0.63 J	1.9	ND	0.95
Acenaphthylene	---	300,000	---	ND	1.2	ND	1.3	ND	4.1			ND	0.43	ND	0.39	ND	3.8			ND	1.9	ND	0.95
Anthracene	17,000	30,000	1,500	1.9	1.2	ND	1.3	ND	4.1			ND	0.43	0.05 J	0.39	ND	3.8			0.77 J	1.9	ND	0.95
Benzidine	---	---	---	ND	1.2	ND	1.3	ND	4.1			ND	0.43	ND	0.39	ND	3.8			ND	1.9	ND	0.95
Benzo[a]anthracene	0.6	2	0.5	3.2	1.2	ND	1.3	ND	4.1			0.043 J	0.43	0.16 J	0.39	ND	3.8			0.96 J	1.9	ND	0.95
Benzo[a]pyrene	0.2	0.2	0.2	2.8	1.2	ND	1.3	ND	4.1			ND	0.43	0.14 J	0.39	ND	3.8			0.34 J	1.9	ND	0.95
Benzo[b]fluoranthene	0.6	2	2	3.3	1.2	ND	1.3	ND	4.1			0.052 J	0.43	0.18 J	0.39	ND	3.8			0.88 J	1.9	ND	0.95
Benzo[g,h,i]perylene	380,000	30,000	---	1.6	1.2	ND	1.3	ND	4.1			ND	0.43	0.1 J	0.39	ND	3.8			0.37 J	1.9	ND	0.95
Benzo[k]fluoranthene	6	23	16	1.2 J	1.2	ND	1.3	ND	4.1			ND	0.43	0.07 J	0.39	ND	3.8			0.25 J	1.9	ND	0.95
Bis(2-Chloroethoxy)methane	---	---	---	ND	1.2	ND	1.3	ND	4.1			ND	0.43	ND	0.39	ND	3.8			ND	1.9	ND	0.95
Bis(2-Chloroethyl)ether	0.4	2	0.2	ND	1.2	ND	1.3	ND	4.1			ND	0.43	ND	0.39	ND	3.8			ND	1.9	ND	0.95
Bis(2-Chloroisopropyl)ether	23	67	3	ND	1.2	ND	1.3	ND	4.1			ND	0.43	ND	0.39	ND	3.8			ND	1.9	ND	0.95
Bis(2-Ethylhexyl)phthalate	35	140	790	ND	1.2	ND	1.3	ND	4.1			0.055 J	0.43	0.051 J	0.39	41	3.8			11	1.9	2.4	0.95
Butylbenzylphthalate	1,200	14,000	150	ND	1.2	ND	1.3	ND	4.1			ND	0.43	ND	0.39	ND	3.8			ND	1.9	ND	0.95
Carbazole	24	96	---	0.58 J	1.2	ND	1.3	ND	4.1			ND	0.43	ND	0.39	ND	3.8			ND	1.9	ND	0.95
Chrysene	62	230	52	2.8	1.2	ND	1.3	ND	4.1			ND	0.43	0.14 J	0.39	ND	3.8			2	1.9	ND	0.95
Dibenzo[a,h]anthracene	0.2	0.2	0.5	0.52 J	1.2	ND	1.3	ND	4.1	NA		ND	0.43	ND	0.39	ND	3.8	NA		ND	1.9	ND	0.95
Dibenzofuran	---	---	---	0.77 J	1.2	ND	1.3	ND	4.1			ND	0.43	ND	0.39	ND	3.8			ND	1.9	ND	0.95
Diethylphthalate	49,000	550,000	57	ND	1.2	ND	1.3	ND	4.1			ND	0.43	ND	0.39	0.54 J	3.8			1.7 J	1.9	ND	0.95
Dimethylphthalate	---	---	---	ND	1.2	ND	1.3	23	4.1			ND	0.43	ND	0.39	ND	3.8			ND	1.9	ND	0.95
Di-n-butylphthalate	6,100	68,000	620	ND	1.2	ND	1.3	1.9 J	4.1			ND	0.43	ND	0.39	1.9 J	3.8			1.2 J	1.9	ND	0.95
Di-n-octylphthalate	2,400	27,000	3,300	ND	1.2	ND	1.3	ND	4.1			ND	0.43	ND	0.39	ND	3.8			ND	1.9	ND	0.95
Fluoranthene	2,300	24,000	840	8.5	1.2	0.23 J	1.3	ND	4.1			0.068 J	0.43	0.28 J	0.39	ND	3.8			4.3	1.9	ND	0.95
Fluorene	2,300	24,000	110	1 J	1.2	ND	1.3	ND	4.1			ND	0.43	ND	0.39	1.1 J	3.8			0.93 J	1.9	ND	0.95
Hexachlorobenzene	0.3	1	0.2	ND	1.2	ND	1.3	ND	4.1			ND	0.43	ND	0.39	ND	3.8			ND	1.9	ND	0.95
Hexachlorobutadiene	6	25	0.6	ND	1.2	ND	1.3	ND	4.1			ND	0.43	ND	0.39	ND	3.8			ND	1.9	ND	0.95
Hexachlorocyclopentadiene	45	110	210	ND	3	ND	1.3	ND	10			ND	1.1	ND	0.97	ND	9.5			ND	4.8	ND	2.4
Hexachloroethane	35	140	0.2	ND	1.2	ND	1.3	ND	4.1			ND	0.43	ND	0.39	ND	3.8			ND	1.9	ND	0.95
Indeno[1,2,3-cd]pyrene	0.6	2	5	1.4	1.2	ND	1.3	ND	4.1			ND	0.43	0.09 J	0.39	ND	3.8			0.19 J	1.9	ND	0.95
Isophorone	510	2,000	0.2	ND	1.2	ND	1.3	ND	4.1			ND	0.43	ND	0.39	ND	3.8			ND	1.9	ND	0.95
Naphthalene	6	17	16	1.6	1.2	ND	1.3	ND	4.1			ND	0.43	ND	0.39	0.81 J	3.8			1.9 J	1.9	ND	0.95
Nitrobenzene	31	340	0.2	ND	1.2	ND	1.3	ND	4.1			ND	0.43	ND	0.39	ND	3.8			ND	1.9	ND	0.95
N-Nitrosodimethylamine	0.2	0.3	0.2	ND	1.2	ND	1.3	ND	4.1			ND	0.43	ND	0.39	ND	3.8			ND	1.9	ND	0.95
N-Nitroso-di-n-propylamine	99	390	0.2	ND	1.2	ND	1.3	ND	4.1			ND	0.43	ND	0.39	ND	3.8			ND	1.9	ND	0.95
N-Nitrosodiphenylamine	---	---	---	ND	1.2	ND	1.3	ND	4.1			ND	0.43	ND	0.39	ND	3.8			ND	1.9	ND	0.95
Pentachlorophenol	3	10	0.3	ND	3	NA		ND	10			ND	1.1	ND	0.97	ND	9.5			ND	4.8	NA	
Phenanthrene	---	300,000	---	7.7	1.2	0.29 J	1.3	ND	4.1			ND	0.43	0.13 J	0.39	ND	3.8			7.4	1.9	ND	0.95
Phenol	18,000	210,000	5	ND	1.2	NA		ND	4.1			ND	0.43	ND	0.39	ND	3.8			ND	1.9	NA	
Pyrene	1,700	18,000	550	6.8	1.2	0.18 J	1.3	ND	4.1			0.064 J	0.43	0.24 J	0.39	ND	3.8			2.6	1.9	ND	0.95
Metals																							
Mercury	23	65	0.1	0.17	0.1			1.1	0.1	NA		0.14	0.11	0.21	0.097	4.1	0.19	NA		2.2	0.16	NA	
Antimony	31	450	6	ND	2.4			690	2.5	ND	3	ND	2.6	ND	2.3	20	4.5	ND	7.4	63	3.8	ND	5.7
Arsenic	19	19	19	5.5	2.4			13	2.5	NA		4.2	2.6	2.6	2.3	24	4.5	20	7.4	15	3.8	NA	
Barium	16,000	59,000	1,300	490	12			210	12	NA		84	13	58	12	230	23	NA		410	19	NA	
Beryllium	16	140	0.5	ND	0.73			ND	0.74	NA		ND	0.78	ND	0.7	ND	1.4	NA		ND	1.2	NA	
Cadmium	78	78	1	0.88	0.73			1.9	0.74	NA		ND	0.78	ND	0.7	3.9	1.4	NA		7	1.2	NA	
Chromium	---	---	---	16	6.1	NA		37	6.2	NA		20	6.5	17	5.8	330	11	NA		1400	9.6	NA	
Copper	3,100	45,000	7,300	45	6.1			81	6.2	NA		92	6.5	22	5.8	440	11	NA		580	9.6	NA	
Lead	400	800	59	390	6.1			4800	6.2	20	7.5	87	6.5	57	5.8	1400	11	ND	19	6300	9.6	68	14
Nickel	1,600	23,000	31	11	6.1			34	6.2	NA		10	6.5	14	5.8	71	11	NA		83	9.6	NA	
Selenium	390	5,700	7	ND	2.2			ND	2.2	NA		ND	2.3	ND	2.1	ND	4.1	NA		ND	3.5	NA	
Silver	390	5,700	1	ND	1.8			2	1.9	NA		ND	1.9	ND	1.7	ND	3.4	NA		4.3	2.9	NA	
Thallium	5	79	3	ND	1.5			ND	1.5	NA		ND	1.6	ND	1.4	ND	2.7	NA		ND	2.3	NA	
Zinc	23,000	110,000	600	340	12			480	12	NA		46	13	59	12	710	23	NA		1300	19	71	29

Table 6a
AOC 15 - Historic Fill and Non-Historic Fill Analytical Results
Disney Parcel
East Rutherford, New Jersey

Client ID:	NJDEP Residential Soil Remediation Standards (mg/kg)	NJDEP Non-Residential Soil Remediation Standards (mg/kg)	NJDEP Impact to Groundwater Soil Remediation Standards (mg/kg)	C-1F		C-1N		C-2F		C-2N		C-3F		C-4F		C-5F		C-5N		C-6F		C-6N	
Lab ID:				AC35821-003		AC35821-004		AC35821-005		AC35821-006		AC35821-007		AC35821-009		AC35821-011		AC35821-012		AC35821-013		AC35821-014	
Collection Date:				2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008	
Sample Depth:				3.5 - 4		8.5 - 9		3 - 3.5		11.5 - 12		3 - 3.5		1 - 1.5		5.5 - 6		12.5 - 13		7 - 7.5		14 - 14.5	
Units:				Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
PCBS																							
Total PCBs	0.2	1	---	ND				0.2				**0.36**		**0.35**		**0.62**		ND	0.093	**0.81**		ND	0.071
Aroclor-1016	0.2	1	0.2	ND	0.03			ND	0.031			ND	0.032	ND	0.029	ND	0.057	ND	0.093	ND	0.048	ND	0.071
Aroclor-1221	0.2	1	0.2	ND	0.03			ND	0.031			ND	0.032	ND	0.029	ND	0.057	ND	0.093	ND	0.048	ND	0.071
Aroclor-1232	0.2	1	0.2	ND	0.03	NA		ND	0.031	NA		ND	0.032	ND	0.029	ND	0.057	ND	0.093	ND	0.048	ND	0.071
Aroclor-1242	0.2	1	0.2	ND	0.03			ND	0.031			ND	0.032	ND	0.029	**0.53**	0.057	ND	0.093	ND	0.048	ND	0.071
Aroclor-1248	0.2	1	0.2	ND	0.03			ND	0.031			**0.28**	0.032	0.08	0.029	ND	0.057	ND	0.093	**0.66**	0.048	ND	0.071
Aroclor-1254	0.2	1	0.2	ND	0.03			ND	0.031			ND	0.032	ND	0.029	ND	0.057	ND	0.093	ND	0.048	ND	0.071
Aroclor-1260	0.2	1	0.2	ND	0.03			0.2	0.031			0.076	0.032	**0.27**	0.029	0.09	0.057	ND	0.093	0.15	0.048	ND	0.071
Aroclor-1262	---	---	---	ND	0.03			ND	0.031			ND	0.032	ND	0.029	ND	0.057	ND	0.093	ND	0.048	ND	0.071
Pesticides																							
Aldrin	0.04	0.2	0.1	ND	0.006			ND	0.006			ND	0.007	ND	0.006	ND	0.011			ND	0.01		
Alpha-BHC	0.1	0.5	0.002	ND	0.006			ND	0.006			ND	0.007	ND	0.006	ND	0.011			ND	0.01		
beta-BHC	0.4	2	0.002	ND	0.006			ND	0.006			ND	0.007	ND	0.006	ND	0.011			ND	0.01		
Chlordane	0.2	1	0.03	0.03	0.012			ND	0.012			ND	0.013	ND	0.012	ND	0.023			**0.49**	0.019		
delta-BHC	---	---	---	ND	0.006			ND	0.006			ND	0.007	ND	0.006	ND	0.011			ND	0.01		
Dieldrin	0.04	0.2	0.003	ND	0.006			ND	0.006			ND	0.007	ND	0.006	ND	0.011			ND	0.01		
Endosulfan I	470	6,800	2	ND	0.006			ND	0.006			ND	0.007	ND	0.006	ND	0.011			ND	0.01		
Endosulfan II	470	6,800	2	ND	0.006			ND	0.006			ND	0.007	ND	0.006	ND	0.011			ND	0.01		
Endosulfan Sulfate	470	6,800	1	ND	0.006			ND	0.006			ND	0.007	ND	0.006	ND	0.011			ND	0.01		
Endrin	23	340	0.6	ND	0.006	NA		ND	0.006	NA		ND	0.007	ND	0.006	ND	0.011	NA		ND	0.01	NA	
Endrin Aldehyde	---	---	---	ND	0.006			ND	0.006			ND	0.007	ND	0.006	ND	0.011			ND	0.01		
Endrin Ketone	---	---	---	ND	0.006			ND	0.006			ND	0.007	ND	0.006	ND	0.011			ND	0.01		
Gamma-BHC	0.4	2	0.002	ND	0.006			ND	0.006			ND	0.007	ND	0.006	ND	0.011			ND	0.01		
Heptachlor	0.1	0.7	0.3	ND	0.006			ND	0.006			ND	0.007	ND	0.006	ND	0.011			ND	0.01		
Heptachlor Epoxide	0.07	0.3	0.009	ND	0.006			ND	0.006			ND	0.007	ND	0.006	ND	0.011			ND	0.01		
Methoxychlor	390	5,700	100	ND	0.006			ND	0.006			ND	0	ND	0.006	ND	0.011			ND	0.01		
p,p'-DDD	3	13	3	0.031	0.003			0.011	0.003			ND	0.003	ND	0.003	0.05	0.006			0.051	0.005		
p,p'-DDE	2	9	12	0.033	0.003			0.006 D	0.003			ND	0.003	0.004 D	0.003	0.049 D	0.006			0.056	0.005		
p,p'-DDT	2	8	7	ND	0.003			0.008 D	0.003			ND	0.003	ND	0.003	ND	0.006			ND	0.005		
Toxaphene	0.6	3	0.2	ND	0.03			ND	0.031			ND	0.032	ND	0.029	ND	0.057			ND	0.048		
Other Parameters																							
Total Petroleum Hydrocarbons	5,100	5,100	5,100	**7700**	370	NA		350	74	NA		200	78	71	70	2800	140	NA		3800	120	NA	
Cyanide	1,600	23,000	13	0.63	0.3			1.5	0.31			0.59	0.32	ND	0.29	1.8	0.57			6	0.48		
Total Phenolics	---	---	---	ND	1.5			1.5	1.5			ND	1.6	ND	1.5	4	2.8			3.7	2.4		

Notes:
Bold and Boxed with Yellow Highlight = Exceedance of NJDEP Residential or Non-Residential Soil Remediation Standards
Bold and Boxed with Blue Highlight = Exceedance of NJDEP Impact to Groundwater Soil Remediation Standards
ND = Non-Detect
J = Value is an estimated concentration, analyte found below the method detection limit
NA = Not analyzed

Table 6a
AOC 15 - Historic Fill and Non-Historic Fill Analytical Results
Disney Parcel
East Rutherford, New Jersey

Client ID:	NJDEP Residential Soil Remediation Standards (mg/kg)	NJDEP Non-Residential Soil Remediation Standards (mg/kg)	NJDEP Impact to Groundwater Soil Remediation Standards (mg/kg)	F-1F		F-1N		F-2F		F-2N		F-3F		F-4F		F-5F		F-6F	
Lab ID:				AC35821-015		AC35821-016		AC35821-017		AC35821-018		AC35821-019		AC35821-021		AC35821-023		AC35821-025	
Collection Date:				2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008	
Sample Depth:				5 - 5.5		14 - 14.5		6.5 - 7		13.5 - 14		2 - 2.5		2.5 - 3		7 - 7.5		2.5 - 3	
Units:				Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
Volatile Organics																			
:TotalVolatileTic	---	---	---	10.89 J	NA			ND	NA			ND	NA	ND	NA	ND	NA	ND	NA
1,1,1-Trichloroethane	290	4,200	0.2	ND	0.13			ND	0.18			ND	0.12	ND	0.12	ND	0.15	ND	0.13
1,1,2,2-Tetrachloroethane	1	3	0.005	ND	0.13			ND	0.18			ND	0.12	ND	0.12	ND	0.15	ND	0.13
1,1,2-Trichloroethane	2	6	0.01	ND	0.13			ND	0.18			ND	0.12	ND	0.12	ND	0.15	ND	0.13
1,1-Dichloroethane	8	24	0.2	ND	0.13			ND	0.18			ND	0.12	ND	0.12	ND	0.15	ND	0.13
1,1-Dichloroethene	11	150	0.005	ND	0.13			ND	0.18			ND	0.12	ND	0.12	ND	0.15	ND	0.13
1,2-Dichlorobenzene	5,300	59,000	11	ND	0.13			ND	0.18			ND	0.12	ND	0.12	ND	0.15	ND	0.13
1,2-Dichloroethane	0.9	3	0.005	ND	0.064			ND	0.091			ND	0.058	ND	0.058	ND	0.075	ND	0.065
1,2-Dichloropropane	2	5	0.005	ND	0.13			ND	0.18			ND	0.12	ND	0.12	ND	0.15	ND	0.13
1,3-Dichlorobenzene	5,300	59,000	12	ND	0.13			ND	0.18			ND	0.12	ND	0.12	ND	0.15	ND	0.13
1,4-Dichlorobenzene	5	13	1	ND	0.13			ND	0.18			ND	0.12	ND	0.12	ND	0.15	ND	0.13
2-Butanone	3,100	44,000	0.6	ND	0.13			ND	0.18			ND	0.12	ND	0.12	ND	0.15	ND	0.13
2-Chloroethylvinylether	---	---	---	ND	0.64			ND	0.91			ND	0.58	ND	0.58	ND	0.75	ND	0.13
2-Hexanone	---	---	---	ND	0.13			ND	0.18			ND	0.12	ND	0.12	ND	0.15	ND	0.13
4-Methyl-2-Pentanone	---	---	---	ND	0.13			ND	0.18			ND	0.12	ND	0.12	ND	0.15	ND	0.13
Acetone	70,000	---	12	ND	0.64			ND	0.91			ND	0.58	ND	0.58	ND	0.75	ND	0.65
Acrolein	---	---	---	ND	0.64			ND	0.91			ND	0.58	ND	0.58	ND	0.75	ND	3.3
Acrylonitrile	---	---	---	ND	0.13			ND	0.18			ND	0.12	ND	0.12	ND	0.15	ND	0.13
Benzene	2	5	0.005	ND	0.064			ND	0.091			ND	0.058	ND	0.058	ND	0.075	ND	0.065
Bromodichloromethane	1	3	0.005	ND	0.13			ND	0.18			ND	0.12	ND	0.12	ND	0.15	ND	0.13
Bromoform	81	280	0.02	ND	0.13	NA		ND	0.18	NA		ND	0.12	ND	0.12	ND	0.15	ND	0.13
Bromomethane	25	59	0.03	ND	0.13			ND	0.18			ND	0.12	ND	0.12	ND	0.15	ND	0.13
Carbon disulfide	7,800	110,000	4	ND	0.13			ND	0.18			ND	0.12	ND	0.12	ND	0.15	ND	0.13
Carbon tetrachloride	0.6	2	0.005	ND	0.13			ND	0.18			ND	0.12	ND	0.12	ND	0.15	ND	0.13
Chlorobenzene	510	7,400	0.4	ND	0.13			ND	0.18			ND	0.12	ND	0.12	ND	0.15	ND	0.13
Chloroethane	220	1,100	---	ND	0.13			ND	0.18			ND	0.12	ND	0.12	ND	0.15	ND	0.13
Chloroform	0.6	2	0.2	ND	0.13			ND	0.18			ND	0.12	ND	0.12	ND	0.15	ND	0.13
Chloromethane	4	12	---	ND	0.13			ND	0.18			ND	0.12	ND	0.12	ND	0.15	ND	0.13
cis-1,2-Dichloroethene	230	560	0.2	ND	0.13			ND	0.18			ND	0.12	ND	0.12	ND	0.15	ND	0.13
cis-1,3-Dichloropropene	2	7	0.005	ND	0.13			ND	0.18			ND	0.12	ND	0.12	ND	0.15	ND	0.13
Dibromochloromethane	3	8	0.005	ND	0.13			ND	0.18			ND	0.12	ND	0.12	ND	0.15	ND	0.13
Ethylbenzene	7,800	110,000	8	ND	0.13			ND	0.18			ND	0.12	ND	0.12	ND	0.15	ND	0.13
m&p-Xylenes	12,000	170,000	12	ND	0.26			ND	0.36			ND	0.23	ND	0.23	ND	0.3	ND	0.26
Methylene chloride	34	97	0.007	ND	0.13			ND	0.18			ND	0.12	ND	0.12	ND	0.15	ND	0.13
o-Xylene	12,000	170,000	12	ND	0.13			ND	0.18			ND	0.12	ND	0.12	ND	0.15	ND	0.13
Styrene	90	260	2	ND	0.13			0.56	0.18			ND	0.12	ND	0.12	ND	0.15	ND	0.13
Tetrachloroethene	2	5	0.005	ND	0.13			ND	0.18			ND	0.12	ND	0.12	ND	0.15	ND	0.13
Toluene	6,300	91,000	4	ND	0.13			ND	0.18			ND	0.12	ND	0.12	ND	0.15	ND	0.13
trans-1,2-Dichloroethene	300	720	0.4	ND	0.13			ND	0.18			ND	0.12	ND	0.12	ND	0.15	ND	0.13
trans-1,3-dichloropropene	2	7	0.005	ND	0.13			ND	0.18			ND	0.12	ND	0.12	ND	0.15	ND	0.13
Trichloroethene	7	20	0.007	ND	0.13			ND	0.18			ND	0.12	ND	0.12	ND	0.15	ND	0.13
Vinyl chloride	0.7	2	0.005	ND	0.13			ND	0.18			ND	0.12	ND	0.12	ND	0.15	ND	0.13
Semi-Volatile Organic Compounds																			
:TotalSemiVolatileTic	---	---	---	215.7 J	NA			190.9 J	NA			49.8 J	NA	35.98 J	NA	100.57 J	NA	38.76 J	NA
1,2,4-Trichlorobenzene	73	820	0.4	ND	7.8	ND	1.2	ND	7.7	ND	1.1	ND	0.4	ND	0.4	ND	0.51	ND	0.41
1,2-Diphenylhydrazine				ND	7.8	ND	1.2	ND	7.7	ND	1.1	ND	0.4	ND	0.4	ND	0.51	ND	0.41
2,4,5-Trichlorophenol	6,100	68,000	44	ND	7.8	NA		ND	7.7	NA		ND	0.4	ND	0.4	ND	0.51	ND	0.41
2,4,6-Trichlorophenol	19	74	0.2	ND	7.8	NA		ND	7.7	NA		ND	0.4	ND	0.4	ND	0.51	ND	0.41
2,4-Dichlorophenol	180	2,100	0.2	ND	7.8	NA		ND	7.7	NA		ND	0.4	ND	0.4	ND	0.51	ND	0.41
2,4-Dimethylphenol	1,200	14,000	0.7	ND	7.8	NA		ND	7.7	NA		ND	0.4	ND	0.4	ND	0.51	ND	0.41
2,4-Dinitrophenol	120	1,400	0.3	ND	20	NA		ND	19	NA		ND	1	ND	1	ND	1.3	ND	1
2,4-Dinitrotoluene	0.7	3	0.2	ND	7.8	ND	1.2	ND	7.7	ND	1.1	ND	0.4	ND	0.4	ND	0.51	ND	0.41
2,6-Dinitrotoluene	0.7	3	0.2	ND	7.8	ND	1.2	ND	7.7	ND	1.1	ND	0.4	ND	0.4	ND	0.51	ND	0.41
2-Chloronaphthalene	---	---	---	ND	7.8	ND	1.2	ND	7.7	ND	1.1	ND	0.4	ND	0.4	ND	0.51	ND	0.41
2-Chlorophenol	310	2,200	0.5	ND	7.8	NA		ND	7.7	NA		ND	0.4	ND	0.4	ND	0.51	ND	0.41
2-Methylnaphthalene	230	2,400	5	ND	7.8	ND	1.2	ND	7.7	ND	1.1	ND	0.4	ND	0.4	ND	0.51	ND	0.41
2-Methylphenol	310	3,400	---	ND	7.8	NA		ND	7.7	NA		ND	0.4	ND	0.4	ND	0.51	ND	0.41
2-Nitroaniline	39	23,000	---	ND	7.8	ND	1.2	ND	7.7	ND	1.1	ND	0.4	ND	0.4	ND	0.51	ND	0.41
2-Nitrophenol	---	---	---	ND	7.8	NA		ND	7.7	NA		ND	0.4	ND	0.4	ND	0.51	ND	0.41
3&4-Methylphenol	31	340	---	ND	7.8	NA		ND	7.7	NA		ND	0.4	ND	0.4	ND	0.51	ND	0.41
3,3'-Dichlorobenzidine	1	4	0.2	ND	7.8	ND	1.2	ND	7.7	ND	1.1	ND	0.4	ND	0.4	ND	0.51	ND	0.41
3-Nitroaniline	---	---	---	ND	7.8	ND	1.2	ND	7.7	ND	1.1	ND	0.4	ND	0.4	ND	0.51	ND	0.41

Table 6a
AOC 15 - Historic Fill and Non-Historic Fill Analytical Results
Disney Parcel
East Rutherford, New Jersey

Client ID:	NJDEP Residential Soil Remediation Standards (mg/kg)	NJDEP Non-Residential Soil Remediation Standards (mg/kg)	NJDEP Impact to Groundwater Soil Remediation Standards (mg/kg)	F-1F		F-1N		F-2F		F-2N		F-3F		F-4F		F-5F		F-6F	
Lab ID:				AC35821-015		AC35821-016		AC35821-017		AC35821-018		AC35821-019		AC35821-021		AC35821-023		AC35821-025	
Collection Date:				2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008	
Sample Depth:				5 - 5.5		14 - 14.5		6.5 - 7		13.5 - 14		2 - 2.5		2.5 - 3		7 - 7.5		2.5 - 3	
Units:				Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
4,6-Dinitro-2-methylphenol	6	68	0.3	ND	20	NA		ND	19	NA		ND	1	ND	1	ND	1.3	ND	1
4-Bromophenyl-phenylether	---	---	---	ND	7.8	ND	1.2	ND	7.7	ND	1.1	ND	0.4	ND	0.4	ND	0.51	ND	0.41
4-Chloro-3-methylphenol	---	---	---	ND	7.8	NA		ND	7.7	NA		ND	0.4	ND	0.4	ND	0.51	ND	0.41
4-Chloroaniline	---	---	---	ND	7.8	ND	1.2	ND	7.7	ND	1.1	ND	0.4	ND	0.4	ND	0.51	ND	0.41
4-Chlorophenyl-phenylether	---	---	---	ND	7.8	ND	1.2	ND	7.7	ND	1.1	ND	0.4	ND	0.4	ND	0.51	ND	0.41
4-Nitroaniline	---	---	---	ND	7.8	ND	1.2	ND	7.7	ND	1.1	ND	0.4	ND	0.4	ND	0.51	ND	0.41
4-Nitrophenol	---	---	---	ND	7.8	NA		ND	7.7	NA		ND	0.4	ND	0.4	ND	0.51	ND	0.41
Acenaphthene	3,400	37,000	74	15	7.8	0.14 J	1.2	ND	7.7	ND	1.1	ND	0.4	ND	0.4	0.15 J	0.51	ND	0.41
Acenaphthylene	---	300,000	---	ND	7.8	ND	1.2	ND	7.7	ND	1.1	ND	0.4	ND	0.4	ND	0.51	ND	0.41
Anthracene	17,000	30,000	1,500	7.6 J	7.8	ND	1.2	ND	7.7	ND	1.1	ND	0.4	ND	0.4	0.13 J	0.51	ND	0.41
Benzidine	---	---	---	ND	7.8	ND	1.2	ND	7.7	ND	1.1	ND	0.4	ND	0.4	ND	0.51	ND	0.41
Benzo[a]anthracene	0.6	2	0.5	2.8 J	7.8	ND	1.2	ND	7.7	ND	1.1	ND	0.4	ND	0.4	0.11 J	0.51	ND	0.41
Benzo[a]pyrene	0.2	0.2	0.2	2.1 J	7.8	ND	1.2	ND	7.7	ND	1.1	ND	0.4	ND	0.4	0.11 J	0.51	ND	0.41
Benzo[b]fluoranthene	0.6	2	2	2.7 J	7.8	ND	1.2	ND	7.7	ND	1.1	ND	0.4	ND	0.4	0.18 J	0.51	0.059 J	0.41
Benzo[g,h,i]perylene	380,000	30,000	---	1.1 J	7.8	ND	1.2	ND	7.7	ND	1.1	ND	0.4	ND	0.4	0.099 J	0.51	ND	0.41
Benzo[k]fluoranthene	6	23	16	ND	7.8	ND	1.2	ND	7.7	ND	1.1	ND	0.4	ND	0.4	ND	0.51	ND	0.41
Bis(2-Chloroethoxy)methane	---	---	---	ND	7.8	ND	1.2	ND	7.7	ND	1.1	ND	0.4	ND	0.4	ND	0.51	ND	0.41
Bis(2-Chloroethyl)ether	0.4	2	0.2	ND	7.8	ND	1.2	ND	7.7	ND	1.1	ND	0.4	ND	0.4	ND	0.51	ND	0.41
Bis(2-Chloroisopropyl)ether	23	67	3	ND	7.8	ND	1.2	ND	7.7	ND	1.1	ND	0.4	ND	0.4	ND	0.51	ND	0.41
Bis(2-Ethylhexyl)phthalate	35	140	790	74	7.8	0.51 J	1.2	51	7.7	ND	1.1	0.087 J	0.4	ND	0.4	0.13 J	0.51	0.063 J	0.41
Butylbenzylphthalate	1,200	14,000	150	ND	7.8	ND	1.2	ND	7.7	ND	1.1	ND	0.4	ND	0.4	ND	0.51	ND	0.41
Carbazole	24	96	---	1.1 J	7.8	ND	1.2	ND	7.7	ND	1.1	ND	0.4	ND	0.4	ND	0.51	ND	0.41
Chrysene	62	230	52	2 J	7.8	ND	1.2	ND	7.7	ND	1.1	ND	0.4	ND	0.4	0.12 J	0.51	0.042 J	0.41
Dibenzo[a,h]anthracene	0.2	0.2	0.5	ND	7.8	ND	1.2	ND	7.7	ND	1.1	ND	0.4	ND	0.4	ND	0.51	ND	0.41
Dibenzofuran	---	---	---	6.7 J	7.8	ND	1.2	ND	7.7	ND	1.1	ND	0.4	ND	0.4	ND	0.51	ND	0.41
Diethylphthalate	49,000	550,000	57	1.3 J	7.8	ND	1.2	ND	7.7	ND	1.1	ND	0.4	ND	0.4	ND	0.51	ND	0.41
Dimethylphthalate	---	---	---	ND	7.8	ND	1.2	ND	7.7	ND	1.1	ND	0.4	ND	0.4	ND	0.51	ND	0.41
Di-n-butylphthalate	6,100	68,000	620	ND	7.8	ND	1.2	ND	7.7	ND	1.1	ND	0.4	ND	0.4	ND	0.51	ND	0.41
Di-n-octylphthalate	2,400	27,000	3,300	3.5 J	7.8	ND	1.2	ND	7.7	ND	1.1	ND	0.4	ND	0.4	ND	0.51	ND	0.41
Fluoranthene	2,300	24,000	840	8.3	7.8	ND	1.2	ND	7.7	ND	1.1	0.051 J	0.4	0.055 J	0.4	0.39 J	0.51	0.07 J	0.41
Fluorene	2,300	24,000	110	8.7	7.8	0.13 J	1.2	ND	7.7	ND	1.1	ND	0.4	ND	0.4	0.15 J	0.51	ND	0.41
Hexachlorobenzene	0.3	1	0.2	ND	7.8	ND	1.2	ND	7.7	ND	1.1	ND	0.4	ND	0.4	ND	0.51	ND	0.41
Hexachlorobutadiene	6	25	0.6	ND	7.8	ND	1.2	ND	7.7	ND	1.1	ND	0.4	ND	0.4	ND	0.51	ND	0.41
Hexachlorocyclopentadiene	45	110	210	ND	20	ND	3.1	ND	19	ND	2.8	ND	1	ND	1	ND	1.3	ND	1
Hexachloroethane	35	140	0.2	ND	7.8	ND	1.2	ND	7.7	ND	1.1	ND	0.4	ND	0.4	ND	0.51	ND	0.41
Indeno[1,2,3-cd]pyrene	0.6	2	5	1.1 J	7.8	ND	1.2	ND	7.7	ND	1.1	ND	0.4	ND	0.4	0.066 J	0.51	ND	0.41
Isophorone	510	2,000	0.2	ND	7.8	ND	1.2	ND	7.7	ND	1.1	ND	0.4	ND	0.4	ND	0.51	ND	0.41
Naphthalene	6	17	16	2.1 J	7.8	4.1	1.2	ND	7.7	ND	1.1	ND	0.4	ND	0.4	ND	0.51	ND	0.41
Nitrobenzene	31	340	0.2	ND	7.8	ND	1.2	ND	7.7	ND	1.1	ND	0.4	ND	0.4	ND	0.51	ND	0.41
N-Nitrosodimethylamine	0.2	0.3	0.2	ND	7.8	ND	1.2	ND	7.7	ND	1.1	ND	0.4	ND	0.4	ND	0.51	ND	0.41
N-Nitroso-di-n-propylamine	99	390	0.2	ND	7.8	ND	1.2	ND	7.7	ND	1.1	ND	0.4	ND	0.4	ND	0.51	ND	0.41
N-Nitrosodiphenylamine	---	---	---	ND	7.8	ND	1.2	ND	7.7	ND	1.1	ND	0.4	ND	0.4	ND	0.51	ND	0.41
Pentachlorophenol	3	10	0.3	ND	20	NA		ND	19	NA		ND	1	ND	1	ND	1.3	ND	1
Phenanthrene	---	300,000	---	17	7.8	0.41 J	1.2	ND	7.7	ND	1.1	0.041 J	0.4	ND	0.4	0.56	0.51	0.048 J	0.41
Phenol	18,000	210,000	5	ND	7.8	NA		ND	7.7	NA		ND	0.4	ND	0.4	ND	0.51	ND	0.41
Pyrene	1,700	18,000	550	7.2 J	7.8	0.17 J	1.2	ND	7.7	ND	1.1	0.057 J	0.4	ND	0.4	0.27 J	0.51	0.052 J	0.41
Metals																			
Mercury	23	65	0.1	8.5	0.26	NA		1.3	0.13			ND	0.1	ND	0.1	0.25	0.13	ND	0.1
Antimony	31	450	6	21	3.1	ND	7.4	6.3	3.1			ND	2.4	3.1	2.4	ND	3.1	ND	2.5
Arsenic	19	19	19	18	3.1	NA		7.2	3.1			6.3	2.4	7.7	2.4	4.8	3.1	6.3	2.5
Barium	16,000	59,000	1,300	980	16	82	37	180	15			81	12	76	12	70	15	83	12
Beryllium	16	140	0.5	ND	0.94	NA		0.99	0.92			ND	0.72	0.78	0.72	ND	0.92	ND	0.74
Cadmium	78	78	1	17	0.94	NA		17	0.92			ND	0.72	ND	0.72	ND	0.92	ND	0.74
Chromium	---	---	---	190	7.8	NA		75	7.7	NA		14	6	28	6	22	7.7	12	6.2
Copper	3,100	45,000	7,300	810	7.8	76	19	130	7.7			24	6	110	6	37	7.7	24	6.2
Lead	400	800	59	1300	7.8	73	19	250	7.7			35	6	26	6	62	7.7	29	6.2
Nickel	1,600	23,000	31	130	7.8	NA		45	7.7			11	6	37	6	14	7.7	13	6.2
Selenium	390	5,700	7	ND	2.8	NA		ND	2.8			ND	2.2	ND	2.2	ND	2.8	ND	2.2
Silver	390	5,700	1	12	2.3	NA		ND	2.3			ND	1.8	ND	1.8	ND	2.3	ND	1.9
Thallium	5	79	3	ND	1.9	NA		ND	1.8			ND	1.4	ND	1.4	ND	1.8	ND	1.5
Zinc	23,000	110,000	600	1700	16	110	37	580	15			49	12	43	12	150	15	54	12

Table 6a
AOC 15 - Historic Fill and Non-Historic Fill Analytical Results
Disney Parcel
East Rutherford, New Jersey

Client ID:	NJDEP Residential Soil Remediation Standards (mg/kg)	NJDEP Non-Residential Soil Remediation Standards (mg/kg)	NJDEP Impact to Groundwater Soil Remediation Standards (mg/kg)	F-1F		F-1N		F-2F		F-2N		F-3F		F-4F		F-5F		F-6F	
Lab ID:				AC35821-015		AC35821-016		AC35821-017		AC35821-018		AC35821-019		AC35821-021		AC35821-023		AC35821-025	
Collection Date:				2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008	
Sample Depth:				5 - 5.5		14 - 14.5		6.5 - 7		13.5 - 14		2 - 2.5		2.5 - 3		7 - 7.5		2.5 - 3	
Units:				Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
PCBS																			
Total PCBs	0.2	1	---	**3.59**		ND	0.093	**0.65**		ND	0.083	ND	0.03	ND	0.03	ND	0.038	ND	0.031
Aroclor-1016	0.2	1	0.2	ND	0.039	ND	0.093	ND	0.038	ND	0.083	ND	0.03	ND	0.03	ND	0.038	ND	0.031
Aroclor-1221	0.2	1	0.2	ND	0.039	ND	0.093	ND	0.038	ND	0.083	ND	0.03	ND	0.03	ND	0.038	ND	0.031
Aroclor-1232	0.2	1	0.2	ND	0.039	ND	0.093	ND	0.038	ND	0.083	ND	0.03	ND	0.03	ND	0.038	ND	0.031
Aroclor-1242	0.2	1	0.2	**2.9**	0.039	ND	0.093	ND	0.038	ND	0.083	ND	0.03	ND	0.03	ND	0.038	ND	0.031
Aroclor-1248	0.2	1	0.2	ND	0.039	ND	0.093	**0.54**	0.038	ND	0.083	ND	0.03	ND	0.03	ND	0.038	ND	0.031
Aroclor-1254	0.2	1	0.2	ND	0.039	ND	0.093	ND	0.038	ND	0.083	ND	0.03	ND	0.03	ND	0.038	ND	0.031
Aroclor-1260	0.2	1	0.2	**0.69**	0.039	ND	0.093	**0.11**	0.038	ND	0.083	ND	0.03	ND	0.03	ND	0.038	ND	0.031
Aroclor-1262	---	---	---	ND	0.039	ND	0.093	ND	0.038	ND	0.083	ND	0.03	ND	0.03	ND	0.038	ND	0.031
Pesticides																			
Aldrin	0.04	0.2	0.1	ND	0.0078	NA		ND	0.0077	NA		ND	0.006	ND	0.006	ND	0.0077	ND	0.0062
Alpha-BHC	0.1	0.5	0.002	ND	0.0078	NA		ND	0.0077	NA		ND	0.006	ND	0.006	ND	0.0077	ND	0.0062
beta-BHC	0.4	2	0.002	ND	0.0078	NA		ND	0.0077	NA		ND	0.006	ND	0.006	ND	0.0077	ND	0.0062
Chlordane	0.2	1	0.03	ND	0.016	NA		ND	0.015	NA		ND	0.012	ND	0.012	ND	0.015	ND	0.012
delta-BHC	---	---	---	ND	0.0078	NA		ND	0.0077	NA		ND	0.006	ND	0.006	ND	0.0077	ND	0.0062
Dieldrin	0.04	0.2	0.003	0.015	0.0078	NA		ND	0.0077	NA		ND	0.006	ND	0.006	ND	0.0077	ND	0.0062
Endosulfan I	470	6,800	2	ND	0.0078	NA		ND	0.0077	NA		ND	0.006	ND	0.006	ND	0.0077	ND	0.0062
Endosulfan II	470	6,800	2	ND	0.0078	NA		ND	0.0077	NA		ND	0.006	ND	0.006	ND	0.0077	ND	0.0062
Endosulfan Sulfate	470	6,800	1	ND	0.0078	NA		ND	0.0077	NA		ND	0.006	ND	0.006	ND	0.0077	ND	0.0062
Endrin	23	340	0.6	ND	0.0078	NA		ND	0.0077	NA		ND	0.006	ND	0.006	ND	0.0077	ND	0.0062
Endrin Aldehyde	---	---	---	ND	0.0078	NA		ND	0.0077	NA		ND	0.006	ND	0.006	ND	0.0077	ND	0.0062
Endrin Ketone	---	---	---	ND	0.0078	NA		ND	0.0077	NA		ND	0.006	ND	0.006	ND	0.0077	ND	0.0062
Gamma-BHC	0.4	2	0.002	ND	0.0078	NA		ND	0.0077	NA		ND	0.006	ND	0.006	ND	0.0077	ND	0.0062
Heptachlor	0.1	0.7	0.3	ND	0.0078	NA		ND	0.0077	NA		ND	0.006	ND	0.006	ND	0.0077	ND	0.0062
Heptachlor Epoxide	0.07	0.3	0.009	ND	0.0078	NA		ND	0.0077	NA		ND	0.006	ND	0.006	ND	0.0077	ND	0.0062
Methoxychlor	390	5,700	100	ND	0.0078	NA		ND	0.0077	NA		ND	0.006	ND	0.006	ND	0.0077	ND	0.0062
p,p'-DDD	3	13	3	0.039	0.0039	NA		0.0074	0.0038	NA		ND	0.003	ND	0.003	0.006	0.0038	ND	0.0031
p,p'-DDE	2	9	12	0.038	0.0039	NA		0.019	0.0038	NA		ND	0.003	ND	0.003	ND	0.0038	ND	0.0031
p,p'-DDT	2	8	7	ND	0.0039	NA		ND	0.0038	NA		ND	0.003	ND	0.003	ND	0.0038	ND	0.0031
Toxaphene	0.6	3	0.2	ND	0.039	NA		ND	0.038	NA		ND	0.03	ND	0.03	ND	0.038	ND	0.031
Other Parameters																			
Total Petroleum Hydrocarbons	5,100	5,100	5,100	5100	470	NA		1500	92	NA		160	72	97	72	170	92	200	74
Cyanide	1,600	23,000	13	1.6	0.39			1.2	0.38			ND	0.3	0.38	0.3	0.44	0.38	0.46	0.31
Total Phenolics	---	---	---	2.5	2			ND	1.9			ND	1.5	ND	1.5	2.2	1.9	ND	1.5

Notes:
Bold and Boxed with Yellow Highlight = Exceedance of NJDEP Residential or Non-Residential Soil Remediati
Bold and Boxed with Blue Highlight = Exceedance of NJDEP Impact to Groundwater Soil Remediation Stand
ND = Non-Detect
J = Value is an estimated concentration, analyte found below the method detection limit
NA = Not analyzed

Table 6b
AOC 15 - Historic and Non-Historic Fill Analytical Results
Disney Parcel
East Rutherford, New Jersey

Client ID:	NJDEP Residential Soil Remediation Standards (mg/kg)	NJDEP Non-Residential Soil Remediation Standards (mg/kg)	NJDEP Impact to Groundwater Soil Remediation Standards (mg/kg)	C-1F		C-1A		C-1B		C-1C		C-1D		C-1E-1	
Lab ID:				AC35821-003		11H0954-01		11H0954-02		11H0954-03		11H0954-04		11H0954-05	
Collection Date:				2/14/2008		8/25/2011		8/25/2011		8/25/2011		8/25/2011		8/25/2011	
Sample Depth:				3.5 - 4		3.5 - 4		3.5 - 4		3.5 - 4		3.5 - 4		6.5-7	
Units:				Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
TPH/EPH															
TPH/EPH	5,100	5,100	5,100	**7700**	370	375	120	191	105	477	96.6	ND	102	ND	459

Client ID:	NJDEP Residential Soil Remediation Standards (mg/kg)	NJDEP Non-Residential Soil Remediation Standards (mg/kg)	NJDEP Impact to Groundwater Soil Remediation Standards (mg/kg)	C-2F		C-2A		C-2B		C-2C		C-2D		C-2E-1	
Lab ID:				AC35821-005		11H0954-07		11H0954-08		11H0954-09		11H0954-10		11H0954-11	
Collection Date:				2/14/2008		8/25/2011		8/25/2011		8/25/2011		8/25/2011		8/25/2011	
Sample Depth:				3 - 3.5		3 - 3.5		3 - 3.5		3 - 3.5		3 - 3.5		8-8.5	
Units:				Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
Metals															
Antimony	31	450	6	**690**	2.5	ND	0.648	ND	0.629	ND	0.614	ND	0.633	ND	0.774

Client ID:	NJDEP Residential Soil Remediation Standards (mg/kg)	NJDEP Non-Residential Soil Remediation Standards (mg/kg)	NJDEP Impact to Groundwater Soil Remediation Standards (mg/kg)	F-1F		F-1A		F-1B		F-1C		F-1D	
Lab ID:				AC35821-015		11H0954-14		11H0954-15		11H0954-16		11H0954-17	
Collection Date:				2/14/2008		8/25/2011		8/25/2011		8/25/2011		8/25/2011	
Sample Depth:				5-5.5		5.-5.5		5.-5.5		5.-5.5		5.-5.5	
Units:				Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
PCBs													
Aroclor (Total)	0.2	1	---	**1.7**	0.078	ND	0.0277	ND	0.0252	ND	0.03	ND	0.0271
Aroclor-1016	0.2	1	0.2	ND	0.078	ND	0.0277	ND	0.0252	ND	0.03	ND	0.0271
Aroclor-1221	0.2	1	0.2	ND	0.078	ND	0.0277	ND	0.0252	ND	0.03	ND	0.0271
Aroclor-1232	0.2	1	0.2	ND	0.078	ND	0.0277	ND	0.0252	ND	0.03	ND	0.0271
Aroclor-1242	0.2	1	0.2	ND	0.078	ND	0.0277	ND	0.0252	ND	0.03	ND	0.0271
Aroclor-1248	0.2	1	0.2	ND	0.078	ND	0.0277	ND	0.0252	ND	0.03	ND	0.0271
Aroclor-1254	0.2	1	0.2	**1.2**	0.078	ND	0.0277	ND	0.0252	ND	0.03	ND	0.0271
Aroclor-1260	0.2	1	0.2	ND	0.078	ND	0.0277	ND	0.0252	ND	0.03	ND	0.0271
Aroclor-1262	---	---	---	0.53	0.078	ND	0.0277	ND	0.0252	ND	0.03	ND	0.0271
Aroclor-1268	---	---	---	ND	0.078	ND	0.0277	ND	0.0252	ND	0.03	ND	0.0271

Notes:
ND = Non-Detect
Bold and Boxed with Yellow Highlight = Exceedance of NJDEP Residnetial or Non-Residential Soil Remediation Standards

Table 7a
AOC 33 - Surfce Water Body Analytical Results
Disney Parcel
East Rutherford, New Jersey

Client ID:	NJDEP Residential Soil Remediation Standards (mg/kg)	NJDEP Non-Residential Soil Remediation Standards (mg/kg)	NJDEP Impact to Groundwater Soil Remediation Standards (mg/kg)	S-1A		S-1B		S-2A		S-2B		S-3A		S-3B		S-4A		S-4B		S-5A		S-5B	
Lab ID:				AC60251-009		AC60251-010		AC60251-007		AC60251-008		AC60251-005		AC60251-006		AC60251-003		AC60251-004		AC60251-001		AC60251-002	
Collection Date:				7/5/2011		7/5/2011		7/5/2011		7/5/2011		7/5/2011		7/5/2011		7/5/2011		7/5/2011		7/5/2011		7/5/2011	
Sample Depth:				0-6"		6-12"		0-6"		6-12"		0-6"		6-12"		0-6"		6-12"		0-6"		6-12"	
Units:				Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
Volatiles																							
:TotalVolatileTic	---	---	---			0.0080J	NA			ND	NA			ND	NA			ND	NA			0.026J	NA
1,1,1-Trichloroethane	290	4,200	0.2			ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
1,1,2,2-Tetrachloroethane	1	3	0.005			ND	0.0013			ND	0.0014			ND	0.0015			ND	0.0027			ND	0.0049
1,1,2-Trichloro-1,2,2-trifluoroethane	---	---	---			ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
1,1,2-Trichloroethane	2	6	0.01			ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
1,1-Dichloroethane	8	24	0.2			ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
1,1-Dichloroethene	11	150	0.005			ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
1,2,3-Trichlorobenzene	---	---	---			ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
1,2,4-Trichlorobenzene	73	820	0.4			ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
1,2-Dibromo-3-chloropropane	0.08	0.2	0.005			ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
1,2-Dibromoethane	0.008	0.04	0.005			ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
1,2-Dichlorobenzene	5,300	59,000	11			ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
1,2-Dichloroethane	0.9	3	0.005			ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
1,2-Dichloropropane	2	5	0.005			ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
1,3-Dichlorobenzene	5,300	59,000	12			ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
1,4-Dichlorobenzene	5	13	1			ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
1,4-Dioxane	---	---	---			ND	0.13			ND	0.14			ND	0.15			ND	0.27			ND	0.49
2-Butanone	3,100	44,000	0.6			ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			0.14	0.0098
2-Hexanone	---	---	---			ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
4-Methyl-2-pentanone	---	---	---			ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
Acetone	70,000	---	12			0.041	0.031			0.05	0.036			0.062	0.037			0.13	0.069			0.59	0.12
Benzene	2	5	0.005			ND	0.0013			ND	0.0014			ND	0.0015			ND	0.0027			ND	0.0049
Bromochloromethane	---	---	---			ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
Bromodichloromethane	1	3	0.005			ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
Bromoform	81	280	0.02			ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
Bromomethane	25	59	0.03			ND	0.0013			ND	0.0014			ND	0.0015			ND	0.0027			ND	0.0049
Carbon disulfide	7,800	110,000	4	NA		ND	0.0025	NA		ND	0.0029	NA		ND	0.0029	NA		ND	0.0055	NA		ND	0.0098
Carbon tetrachloride	0.6	2	0.005			ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
Chlorobenzene	510	7,400	0.4			ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
Chloroethane	220	1,100	NA			ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
Chloroform	0.6	2	0.2			ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
Chloromethane	4	12	NA			ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
cis-1,2-Dichloroethene	230	560	0.2			ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
cis-1,3-Dichloropropene	2	7	0.005			ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
Cyclohexane	---	---	---			ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
Dibromochloromethane	3	8	0.005			ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
Dichlorodifluoromethane	490	230,000	25			ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
Ethylbenzene	7,800	110,000	8			ND	0.0013			ND	0.0014			ND	0.0015			ND	0.0027			ND	0.0049
Isopropylbenzene	---	---	---			ND	0.0013			ND	0.0014			ND	0.0015			ND	0.0027			ND	0.0049
m&p-Xylenes	12,000	170,000	12			ND	0.0013			ND	0.0014			ND	0.0015			ND	0.0027			ND	0.0049
Methyl Acetate	78,000	NA	14			ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
Methylcyclohexane	---	---	---			ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
Methylene chloride	34	97	0.007			ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
Methyl-t-butyl ether	110	320	0.2			ND	0.00063			ND	0.00072			ND	0.00073			ND	0.0014			ND	0.0025
o-Xylene	12,000	170,000	12			ND	0.0013			ND	0.0014			ND	0.0015			ND	0.0027			ND	0.0049
Styrene	90	260	2			ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
Tetrachloroethene	2	5	0.005			ND	0.0013			ND	0.0014			ND	0.0015			ND	0.0027			ND	0.0049
Toluene	6,300	91,000	4			ND	0.0013			ND	0.0014			ND	0.0015			ND	0.0027			0.0072	0.0049
trans-1,2-Dichloroethene	300	720	0.4			ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
trans-1,3-Dichloropropene	2	7	0.005			ND	0.0013			ND	0.0014			ND	0.0015			ND	0.0027			ND	0.0049
Trichloroethene	7	20	0.007			ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
Trichlorofluoromethane	23,000	340,000	22			ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
Vinyl chloride	0.7	2	0.005			ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
Xylenes (Total)	12,000	170,000	12			ND	0.0013			ND	0.0014			ND	0.0015			ND	0.0027			ND	0.0049

Table 7a
AOC 33 - Surfce Water Body Analytical Results
Disney Parcel
East Rutherford, New Jersey

Client ID:	NJDEP Residential Soil Remediation Standards (mg/kg)	NJDEP Non-Residential Soil Remediation Standards (mg/kg)	NJDEP Impact to Groundwater Soil Remediation Standards (mg/kg)	S-1A		S-1B		S-2A		S-2B		S-3A		S-3B		S-4A		S-4B		S-5A		S-5B	
Lab ID:				AC60251-009		AC60251-010		AC60251-007		AC60251-008		AC60251-005		AC60251-006		AC60251-003		AC60251-004		AC60251-001		AC60251-002	
Collection Date:				7/5/2011		7/5/2011		7/5/2011		7/5/2011		7/5/2011		7/5/2011		7/5/2011		7/5/2011		7/5/2011		7/5/2011	
Sample Depth:				0-6"		6-12"		0-6"		6-12"		0-6"		6-12"		0-6"		6-12"		0-6"		6-12"	
Units:				Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
SemiVolatiles																							
:TotalSemiVolatileTic	---	---	---	71.0J	NA			78.0J	NA			210.0J	NA			130.0J	NA			270.0J	NA		
1,1'-Biphenyl	3,100	34,000	90	ND	0.045			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
1,2,4,5-Tetrachlorobenzene	---	---	---	ND	0.045			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
2,3,4,6-Tetrachlorophenol	---	---	---	ND	0.045			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
2,4,5-Trichlorophenol	6,100	68,000	44	ND	0.045			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
2,4,6-Trichlorophenol	19	74	0.2	ND	0.045			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
2,4-Dichlorophenol	180	2,100	0.2	ND	0.011			ND	0.014			ND	0.021			ND	0.02			ND	0.078		
2,4-Dimethylphenol	1,200	14,000	0.7	ND	0.045			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
2,4-Dinitrophenol	120	1,400	0.3	ND	0.23			ND	0.27			ND	0.43			ND	0.41			ND	1.6		
2,4-Dinitrotoluene	0.7	3	0.2	ND	0.045			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
2,6-Dinitrotoluene	0.7	3	0.2	ND	0.045			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
2-Chloronaphthalene	---	---	---	ND	0.045			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
2-Chlorophenol	310	2,200	0.5	ND	0.045			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
2-Methylnaphthalene	230	2,400	5	ND	0.045			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
2-Methylphenol	310	3,400	NA	ND	0.011			ND	0.014			ND	0.021			ND	0.02			ND	0.078		
2-Nitroaniline	39	23,000	NA	ND	0.045			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
2-Nitrophenol	---	---	---	ND	0.045			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
3&4-Methylphenol	31	340	NA	ND	0.011			ND	0.014			0.08	0.021			ND	0.02			ND	0.078		
3,3'-Dichlorobenzidine	1	4	0.2	ND	0.045			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
3-Nitroaniline	---	---	---	ND	0.045			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
4,6-Dinitro-2-methylphenol	6	68	0.3	ND	0.23			ND	0.27			ND	0.43			ND	0.41			ND	1.6		
4-Bromophenyl-phenylether	---	---	---	ND	0.045			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
4-Chloro-3-methylphenol	---	---	---	ND	0.045			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
4-Chloroaniline	---	---	---	ND	0.021			ND	0.026			ND	0.041			ND	0.039			ND	0.15		
4-Chlorophenyl-phenylether	---	---	---	ND	0.045			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
4-Nitroaniline	---	---	---	ND	0.045			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
4-Nitrophenol	---	---	---	ND	0.045			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
Acenaphthene	3,400	37,000	74	ND	0.045			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
Acenaphthylene	---	300,000	---	ND	0.045			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
Acetophenone	2	5	2	ND	0.045			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
Anthracene	17,000	30,000	1,500	ND	0.045			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
Atrazine	210	2,400	0.2	ND	0.045			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
Benzaldehyde	6,100	68,000	---	ND	0.045			ND	0.055			0.18	0.085			ND	0.081			ND	0.31		
Benzo[a]anthracene	0.6	2	0.5	ND	0.045			0.12	0.055			ND	0.085			0.2	0.081			ND	0.31		
Benzo[a]pyrene	0.2	0.2	0.2	ND	0.045			0.1	0.055			ND	0.085			0.19	0.081			ND	0.31		
Benzo[b]fluoranthene	0.6	2	2	0.055	0.045			0.14	0.055			0.11	0.085			0.29	0.081			0.36	0.31		
Benzo[g,h,i]perylene	380,000	30,000	---	ND	0.045			0.08	0.055			ND	0.085			0.18	0.081			ND	0.31		
Benzo[k]fluoranthene	6	23	16	ND	0.045			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
bis(2-Chloroethoxy)methane	---	---	---	ND	0.045			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
bis(2-Chloroethyl)ether	0.4	2	0.2	ND	0.011			ND	0.014			ND	0.021			ND	0.02			ND	0.078		
bis(2-Chloroisopropyl)ether	23	67	3	ND	0.045			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
bis(2-Ethylhexyl)phthalate	35	140	790	ND	0.045			ND	0.055			0.14	0.085			1.2	0.081			19	0.31		
Butylbenzylphthalate	1,200	14,000	150	ND	0.045			ND	0.055			ND	0.085			0.09	0.081			ND	0.31		
Caprolactam	31,000	340,000	8	ND	0.045			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
Carbazole	24	96	---	ND	0.045			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
Chrysene	62	230	52	0.046	0.045			0.12	0.055			ND	0.085			0.18	0.081			ND	0.31		
Dibenzo[a,h]anthracene	0.2	0.2	0.5	ND	0.045			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
Dibenzofuran	---	---	---	ND	0.011			ND	0.014			0.045	0.021			ND	0.02			ND	0.078		
Diethylphthalate	49,000	550,000	57	ND	0.045			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
Dimethylphthalate	---	---	---	ND	0.045			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
Di-n-butylphthalate	6,100	68,000	620	ND	0.045			ND	0.055			ND	0.085			0.14	0.081			ND	0.31		
Di-n-octylphthalate	2,400	27,000	3,300	ND	0.045			ND	0.055			ND	0.085			ND	0.081			1.6	0.31		
Fluoranthene	2,300	24,000	840	0.048	0.045			0.1	0.055			0.12	0.085			0.25	0.081			ND	0.31		
Fluorene	2,300	24,000	110	ND	0.045			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
Hexachlorobenzene	0.3	1	0.2	ND	0.045			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
Hexachlorobutadiene	6	25	0.6	ND	0.045			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
Hexachlorocyclopentadiene	45	110	210	ND	0.045			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
Hexachloroethane	35	140	0.2	ND	0.045			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
Indeno[1,2,3-cd]pyrene	0.6	2	5	ND	0.045			0.063	0.055			ND	0.085			0.13	0.081			ND	0.31		
Isophorone	510	2,000	0.2	ND	0.045			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
Naphthalene	6	17	16	ND	0.011			ND	0.014			ND	0.021			ND	0.02			ND	0.078		
Nitrobenzene	31	340	0.2	ND	0.045			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
N-Nitroso-di-n-propylamine	0.2	0.3	0.2	ND	0.011			ND	0.014			ND	0.021			ND	0.02			ND	0.078		
N-Nitrosodiphenylamine	99	390	0.2	ND	0.045			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
Pentachlorophenol	3	10	0.3	ND	0.23			ND	0.27			ND	0.43			ND	0.41			ND	1.6		
Phenanthrene	---	300,000	---	ND	0.045			ND	0.055			ND	0.085			0.12	0.081			ND	0.31		
Phenol	18,000	210,000	5	ND	0.045			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
Pyrene	1,700	18,000	550	0.058	0.045			0.13	0.055			0.099	0.085			0.27	0.081			ND	0.31		

Table 7a
AOC 33 - Surfce Water Body Analytical Results
Disney Parcel
East Rutherford, New Jersey

Client ID:	NJDEP Residential Soil Remediation Standards (mg/kg)	NJDEP Non-Residential Soil Remediation Standards (mg/kg)	NJDEP Impact to Groundwater Soil Remediation Standards (mg/kg)	S-1A		S-1B		S-2A		S-2B		S-3A		S-3B		S-4A		S-4B		S-5A		S-5B	
Lab ID:				AC60251-009		AC60251-010		AC60251-007		AC60251-008		AC60251-005		AC60251-006		AC60251-003		AC60251-004		AC60251-001		AC60251-002	
Collection Date:				7/5/2011		7/5/2011		7/5/2011		7/5/2011		7/5/2011		7/5/2011		7/5/2011		7/5/2011		7/5/2011		7/5/2011	
Sample Depth:				0-6"		6-12"		0-6"		6-12"		0-6"		6-12"		0-6"		6-12"		0-6"		6-12"	
Units:				Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
PCBs																							
Aroclor (Total)	0.2	1	---	ND	0.034			ND	0.041			ND	0.064			**0.34**	0.061	**1.6**	0.058	**1.7**	0.078	**3.5**	0.083
Aroclor-1016	0.2	1	0.2	ND	0.034			ND	0.041			ND	0.064			ND	0.061	ND	0.058	ND	0.078	ND	0.083
Aroclor-1221	0.2	1	0.2	ND	0.034			ND	0.041			ND	0.064			ND	0.061	ND	0.058	ND	0.078	ND	0.083
Aroclor-1232	0.2	1	0.2	ND	0.034			ND	0.041			ND	0.064			ND	0.061	ND	0.058	ND	0.078	ND	0.083
Aroclor-1242	0.2	1	0.2	ND	0.034	NA		ND	0.041	NA		ND	0.064	NA		ND	0.061	ND	0.058	ND	0.078	ND	0.083
Aroclor-1248	0.2	1	0.2	ND	0.034			ND	0.041			ND	0.064			0.12	0.061	ND	0.058	ND	0.078	ND	0.083
Aroclor-1254	0.2	1	0.2	ND	0.034			ND	0.041			ND	0.064			ND	0.061	ND	0.058	**1.2**	0.078	**2.6**	0.083
Aroclor-1260	0.2	1	0.2	ND	0.034			ND	0.041			ND	0.064			**0.22**	0.061	ND	0.058	ND	0.078	ND	0.083
Aroclor-1262	---	---	---	ND	0.034			ND	0.041			ND	0.064			ND	0.061	ND	0.058	0.53	0.078	**0.94**	0.083
Aroclor-1268	---	---	---	ND	0.034			ND	0.041			ND	0.064			ND	0.061	ND	0.058	ND	0.078	ND	0.083
Pesticides																							
Aldrin	0.04	0.2	0.1	ND	0.0068			ND	0.0082			ND	0.013			ND	0.012			ND	0.016	ND	0.017
Alpha-BHC	0.1	0.5	0.002	ND	0.0014			ND	0.0016			ND	0.0026			ND	0.0024			ND	0.0031	ND	0.0033
beta-BHC	0.4	2	0.002	ND	0.0014			ND	0.0016			ND	0.0026			ND	0.0024			ND	0.0031	ND	0.0033
Chlordane	0.2	1	0.03	ND	0.034			ND	0.041			ND	0.064			ND	0.061			**0.57**	0.078	ND	0.083
delta-BHC	---	---	---	ND	0.0068			ND	0.0082			ND	0.013			ND	0.012			ND	0.016	ND	0.017
Dieldrin	0.04	0.2	0.003	ND	0.0014			ND	0.0016			ND	0.0026			ND	0.0024			ND	0.0031	ND	0.0033
Endosulfan I	470	6,800	2	ND	0.0068			ND	0.0082			ND	0.013			ND	0.012			ND	0.016	ND	0.017
Endosulfan II	470	6,800	2	ND	0.0068			ND	0.0082			ND	0.013			ND	0.012			ND	0.016	ND	0.017
Endosulfan Sulfate	470	6,800	1	ND	0.0068			ND	0.0082			ND	0.013			ND	0.012			ND	0.016	ND	0.017
Endrin	23	340	0.6	ND	0.0068	NA		ND	0.0082	NA		ND	0.013	NA		ND	0.012	NA		ND	0.016	ND	0.017
Endrin Aldehyde	---	---	---	ND	0.0068			ND	0.0082			ND	0.013			ND	0.012			ND	0.016	ND	0.017
Endrin Ketone	---	---	---	ND	0.0068			ND	0.0082			ND	0.013			ND	0.012			ND	0.016	ND	0.017
gamma-BHC	0.4	2	0.002	ND	0.0014			ND	0.0016			ND	0.0026			ND	0.0024			ND	0.0031	ND	0.0033
Heptachlor	0.1	0.7	0.3	ND	0.0068			ND	0.0082			ND	0.013			ND	0.012			ND	0.016	ND	0.017
Heptachlor Epoxide	0.07	0.3	0.009	ND	0.0068			ND	0.0082			ND	0.013			ND	0.012			ND	0.016	ND	0.017
Methoxychlor	390	5,700	100	ND	0.0068			ND	0.0082			ND	0.013			ND	0.012			ND	0.016	ND	0.017
p,p'-DDD	3	13	3	ND	0.0034			ND	0.0041			ND	0.0064			ND	0.0061			0.036	0.0078	0.046	0.0083
p,p'-DDE	2	9	12	ND	0.0034			ND	0.0041			ND	0.0064			ND	0.0061			ND	0.0078	ND	0.0083
p,p'-DDT	2	8	7	ND	0.0034			ND	0.0041			ND	0.0064			ND	0.0061			ND	0.0078	ND	0.0083
Toxaphene	0.6	3	0.2	ND	0.034			ND	0.041			ND	0.064			ND	0.061			ND	0.078	ND	0.083
Metals																							
Mercury	23	65	0.1	ND	0.11	ND	0.1	**0.5**	0.14	**0.84**	0.12	**0.42**	0.21	ND	0.15	**2.3**	0.2	**2.5**	0.19	**6.2**	0.26	**6.6**	0.28
Aluminum	78,000	---	3,900	3,800	270	2,900	250	**13,000**	330	**11,000**	290	**6,500**	510	**6,200**	360	**9,000**	490	**14,000**	470	**6,500**	620	**6,300**	670
Antimony	31	450	6	ND	2.7	ND	2.5	ND	3.3	ND	2.9	ND	5.1	ND	3.6	**13**	4.9	**26**	4.7	**31**	6.2	**26**	6.7
Arsenic	19	19	19	ND	2.7	3.1	2.5	12	3.3	5.1	2.9	6.8	5.1	10	3.6	6.3	4.9	18	4.7	16	6.2	17	6.7
Barium	16,000	59,000	1,300	25	14	13	12	78	16	48	14	130	26	71	18	240	24	700	23	360	31	1,100	33
Beryllium	16	140	0.5	ND	0.81	ND	0.75	ND	0.98	ND	0.87	ND	1.5	ND	1.1	ND	1.5	ND	1.4	ND	1.9	ND	2
Cadmium	78	78	1	ND	0.81	ND	0.75	ND	0.98	ND	0.87	ND	1.5	ND	1.1	**6.9**	1.5	**7.9**	1.4	**13**	1.9	**31**	2
Calcium	---	---	---	ND	1,400	ND	1200	1,800	1,600	1,500	1400	5,900	2,600	ND	1800	6,200	2,400	5,200	2300	5,800	3,100	6,300	3,300
Chromium	---	---	---	12	6.8	8.2	6.2	49	8.2	24	7.2	34	13	ND	9.1	130	12	250	12	420	16	190	17
Cobalt	1,600	590	59	ND	3.4	ND	3.1	8.4	4.1	6	3.6	ND	6.4	ND	4.5	14	6.1	13	5.8	15	7.8	21	8.3
Copper	3,100	45,000	7,300	13	6.8	ND	6.2	47	8.2	22	7.2	86	13	9.1	9.1	560	12	850	12	1,200	16	1,400	17
Iron	---	---	---	8,200	270	17,000	250	23,000	330	24,000	290	23,000	510	29,000	360	74,000	490	120,000	470	69,000	620	80,000	670
Lead	400	800	59	24	6.8	8.1	6.2	**130**	8.2	33	7.2	**130**	13	27	9.1	**1,200**	12	**1,800**	12	**1,900**	16	**1,700**	17
Magnesium	---	---	---	1,300	680	1,100	620	4,900	820	4,300	720	2,900	1,300	1,300	910	3,900	1,200	3,000	1200	3,600	1,600	2,800	1,700
Manganese	11,000	5,900	42	**56**	14	39	12	**180**	16	**180**	14	**310**	26	**88**	18	**600**	24	**390**	23	**510**	31	**580**	33
Nickel	1,600	23,000	31	6.8	6.8	ND	6.2	24	8.2	17	7.2	17	13	ND	9.1	**150**	12	**150**	12	**120**	16	**130**	17
Potassium	---	---	---	ND	680	ND	620	1,800	820	1,300	720	1,500	1,300	ND	910	1,400	1,200	ND	1200	ND	1,600	ND	1,700
Selenium	390	5,700	7	ND	2.4	ND	2.2	ND	3	3.1	2.6	ND	4.6	ND	3.3	5.7	4.4	**9**	4.2	ND	5.6	**7.2**	6
Silver	390	5,700	1	ND	2	ND	1.9	ND	2.5	ND	2.2	ND	3.8	ND	2.7	**9**	3.7	**16**	3.5	**14**	4.7	**19**	5
Sodium	---	---	---	ND	340	ND	310	500	410	480	360	2,700	640	990	450	1,400	610	750	580	4,500	780	4,200	830
Thallium	5	79	3	ND	1.6	ND	1.5	ND	2	ND	1.7	ND	3.1	ND	2.2	ND	2.9	ND	2.8	ND	3.8	ND	4
Vanadium	78	1,100	---	ND	14	13	12	36	16	25	14	35	26	29	18	58	24	**130**	23	**140**	31	**120**	33
Zinc	23,000	110,000	600	30	14	24	12	100	16	55	14	120	26	35	18	**1,600**	24	**1,600**	23	**1,700**	31	**3,300**	33
EPH																							
C9-C40	5,100	5,100	5,100	120	81	NA		160	98	NA		240	150	NA		410	150	NA		1,800	380	NA	
Wet Chemistry																							
% Solids	---	---	---	74(Percent)		80(Percent)		61(Percent)		69(Percent)		39(Percent)		55(Percent)		41(Percent)		43(Percent)		32(Percent)		30(Percent)	
Cyanide	1,600	23,000	13	ND	0.32	NA		ND	0.39	NA		1.3	0.62	NA		0.92	0.59	NA		ND	0.75	NA	
Total Organic Carbon	---	---	---	17,000	160			39,000	200			124,000	310			149,000	290			186,000	380		
Other Parameters																							
Particle Size (USCS)				SC				MH				SC				SC				SC			

Notes:
ND = Non-Detect
Bold and Boxed with Yellow Highlight = Exceedance of NJDEP Residnetial or Non-Residential Soil Remediation Standards
Bold and Boxed with Blue Highlight = Exceedance of NJDEP Impact to Groundwater Soil Remediation Standards
J = Value is an estimated concentration, analyte found below the method detection limit

SC - Clayey sands; MH - Inorganic Silt

Table 7b
AOC 33 - Surface Water Body Analytical Results
Disney Parcel
East Rutherford, New Jersey

Client ID:	NJDEP Residential Soil Remediation Standards (mg/kg)	NJDEP Non-Residential Soil Remediation Standards (mg/kg)	NJDEP Impact to Groundwater Soil Remediation Standards (mg/kg)	S-4A		S-4B		S-4A		S-4B		S-4C		S-4D		S-4E	
Lab ID:				AC60251-003		AC60251-004		11H0862-05		11H0862-06		11H0862-07		11H0862-08		11H0862-09	
Collection Date:				7/5/2011		7/5/2011		8/22/2011		8/22/2011		8/22/2011		8/22/2011		8/22/2011	
Sample Depth:				0-0.5'		0.5-1'		0.5-1'		0.5-1'		0.5-1'		0.5-1'		1.5-2'	
Units:				Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
PCBs																	
Aroclor (Total)	0.2	1	---	**0.34**	0.061	**1.6**	0.058	**0.776**	0.0296	**0.253**	0.0234	**1.09**	0.03	ND	0.0301	**12.7**	0.058
Aroclor-1016	0.2	1	0.2	ND	0.061	ND	0.058	ND	0.0296	ND	0.0234	ND	0.03	ND	0.0301	ND	0.058
Aroclor-1221	0.2	1	0.2	ND	0.061	ND	0.058	ND	0.0296	ND	0.0234	ND	0.03	ND	0.0301	ND	0.058
Aroclor-1232	0.2	1	0.2	ND	0.061	ND	0.058	ND	0.0296	ND	0.0234	ND	0.03	ND	0.0301	ND	0.058
Aroclor-1242	0.2	1	0.2	ND	0.061	ND	0.058	ND	0.0296	ND	0.0234	ND	0.03	ND	0.0301	ND	0.058
Aroclor-1248	0.2	1	0.2	0.12	0.061	ND	0.058	0.199	0.0296	0.0683	0.0234	0.19	0.03	ND	0.0301	**4.71**	0.058
Aroclor-1254	0.2	1	0.2	ND	0.061	ND	0.058	0.232	0.0296	0.0975	0.0234	0.41	0.03	ND	0.0301	**2.36**	0.058
Aroclor-1260	0.2	1	0.2	**0.22**	0.061	ND	0.058	ND	0.0296	ND	0.0234	ND	0.03	ND	0.0301	ND	0.058
Aroclor-1262	---	---	---	ND	0.061	ND	0.058	0.345	0.0296	0.087	0.0234	0.493	0.03	ND	0.0301	**5.65**	0.058
Aroclor-1268	---	---	---	ND	0.061	ND	0.058	ND	0.0296	ND	0.0234	ND	0.03	ND	0.0301	ND	0.058

Client ID:	NJDEP Residential Soil Remediation Standards (mg/kg)	NJDEP Non-Residential Soil Remediation Standards (mg/kg)	NJDEP Impact to Groundwater Soil Remediation Standards (mg/kg)	S-5A		S-5B		S-5A		S-5B		S-5C		S-5D		S-5E	
Lab ID:				AC60251-001		AC60251-002		11H0862-01		11H0862-02		11H0862-03		11H0862-04		11H0954-19	
Collection Date:				7/5/2011		7/5/2011		8/22/2011		8/22/2011		8/22/2011		8/22/2011		8/25/2011	
Sample Depth:				0-0.5'		0.5-1'		0.5-1'		0.5-1'		0.5-1'		0.5-1'		3.5-4'	
Units:				Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
PCBs																	
Aroclor (Total)	0.2	1	---	**1.7**	0.078	**3.5**	0.083	0.101	0.0227	ND	0.125	**3.12**	0.043	**2.9**	0.0438	ND	0.0437
Aroclor-1016	0.2	1	0.2	ND	0.078	ND	0.083	ND	0.0227	ND	0.125	ND	0.043	ND	0.0438	ND	0.0437
Aroclor-1221	0.2	1	0.2	ND	0.078	ND	0.083	ND	0.0227	ND	0.125	ND	0.043	ND	0.0438	ND	0.0437
Aroclor-1232	0.2	1	0.2	ND	0.078	ND	0.083	ND	0.0227	ND	0.125	ND	0.043	ND	0.0438	ND	0.0437
Aroclor-1242	0.2	1	0.2	ND	0.078	ND	0.083	ND	0.0227	ND	0.125	ND	0.043	ND	0.0438	ND	0.0437
Aroclor-1248	0.2	1	0.2	ND	0.078	ND	0.083	ND	0.0227	ND	0.125	ND	0.043	ND	0.0438	ND	0.0437
Aroclor-1254	0.2	1	0.2	**1.2**	0.078	**2.6**	0.083	0.0296	0.0227	ND	0.125	**2.16**	0.043	**2.19**	0.0438	ND	0.0437
Aroclor-1260	0.2	1	0.2	ND	0.078	ND	0.083	ND	0.0227	ND	0.125	0.965	0.043	0.709	0.0438	ND	0.0437
Aroclor-1262	---	---	---	0.53	0.078	**0.94**	0.083	0.071	0.0227	ND	0.125	0.493	0.043	ND	0.0438	ND	0.0437
Aroclor-1268	---	---	---	ND	0.078	ND	0.083	ND	0.0227	ND	0.125	ND	0.043	ND	0.0438	ND	0.0437
Pesticides																	
Chlordane	0.2	1	0.03	**0.57**	0.078	ND	0.083	0.089	0.00132	ND	0.00132	**1.04**	0.00132	ND	0.00132	ND	0.00132

Notes:

ND = Non-Detect

Bold and Boxed with Yellow Highlight = Exceedance of NJDEP Residnetial or Non-Residential Soil Remediation Standards

Table 8
AOC 38 - Groundwater Analytical Results
Disney Parcel
East Rutherford, New Jersey

SampleID		NJDEP Class IIA GW Quality Standards	TMW-1		TMW-2		TMW-3		TMW-4	
YorkID			11H0954-13		11H0954-18		11H0954-20		11H0954-21	
Sampling Date			8/25/2011 11:20:00 AM		8/25/2011 1:30:00 PM		8/25/2011 2:10:00 PM		8/25/2011 3:00:00 PM	
DilutionFactor			1		2		10		10	
ClientMatrix		Water	Water		Water		Water		Water	
RptUnits		ug/L	ug/L		ug/L		ug/L		ug/L	
Compound	CASNumber		Result	Q	Result	Q	Result	Q	Result	Q
Volatile Organics, TCL (Target Compound List)		ug/L	ug/L		ug/L		ug/L		ug/L	
1,1,1-Trichloroethane	71-55-6	30	ND		ND		ND		ND	
1,1,2,2-Tetrachloroethane	79-34-5	1	ND		ND		ND		ND	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	76-13-1	~	ND		ND		ND		ND	
1,1,2-Trichloroethane	79-00-5	3	ND		ND		ND		ND	
1,1-Dichloroethane	75-34-3	50	ND		ND		ND		ND	
1,1-Dichloroethylene	75-35-4	1	ND		ND		ND		ND	
1,2,4-Trichlorobenzene	120-82-1	9	ND		ND		ND		ND	
1,2-Dibromo-3-chloropropane	96-12-8	0.02	ND		ND		ND		ND	
1,2-Dibromoethane	106-93-4	0.03	ND		ND		ND		ND	
1,2-Dichloroethane	107-06-2	2	ND		ND		ND		ND	
1,2-Dichloropropane	78-87-5	1	ND		ND		ND		ND	
2-Butanone	78-93-3	300	ND		ND		ND		ND	
2-Hexanone	591-78-6	300	ND		ND		ND		ND	
4-Methyl-2-pentanone	108-10-1	~	ND		ND		ND		ND	
Acetone	67-64-1	6000	ND		11	J,B,D,J, B	6.3	J,B,J, B	6.6	J,B,J, B
Benzene	71-43-2	1	ND		ND		ND		ND	
Bromodichloromethane	75-27-4	1	ND		ND		ND		ND	
Bromoform	75-25-2	4	ND		ND		ND		ND	
Bromomethane	74-83-9	10	ND		ND		ND		ND	
Carbon disulfide	75-15-0	700	1.4	J,J	1.9	J,D,J	1.2	J,J	ND	
Carbon tetrachloride	56-23-5	1	ND		ND		ND		ND	
Chlorobenzene	108-90-7	50	ND		9.4	J,D,J	6.6		ND	
Chloroethane	75-00-3	5	ND		ND		ND		ND	
Chloroform	67-66-3	70	ND		ND		ND		ND	
Chloromethane	74-87-3	~	1.8	J,J	ND		ND		ND	
cis-1,2-Dichloroethylene	156-59-2	70	ND		ND		ND		ND	
cis-1,3-Dichloropropylene	10061-01-5	1	ND		ND		ND		ND	
Dibromochloromethane	124-48-1	1	ND		ND		ND		ND	
Dichlorodifluoromethane	75-71-8	1000	ND		ND		ND		ND	
Ethyl Benzene	100-41-4	700	ND		ND		ND		0.97	J,J
Isopropylbenzene	98-82-8	700	ND		4.4	J,D,J	4.8	J,J	4.2	J,J
Methyl tert-butyl ether (MTBE)	1634-04-4	70	ND		ND		ND		ND	
Methylene chloride	75-09-2	3	6.8	J,B,J, B	11	J,B,D,J, B	7.4	J,B,J, B	6.3	J,B,J, B
o-Xylene	95-47-6	1000	ND		ND		ND		1.0	J,J
p- & m- Xylenes	1330-20-7P/M	1,000	ND		ND		ND		1.9	J,J
Styrene	100-42-5	100	ND		ND		ND		ND	
Tetrachloroethylene	127-18-4	1	ND		ND		ND		ND	
Toluene	108-88-3	600	ND		ND		ND		ND	
trans-1,2-Dichloroethylene	156-60-5	100	ND		ND		ND		ND	
trans-1,3-Dichloropropylene	10061-02-6	1	ND		ND		ND		ND	
Trichloroethylene	79-01-6	1	ND		ND		ND		ND	
Trichlorofluoromethane	75-69-4	2000	ND		ND		ND		ND	
Vinyl Chloride	75-01-4	1	ND		ND		ND		ND	
Xylenes, Total	1330-20-7	1000	ND		ND		ND		3.0	J,J
Semi-Volatiles, EPA TCL List		ug/L	ug/L		ug/L		ug/L		ug/L	
1,2,4-Trichlorobenzene	120-82-1	9	ND		ND		ND		ND	
1,2-Dichlorobenzene	95-50-1	600	ND		ND		ND		ND	
1,3-Dichlorobenzene	541-73-1	600	ND		ND		ND		ND	
1,4-Dichlorobenzene	106-46-7	75	ND		ND		ND		ND	
2,4,5-Trichlorophenol	95-95-4	700	ND		ND		ND		ND	
2,4,6-Trichlorophenol	88-06-2	20	ND		ND		ND		ND	
2,4-Dichlorophenol	120-83-2	20	ND		ND		ND		ND	
2,4-Dimethylphenol	105-67-9	100	ND		ND		ND		ND	
2,4-Dinitrophenol	51-28-5	40	ND		ND		ND		ND	
2,4-Dinitrotoluene	121-14-2	10	ND		ND		ND		ND	
2,6-Dinitrotoluene	606-20-2	10	ND		ND		ND		ND	
2-Chloronaphthalene	91-58-7	600	ND		ND		ND		ND	
2-Chlorophenol	95-57-8	40	ND		ND		ND		ND	
2-Methylnaphthalene	91-57-6	30	ND		ND		ND		16.5	
2-Methylphenol	95-48-7	~	ND		ND		ND		ND	
2-Nitroaniline	88-74-4	~	ND		ND		ND		ND	
2-Nitrophenol	88-75-5	~	ND		ND		ND		ND	
3,3'-Dichlorobenzidine	91-94-1	30	ND		ND		ND		ND	
3- & 4-Methylphenols	100-01-6	~	ND		ND		ND		ND	
3-Nitroaniline	99-09-2	~	ND		ND		ND		ND	
4,6-Dinitro-2-methylphenol	534-52-1	0.7	ND		ND		ND		ND	
4-Bromophenyl phenyl ether	101-55-3	~	ND		ND		ND		ND	
4-Chloro-3-methylphenol	59-50-7	100	ND		ND		ND		ND	
4-Chloroaniline	106-47-8	30	ND		ND		ND		ND	
4-Chlorophenyl phenyl ether	7005-72-3	~	ND		ND		ND		ND	
4-Nitroaniline	100-02-7	~	ND		ND		ND		ND	
4-Nitrophenol	56-57-5	~	ND		ND		ND		ND	
Acenaphthene	83-32-9	400	ND		5.14		ND		33.9	
Acenaphthylene	208-96-8	100	ND		ND		ND		ND	
Anthracene	120-12-7	2000	ND		ND		ND		5.34	J,J
Benzo(a)anthracene	56-55-3	0.1	ND		ND		ND		ND	
Benzo(a)pyrene	50-32-8	0.1	ND		ND		ND		ND	
Benzo(b)fluoranthene	205-99-2	0.2	ND		ND		ND		ND	
Benzo(g,h,i)perylene	191-24-2	100	ND		ND		ND		ND	
Benzo(k)fluoranthene	207-08-9	0.5	ND		ND		ND		ND	
Benzoic acid	65-85-0	30000	ND		ND		ND		ND	

Table 8
AOC 38 - Groundwater Analytical Results
Disney Parcel
East Rutherford, New Jersey

Benzyl alcohol	100-51-6	2000	ND		ND		ND		ND	
Benzyl butyl phthalate	85-68-7	100	ND		ND		ND		ND	
Bis(2-chloroethoxy)methane	111-91-1	~	ND		ND		ND		ND	
Bis(2-chloroethyl)ether	111-44-4	7	ND		ND		ND		ND	
Bis(2-chloroisopropyl)ether	108-60-1	300	ND		ND		ND		ND	
Bis(2-ethylhexyl)phthalate	117-81-7	3	ND		ND		11.0		9.38	
Chrysene	218-01-9	5	ND		ND		ND		ND	
Di-n-butyl phthalate	84-74-2	700	ND		ND		ND		ND	
Di-n-octyl phthalate	117-84-0	100	ND		ND		ND		ND	
Dibenzo(a,h)anthracene	53-70-3	0.3	ND		ND		ND		ND	
Dibenzofuran	132-64-9	~	ND		ND		ND		25.3	
Diethyl phthalate	84-66-2	6000	ND		ND		ND		ND	
Dimethyl phthalate	131-11-3	100	ND		ND		ND		ND	
Fluoranthene	206-44-0	300	3.72	J,J	ND		ND		13.9	
Fluorene	86-73-7	300	ND		ND		ND		31.4	
Hexachlorobenzene	118-74-1	0.02	ND		ND		ND		ND	
Hexachlorobutadiene	87-68-3	1	ND		ND		ND		ND	
Hexachlorocyclopentadiene	77-47-4	40	ND		ND		ND		ND	
Hexachloroethane	67-72-1	7	ND		ND		ND		ND	
Indeno(1,2,3-cd)pyrene	193-39-5	0.2	ND		ND		ND		ND	
Isophorone	78-59-1	40	ND		ND		ND		ND	
N-nitroso-di-n-propylamine	621-64-7	10	ND		ND		ND		ND	
N-Nitrosodiphenylamine	86-30-6	10	ND		ND		ND		ND	
Naphthalene	91-20-3	300	ND		ND		ND		70.8	
Nitrobenzene	98-95-3	6	ND		ND		ND		ND	
Pentachlorophenol	87-86-5	0.3	ND		ND		ND		ND	
Phenanthrene	85-01-8	100	ND		ND		ND		38.5	
Phenol	108-95-2	2000	ND		ND		ND		ND	
Pyrene	129-00-0	200	2.92	J,J	ND		ND		11.0	
Pesticides/PCBs, EPA TCL List		ug/L	ug/L		ug/L		ug/L		ug/L	
4,4'-DDD	72-54-8	0.1	ND		ND		ND		ND	
4,4'-DDE	72-55-9	0.1	ND		ND		ND		ND	
4,4'-DDT	50-29-3	0.1	ND		ND		ND		ND	
Aldrin	309-00-2	0.04	ND		ND		ND		ND	
alpha-BHC	319-84-6	0.02	ND		ND		ND		ND	
Aroclor 1016	12674-11-2	0.5	ND		ND		ND		ND	
Aroclor 1221	11104-28-2	0.5	ND		ND		ND		ND	
Aroclor 1232	11141-16-5	0.5	ND		ND		ND		ND	
Aroclor 1242	53469-21-9	0.5	ND		ND		ND		ND	
Aroclor 1248	12672-29-6	0.5	ND		ND		ND		ND	
Aroclor 1254	11097-69-1	0.5	ND		ND		ND		ND	
Aroclor 1260	11096-82-5	0.5	ND		ND		ND		ND	
Total PCBs	1336-36-3	0.5	ND		ND		ND		ND	
beta-BHC	319-85-7	0.04	ND		ND		ND		ND	
Chlordane, total	57-74-9	0.5	ND		ND		ND		ND	
delta-BHC	319-86-8	~	ND		ND		ND		ND	
Dieldrin	60-57-1	0.03	ND		ND		ND		ND	
Endosulfan I	959-98-8	40	ND		ND		ND		ND	
Endosulfan II	33213-65-9	40	ND		ND		ND		ND	
Endosulfan sulfate	1031-07-8	40	ND		ND		ND		ND	
Endrin	72-20-8	2	ND		ND		ND		ND	
Endrin aldehyde	7421-93-4	~	ND		ND		ND		ND	
Endrin ketone	53494-70-5	~	ND		ND		ND		ND	
gamma-BHC (Lindane)	58-89-9	0.03	ND		ND		ND		ND	
Heptachlor	76-44-8	0.05	ND		ND		ND		ND	
Heptachlor epoxide	1024-57-3	0.2	ND		ND		ND		ND	
Methoxychlor	72-43-5	40	ND		ND		ND		ND	
Toxaphene	8001-35-2	2	ND		ND		ND		ND	
Metals, Target Analyte		ug/L	ug/L		ug/L		ug/L		ug/L	
Aluminum	7429-90-5	200	3610		1360		8130		9230	
Antimony	7440-36-0	6	ND		ND		10		ND	
Arsenic	7440-38-2	3	ND		ND		ND		ND	
Barium	7440-39-3	6000	1130		929		6020		1500	
Beryllium	7440-41-7	1	ND		ND		ND		ND	
Cadmium	7440-43-9	4	ND		ND		11		ND	
Calcium	7440-70-2	~	140000		363000		285000		319000	
Chromium	7440-47-3	70	16		27		129		68	
Cobalt	7440-48-4	100	ND		14		26		14	
Copper	7440-50-8	1300	ND		8		116		ND	
Iron	7439-89-6	300	4850		35400		210000		238000	
Lead	7439-92-1	5	241		946		2630		78	
Magnesium	7439-95-4	~	70600		30500		122000		81400	
Manganese	7439-96-5	50	455		970		1990		3150	
Nickel	7440-02-0	100	ND		32		64		398	
Potassium	7440-09-7	~	21000		8130		49200		27600	
Selenium	7782-49-2	40	ND		21		47		58	
Silver	7440-22-4	40	ND		ND		ND		ND	
Sodium	7440-23-5	50000	360000		33200		686000		228000	
Thallium	7440-28-0	2	ND		ND		ND		ND	
Vanadium	7440-62-2	60	20		10		86		18	
Zinc	7440-66-6	2000	447		1020		3970		2150	
Mercury by 7470/7471		ug/L	ug/L		ug/L		ug/L		ug/L	
Mercury	7439-97-6	2	0.5000		1.500		3.3		ND	
NOTES:										
Any Regulatory Exceedences are color coded by Regulation										
Q is the Qualifier Column with definitions as follows:										
ND=analyte not detected above the reporting limit										
B=analyte found In the analysis batch blank										

Table 8
AOC 38 - Groundwater Analytical Results
Disney Parcel
East Rutherford, New Jersey

J=analyte detected at or above the MDL (method detection limit) but below the RL (Reporting Limit) - data is estimated									
D=result is from an analysis that required a dilution									

Table 9a
Ecological Soil Evaluation
Disney Parcel
East Rutherford, New Jersey

Client ID:	NJDEP Ecological Soil Screening Criteria (mg/kg)	E-1F		C-1F		C-2F		C-3F		C-4F		F-3F		F-4F		F-6F		D-1		D-2		D-3		D-4		D-5		S-1A	
Lab ID:		AC35821-001		AC35821-003		AC35821-005		AC35821-007		AC35821-009		AC35821-019		AC35821-021		AC35821-025		AC35821-027		AC35821-028		AC35821-029		AC35821-030		AC35821-031		AC60251-009	
Collection Date:		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		7/5/2011	
Sample Depth:		0 - 0.5		3.5 - 4		3 - 3.5		3 - 3.5		1 - 1.5		2 - 2.5		2.5 - 3		2.5 - 3		0 - 0.5		0 - 0.5		0 - 0.5		0 - 0.5		0 - 0.5		0-6"	
Units:		Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
Volatile Organics																													
:TotalVolatileTic	---			97.2 J	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA												
1,1,1-Trichloroethane	29.8			ND	0.22	ND	0.1	ND	0.084	ND	0.069	ND	0.12	ND	0.12	ND	0.13												
1,1,2,2-Tetrachloroethane	0.127			ND	0.22	ND	0.1	ND	0.084	ND	0.069	ND	0.12	ND	0.12	ND	0.13												
1,1,2-Trichloroethane	28.6			ND	0.22	ND	0.1	ND	0.084	ND	0.069	ND	0.12	ND	0.12	ND	0.13												
1,1-Dichloroethane	---			ND	0.22	ND	0.1	ND	0.084	ND	0.069	ND	0.12	ND	0.12	ND	0.13												
1,1-Dichloroethene	8.28			ND	0.22	ND	0.1	ND	0.084	ND	0.069	ND	0.12	ND	0.12	ND	0.13												
1,2,3-Trichlorobenzene	20			NA		NA		NA		NA		NA		NA		NA													
1,2,4-Trichlorobenzene	20			ND	1.2	ND	4.1	ND	0.43	ND	0.39	ND	0.4	ND	0.4	ND	0.41												
1,2-Dibromo-3-chloropropane	---			NA		NA		NA		NA		NA		NA		NA													
1,2-Dibromoethane	---			NA		NA		NA		NA		NA		NA		NA													
1,2-Dichlorobenzene	2.96			ND	0.22	ND	0.1	ND	0.084	ND	0.069	ND	0.12	ND	0.12	ND	0.13												
1,2-Dichloroethane	21.2			ND	0.11	ND	0.05	ND	0.042	ND	0.035	ND	0.058	ND	0.058	ND	0.065												
1,2-Dichloropropane	32.7			ND	0.22	ND	0.1	ND	0.084	ND	0.069	ND	0.12	ND	0.12	ND	0.13												
1,3-Dichlorobenzene	37.7			ND	0.22	ND	0.1	ND	0.084	ND	0.069	ND	0.12	ND	0.12	ND	0.13												
1,4-Dichlorobenzene	0.546			ND	0.22	ND	0.1	ND	0.084	ND	0.069	ND	0.12	ND	0.12	ND	0.13												
1,4-Dioxane	---			NA		NA		NA		NA		NA		NA		NA													
2-Butanone	---			ND	0.22	ND	0.1	ND	0.084	ND	0.069	ND	0.12	ND	0.12	ND	0.13												
2-Chloroethylvinylether	---			ND	1.1	ND	0.5	ND	0.42	ND	0.35	ND	0.58	ND	0.58	ND	0.13												
2-Hexanone	---			ND	0.22	ND	0.1	ND	0.084	ND	0.069	ND	0.12	ND	0.12	ND	0.13												
4-Methyl-2-Pentanone	---			ND	0.22	ND	0.1	ND	0.084	ND	0.069	ND	0.12	ND	0.12	ND	0.13												
Acetone	---			ND	1.1	ND	0.5	ND	0.42	ND	0.35	ND	0.58	ND	0.58	ND	0.65												
Acrolein	5.27			ND	1.1	ND	0.5	ND	0.42	ND	0.35	ND	0.58	ND	0.58	ND	3.3												
Acrylonitrile	0.0239			ND	0.22	ND	0.1	ND	0.084	ND	0.069	ND	0.12	ND	0.12	ND	0.13												
Benzene	0.255			ND	0.11	ND	0.05	ND	0.042	ND	0.035	ND	0.058	ND	0.058	ND	0.065												
Bromochloromethane	---			NA		NA		NA		NA		NA		NA		NA													
Bromodichloromethane	0.54			ND	0.22	ND	0.1	ND	0.084	ND	0.069	ND	0.12	ND	0.12	ND	0.13												
Bromoform	15.9			ND	0.22	ND	0.1	ND	0.084	ND	0.069	ND	0.12	ND	0.12	ND	0.13												
Bromomethane	0.235	NA		ND	0.22	ND	0.1	ND	0.084	ND	0.069	ND	0.12	ND	0.12	ND	0.13	NA		NA		NA		NA		NA		NA	
Carbon disulfide	---			ND	0.22	ND	0.1	ND	0.084	ND	0.069	ND	0.12	ND	0.12	ND	0.13												
Carbon tetrachloride	2.98			ND	0.22	ND	0.1	ND	0.084	ND	0.069	ND	0.12	ND	0.12	ND	0.13												
Chlorobenzene	13.1			ND	0.22	ND	0.1	ND	0.084	ND	0.069	ND	0.12	ND	0.12	ND	0.13												
Chloroethane	---			ND	0.22	ND	0.1	ND	0.084	ND	0.069	ND	0.12	ND	0.12	ND	0.13												
Chloroform	1.19			ND	0.22	ND	0.1	ND	0.084	ND	0.069	ND	0.12	ND	0.12	ND	0.13												
Chloromethane	---			ND	0.22	ND	0.1	ND	0.084	ND	0.069	ND	0.12	ND	0.12	ND	0.13												
cis-1,2-Dichloroethene	---			ND	0.22	ND	0.1	ND	0.084	ND	0.069	ND	0.12	ND	0.12	ND	0.13												
cis-1,3-Dichloropropene	---			ND	0.22	ND	0.1	ND	0.084	ND	0.069	ND	0.12	ND	0.12	ND	0.13												
Cyclohexane	---			NA		NA		NA		NA		NA		NA		NA													
Dibromochloromethane	2.05			ND	0.22	ND	0.1	ND	0.084	ND	0.069	ND	0.12	ND	0.12	ND	0.13												
Dichlorodifluoromethane	---			NA		NA		NA		NA		NA		NA		NA													
Ethylbenzene	5.16			ND	0.22	ND	0.1	ND	0.084	ND	0.069	ND	0.12	ND	0.12	ND	0.13												
Isopropylbenzene	---			NA		NA		NA		NA		NA		NA		NA													
m&p-Xylenes	---			ND	0.44	ND	0.2	ND	0.17	ND	0.14	ND	0.23	ND	0.23	ND	0.26												
Methyl Acetate	---			NA		NA		NA		NA		NA		NA		NA													
Methylcyclohexane	---			NA		NA		NA		NA		NA		NA		NA													
Methylene chloride	4.05			ND	0.22	ND	0.1	ND	0.084	ND	0.069	ND	0.12	ND	0.12	ND	0.13												
Methyl-t-butyl ether	---			NA		NA		NA		NA		NA		NA		NA													
o-Xylene	---			ND	0.22	ND	0.1	ND	0.084	ND	0.069	ND	0.12	ND	0.12	ND	0.13												
Styrene	4.69			ND	0.22	ND	0.1	ND	0.084	ND	0.069	ND	0.12	ND	0.12	ND	0.13												
Tetrachloroethene	9.92			ND	0.22	ND	0.1	ND	0.084	ND	0.069	ND	0.12	ND	0.12	ND	0.13												
Toluene	200			ND	0.22	ND	0.1	ND	0.084	ND	0.069	ND	0.12	ND	0.12	ND	0.13												
trans-1,2-Dichloroethene	0.784			ND	0.22	ND	0.1	ND	0.084	ND	0.069	ND	0.12	ND	0.12	ND	0.13												
trans-1,3-dichloropropene	---			ND	0.22	ND	0.1	ND	0.084	ND	0.069	ND	0.12	ND	0.12	ND	0.13												
Trichloroethene	12.4			ND	0.22	ND	0.1	ND	0.084	ND	0.069	ND	0.12	ND	0.12	ND	0.13												
Trichlorofluoromethane	---			NA		NA		NA		NA		NA		NA		NA													
Vinyl chloride	0.646			ND	0.22	ND	0.1	ND	0.084	ND	0.069	ND	0.12	ND	0.12	ND	0.13												
Xylenes (Total)	10			NA		NA		NA		NA		NA		NA		NA													
Semi-Volatile Organic Compounds																													
1,1'-Biphenyl	---	NA		NA		NA		NA		NA		NA		NA		NA												ND	0.045
1,2,4,5-Tetrachlorobenzene	2.02	NA		NA		NA		NA		NA		NA		NA		NA												ND	0.045
1,2-Diphenylhydrazine	---	NA		ND	1.2	ND	4.1	ND	0.43	ND	0.39	ND	0.4	ND	0.4	ND	0.41												NA	
2,3,4,6-Tetrachlorophenol	---	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		ND	0.045
2,4,5-Trichlorophenol	9	NA		ND	1.2	ND	4.1	ND	0.43	ND	0.39	ND	0.4	ND	0.4	ND	0.41												ND	0.045
2,4,6-Trichlorophenol	4	NA		ND	1.2	ND	4.1	ND	0.43	ND	0.39	ND	0.4	ND	0.4	ND	0.41												ND	0.045
2,4-Dichlorophenol	87.5	NA		ND	1.2	ND	4.1	ND	0.43	ND	0.39	ND	0.4	ND	0.4	ND	0.41												ND	0.011

Table 9a
Ecological Soil Evaluation
Disney Parcel
East Rutherford, New Jersey

Client ID:	NJDEP Ecological Soil Screening Criteria (mg/kg)	E-1F		C-1F		C-2F		C-3F		C-4F		F-3F		F-4F		F-6F		D-1		D-2		D-3		D-4		D-5		S-1A	
Lab ID:		AC35821-001		AC35821-003		AC35821-005		AC35821-007		AC35821-009		AC35821-019		AC35821-021		AC35821-025		AC35821-027		AC35821-028		AC35821-029		AC35821-030		AC35821-031		AC60251-009	
Collection Date:		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		7/5/2011	
Sample Depth:		0 - 0.5		3.5 - 4		3 - 3.5		3 - 3.5		1 - 1.5		2 - 2.5		2.5 - 3		2.5 - 3		0 - 0.5		0 - 0.5		0 - 0.5		0 - 0.5		0 - 0.5		0-6"	
Units:		Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
Semi-Volatile Organic Compounds																													
2,4-Dimethylphenol	0.01	NA		ND	1.2	ND	4.1	ND	0.43	ND	0.39	ND	0.4	ND	0.4	ND	0.41											ND	0.045
2,4-Dinitrophenol	0.0609	NA		ND	3	ND	10	ND	1.1	ND	0.97	ND	1	ND	1	ND	1											ND	0.23
2,4-Dinitrotoluene	1.28	NA		ND	1.2	ND	4.1	ND	0.43	ND	0.39	ND	0.4	ND	0.4	ND	0.41											ND	0.045
2,6-Dinitrotoluene	---	NA		ND	1.2	ND	4.1	ND	0.43	ND	0.39	ND	0.4	ND	0.4	ND	0.41											ND	0.045
2-Chloronaphthalene	---	NA		ND	1.2	ND	4.1	ND	0.43	ND	0.39	ND	0.4	ND	0.4	ND	0.41											ND	0.045
2-Chlorophenol	0.243	NA		ND	1.2	ND	4.1	ND	0.43	ND	0.39	ND	0.4	ND	0.4	ND	0.41											ND	0.045
2-Methylnaphthalene	3.24	NA		ND	1.2	ND	4.1	ND	0.43	ND	0.39	ND	0.4	ND	0.4	ND	0.41											ND	0.045
2-Methylphenol	---	NA		ND	1.2	ND	4.1	ND	0.43	ND	0.39	ND	0.4	ND	0.4	ND	0.41											ND	0.011
2-Nitroaniline	---	NA		ND	1.2	ND	4.1	ND	0.43	ND	0.39	ND	0.4	ND	0.4	ND	0.41											ND	0.045
2-Nitrophenol	---	NA		ND	1.2	ND	4.1	ND	0.43	ND	0.39	ND	0.4	ND	0.4	ND	0.41											ND	0.045
3&4-Methylphenol	---	NA		ND	1.2	ND	4.1	ND	0.43	ND	0.39	ND	0.4	ND	0.4	ND	0.41											ND	0.011
3,3'-Dichlorobenzidine	0.646	NA		ND	1.2	ND	4.1	ND	0.43	ND	0.39	ND	0.4	ND	0.4	ND	0.41											ND	0.045
3-Nitroaniline	---	NA		ND	1.2	ND	4.1	ND	0.43	ND	0.39	ND	0.4	ND	0.4	ND	0.41											ND	0.045
4,6-Dinitro-2-methylphenol	---	NA		ND	3	ND	10	ND	1.1	ND	0.97	ND	1	ND	1	ND	1											ND	0.23
4-Bromophenyl-phenylether	---	NA		ND	1.2	ND	4.1	ND	0.43	ND	0.39	ND	0.4	ND	0.4	ND	0.41											ND	0.045
4-Chloro-3-methylphenol	---	NA		ND	1.2	ND	4.1	ND	0.43	ND	0.39	ND	0.4	ND	0.4	ND	0.41											ND	0.045
4-Chloroaniline	---	NA		ND	1.2	ND	4.1	ND	0.43	ND	0.39	ND	0.4	ND	0.4	ND	0.41											ND	0.021
4-Chlorophenyl-phenylether	---	NA		ND	1.2	ND	4.1	ND	0.43	ND	0.39	ND	0.4	ND	0.4	ND	0.41											ND	0.045
4-Nitroaniline	---	NA		ND	1.2	ND	4.1	ND	0.43	ND	0.39	ND	0.4	ND	0.4	ND	0.41											ND	0.045
4-Nitrophenol	5.12	NA		ND	1.2	ND	4.1	ND	0.43	ND	0.39	ND	0.4	ND	0.4	ND	0.41											ND	0.045
Acenaphthene	20	ND	0.37	1.1 J	1.2	ND	4.1	ND	0.43	ND	0.39	ND	0.4	ND	0.4	ND	0.41											ND	0.045
Acenaphthylene	682	ND	0.37	ND	1.2	ND	4.1	ND	0.43	ND	0.39	ND	0.4	ND	0.4	ND	0.41											ND	0.045
Acetophenone	---	NA		NA		NA		NA		NA		NA		NA		NA												ND	0.045
Anthracene	1480	ND	0.37	1.9	1.2	ND	4.1	ND	0.43	0.05 J	0.39	ND	0.4	ND	0.4	ND	0.41											ND	0.045
Atrazine	---	NA		NA		NA		NA		NA		NA		NA		NA												ND	0.045
Benzaldehyde	---	NA		NA		NA		NA		NA		NA		NA		NA												ND	0.045
Benzidine	---	NA		ND	1.2	ND	4.1	ND	0.43	ND	0.39	ND	0.4	ND	0.4	ND	0.41											NA	
Benzo[a]anthracene	5.21	ND	0.37	3.2	1.2	ND	4.1	0.043 J	0.43	0.16 J	0.39	ND	0.4	ND	0.4	ND	0.41											ND	0.045
Benzo[a]pyrene	1.52	ND	0.37	2.8	1.2	ND	4.1	ND	0.43	0.14 J	0.39	ND	0.4	ND	0.4	ND	0.41											ND	0.045
Benzo[b]fluoranthene	59.8	ND	0.37	3.3	1.2	ND	4.1	0.052 J	0.43	0.18 J	0.39	ND	0.4	ND	0.4	0.059 J	0.41											0.055	0.045
Benzo[g,h,i]perylene	119	ND	0.37	1.6	1.2	ND	4.1	ND	0.43	0.1 J	0.39	ND	0.4	ND	0.4	ND	0.41											ND	0.045
Benzo[k]fluoranthene	148	ND	0.37	1.2 J	1.2	ND	4.1	ND	0.43	0.07 J	0.39	ND	0.4	ND	0.4	ND	0.41											ND	0.045
Bis(2-Chloroethoxy)methane	---	NA		ND	1.2	ND	4.1	ND	0.43	ND	0.39	ND	0.4	ND	0.4	ND	0.41											ND	0.045
Bis(2-Chloroethyl)ether	23.7	NA		ND	1.2	ND	4.1	ND	0.43	ND	0.39	ND	0.4	ND	0.4	ND	0.41											ND	0.011
Bis(2-Chloroisopropyl)ether	19.9	NA		ND	1.2	ND	4.1	ND	0.43	ND	0.39	ND	0.4	ND	0.4	ND	0.41											ND	0.045
Bis(2-Ethylhexyl)phthalate	0.925	NA		ND	1.2	ND	4.1	0.055 J	0.43	0.051 J	0.39	0.087 J	0.4	ND	0.4	0.063 J	0.41											ND	0.045
Butylbenzylphthalate	0.239	NA		ND	1.2	ND	4.1	ND	0.43	ND	0.39	ND	0.4	ND	0.4	ND	0.41											ND	0.045
Caprolactam	---	NA		NA		NA		NA		NA		NA		NA		NA												ND	0.045
Carbazole	---	NA		0.58 J	1.2	ND	4.1	ND	0.43	ND	0.39	ND	0.4	ND	0.4	ND	0.41											ND	0.045
Chrysene	4.73	ND	0.37	2.8	1.2	ND	4.1	ND	0.43	0.14 J	0.39	ND	0.4	ND	0.4	0.042 J	0.41											0.046	0.045
Dibenzo[a,h]anthracene	18.4	ND	0.37	0.52 J	1.2	ND	4.1	ND	0.43	ND	0.39	ND	0.4	ND	0.4	ND	0.41											ND	0.045
Dibenzofuran	---	NA		0.77 J	1.2	ND	4.1	ND	0.43	ND	0.39	ND	0.4	ND	0.4	ND	0.41											ND	0.011
Diethylphthalate	24.8	NA		ND	1.2	ND	4.1	ND	0.43	ND	0.39	ND	0.4	ND	0.4	ND	0.41											ND	0.045
Dimethylphthalate	---	NA		ND	1.2	23	4.1	ND	0.43	ND	0.39	ND	0.4	ND	0.4	ND	0.41											ND	0.045
Di-n-butylphthalate	0.15	NA		ND	1.2	1.9 J	4.1	ND	0.43	ND	0.39	ND	0.4	ND	0.4	ND	0.41											ND	0.045
Di-n-octylphthalate	---	NA		ND	1.2	ND	4.1	ND	0.43	ND	0.39	ND	0.4	ND	0.4	ND	0.41											ND	0.045
Fluoranthene	122	ND	0.37	8.5	1.2	ND	4.1	0.068 J	0.43	0.28 J	0.39	0.051 J	0.4	0.055 J	0.4	0.07 J	0.41											0.048	0.045
Fluorene	122	ND	0.37	1 J	1.2	ND	4.1	ND	0.43	ND	0.39	ND	0.4	ND	0.4	ND	0.41											ND	0.045
Hexachlorobenzene	0.199	NA		ND	1.2	ND	4.1	ND	0.43	ND	0.39	ND	0.4	ND	0.4	ND	0.41											ND	0.045
Hexachlorobutadiene	0.0398	NA		ND	1.2	ND	4.1	ND	0.43	ND	0.39	ND	0.4	ND	0.4	ND	0.41											ND	0.045
Hexachlorocyclopentadiene	0.755	NA		ND	3	ND	10	ND	1.1	ND	0.97	ND	1	ND	1	ND	1											ND	0.045
Hexachloroethane	0.596	NA		ND	1.2	ND	4.1	ND	0.43	ND	0.39	ND	0.4	ND	0.4	ND	0.41											ND	0.045
Indeno[1,2,3-cd]pyrene	109	ND	0.37	1.4	1.2	ND	4.1	ND	0.43	0.09 J	0.39	ND	0.4	ND	0.4	ND	0.41											ND	0.045
Isophorone	139	NA		ND	1.2	ND	4.1	ND	0.43	ND	0.39	ND	0.4	ND	0.4	ND	0.41											ND	0.045
Naphthalene	0.0994	ND	0.37	1.6	1.2	ND	4.1	ND	0.43	ND	0.39	ND	0.4	ND	0.4	ND	0.41											ND	0.011
Nitrobenzene	1.31	NA		ND	1.2	ND	4.1	ND	0.43	ND	0.39	ND	0.4	ND	0.4	ND	0.41											ND	0.045
N-Nitrosodimethylamine	0.0000321	NA		ND	1.2	ND	4.1	ND	0.43	ND	0.39	ND	0.4	ND	0.4	ND	0.41											NA	
N-Nitroso-di-n-propylamine	---	NA		ND	1.2	ND	4.1	ND	0.43	ND	0.39	ND	0.4	ND	0.4	ND	0.41											ND	0.011
N-Nitrosodiphenylamine	0.545	NA		ND	1.2	ND	4.1	ND	0.43	ND	0.39	ND	0.4	ND	0.4	ND	0.41											ND	0.045
Pentachlorophenol	0.119	NA		ND	3	ND	10	ND	1.1	ND	0.97	ND	1	ND	1	ND	1											ND	0.23
Phenanthrene	45.7	ND	0.37	7.7	1.2	ND	4.1	ND	0.43	0.13 J	0.39	0.041 J	0.4	ND	0.4	0.048 J	0.41											ND	0.045
Phenol	30	NA		ND	1.2	ND	4.1	ND	0.43	ND	0.39	ND	0.4	ND	0.4	ND	0.41											ND	0.045
Pyrene	78.5	ND	0.37	6.8	1.2	ND	4.1	0.064 J	0.43	0.24 J	0.39	0.057 J	0.4	ND	0.4	0.052 J	0.41											0.058	0.045

Table 9a
Ecological Soil Evaluation
Disney Parcel
East Rutherford, New Jersey

Client ID:	NJDEP Ecological Soil Screening Criteria (mg/kg)	E-1F		C-1F		C-2F		C-3F		C-4F		F-3F		F-4F		F-6F		D-1		D-2		D-3		D-4		D-5		S-1A	
Lab ID:		AC35821-001		AC35821-003		AC35821-005		AC35821-007		AC35821-009		AC35821-019		AC35821-021		AC35821-025		AC35821-027		AC35821-028		AC35821-029		AC35821-030		AC35821-031		AC60251-009	
Collection Date:		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		7/5/2011	
Sample Depth:		0 - 0.5		3.5 - 4		3 - 3.5		3 - 3.5		1 - 1.5		2 - 2.5		2.5 - 3		2.5 - 3		0 - 0.5		0 - 0.5		0 - 0.5		0 - 0.5		0 - 0.5		0-6"	
Units:		Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
Metals																													
Mercury	0.00051			0.17	0.1	1.1	0.1	0.14	0.11	0.21	0.097	ND	0.1	ND	0.1	ND	0.1											ND	0.11
Aluminum[1]	50			NA		NA		NA		NA		NA		NA		NA												3,800	270
Antimony	5			ND	2.4	690	2.5	ND	2.6	ND	2.3	ND	2.4	3.1	2.4	ND	2.5											ND	2.7
Arsenic	9.9			5.5	2.4	13	2.5	4.2	2.6	2.6	2.3	6.3	2.4	7.7	2.4	6.3	2.5											ND	2.7
Barium	283			490	12	210	12	84	13	58	12	81	12	76	12	83	12											25	14
Beryllium	10			ND	0.73	ND	0.74	ND	0.78	ND	0.7	ND	0.72	0.78	0.72	ND	0.74											ND	0.81
Cadmium	4			0.88	0.73	1.9	0.74	ND	0.78	ND	0.7	ND	0.72	ND	0.72	ND	0.74											ND	0.81
Calcium	---			NA		NA		NA		NA		NA		NA		NA												ND	1,400
Chromium	0.4			16	6.1	37	6.2	20	6.5	17	5.8	14	6	28	6	12	6.2											12	6.8
Cobalt	0.14			NA		NA		NA		NA		NA		NA		NA												ND	3.4
Copper	5.4	NA		45	6.1	81	6.2	92	6.5	22	5.8	24	6	110	6	24	6.2											13	6.8
Iron	---			NA		NA		NA		NA		NA		NA		NA												8,200	270
Lead	50			390	6.1	4800	6.2	87	6.5	57	5.8	35	6	26	6	29	6.2											24	6.8
Magnesium	---			NA		NA		NA		NA		NA		NA		NA												1,300	680
Manganese	---			NA		NA		NA		NA		NA		NA		NA												56	14
Nickel	13.6			11	6.1	34	6.2	10	6.5	14	5.8	11	6	37	6	13	6.2											6.8	6.8
Potassium	---			NA		NA		NA		NA		NA		NA		NA												ND	680
Selenium	0.0276			ND	2.2	ND	2.2	ND	2.3	ND	2.1	ND	2.2	ND	2.2	ND	2.2											ND	2.4
Silver	2			ND	1.8	2	1.9	ND	1.9	ND	1.7	ND	1.8	ND	1.8	ND	1.9											ND	2
Sodium	---			NA		NA		NA		NA		NA		NA		NA												ND	340
Thallium	1			ND	1.5	ND	1.5	ND	1.6	ND	1.4	ND	1.4	ND	1.4	ND	1.5											ND	1.6
Vanadium	2			NA		NA		NA		NA		NA		NA		NA												ND	14
Zinc	6.62			340	12	480	12	46	13	59	12	49	12	43	12	54	12											30	14
PCBS																													
Total PCBs	0.371			ND		0.2		0.36		0.35		ND	0.03	ND	0.03	ND	0.031	0.45	0.034	ND	0.029	ND	0.027	ND	0.027	ND	0.027	ND	0.034
Aroclor-1016	---	ND	0.028	ND	0.03	ND	0.031	ND	0.032	ND	0.029	ND	0.03	ND	0.03	ND	0.031	ND	0.034	ND	0.029	ND	0.027	ND	0.027	ND	0.027	ND	0.034
Aroclor-1221	---	ND	0.028	ND	0.03	ND	0.031	ND	0.032	ND	0.029	ND	0.03	ND	0.03	ND	0.031	ND	0.034	ND	0.029	ND	0.027	ND	0.027	ND	0.027	ND	0.034
Aroclor-1232	---	ND	0.028	ND	0.03	ND	0.031	ND	0.032	ND	0.029	ND	0.03	ND	0.03	ND	0.031	ND	0.034	ND	0.029	ND	0.027	ND	0.027	ND	0.027	ND	0.034
Aroclor-1242	---	ND	0.028	ND	0.03	ND	0.031	ND	0.032	ND	0.029	ND	0.03	ND	0.03	ND	0.031	ND	0.034	ND	0.029	ND	0.027	ND	0.027	ND	0.027	ND	0.034
Aroclor-1248	---	ND	0.028	ND	0.03	ND	0.031	0.28	0.032	0.08	0.029	ND	0.03	ND	0.03	ND	0.031	ND	0.034	ND	0.029	ND	0.027	ND	0.027	ND	0.027	ND	0.034
Aroclor-1254	---	ND	0.028	ND	0.03	ND	0.031	ND	0.032	ND	0.029	ND	0.03	ND	0.03	ND	0.031	ND	0.034	ND	0.029	ND	0.027	ND	0.027	ND	0.027	ND	0.034
Aroclor-1260	---	ND	0.028	ND	0.03	0.2	0.031	0.076	0.032	0.27	0.029	ND	0.03	ND	0.03	ND	0.031	ND	0.034	ND	0.029	ND	0.027	ND	0.027	ND	0.027	ND	0.034
Aroclor-1262	---	ND	0.028	ND	0.03	ND	0.031	ND	0.032	ND	0.029	ND	0.03	ND	0.03	ND	0.031	0.45	0.034	0.098	0.029	0.045	0.027	ND	0.027	ND	0.027	ND	0.034
Aroclor-1268	---	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		ND	0.034
Pesticides																													
Aldrin	0.00332			ND	0.0061	ND	0.0062	ND	0.0065	ND	0.0058	ND	0.006	ND	0.006	ND	0.0062											ND	0.0068
Alpha-BHC	0.0994			ND	0.0061	ND	0.0062	ND	0.0065	ND	0.0058	ND	0.006	ND	0.006	ND	0.0062											ND	0.0014
beta-BHC	0.00398			ND	0.0061	ND	0.0062	ND	0.0065	ND	0.0058	ND	0.006	ND	0.006	ND	0.0062											ND	0.0014
Chlordane	0.224			0.03	0.012	ND	0.012	ND	0.013	ND	0.012	ND	0.012	ND	0.012	ND	0.012											ND	0.034
delta-BHC	---			ND	0.0061	ND	0.0062	ND	0.0065	ND	0.0058	ND	0.006	ND	0.006	ND	0.0062											ND	0.0068
Dieldrin	0.00238			ND	0.0061	ND	0.0062	ND	0.0065	ND	0.0058	ND	0.006	ND	0.006	ND	0.0062											ND	0.0014
Endosulfan I	---			ND	0.0061	ND	0.0062	ND	0.0065	ND	0.0058	ND	0.006	ND	0.006	ND	0.0062											ND	0.0068
Endosulfan II	---			ND	0.0061	ND	0.0062	ND	0.0065	ND	0.0058	ND	0.006	ND	0.006	ND	0.0062											ND	0.0068
Endosulfan Sulfate	0.0358			ND	0.0061	ND	0.0062	ND	0.0065	ND	0.0058	ND	0.006	ND	0.006	ND	0.0062											ND	0.0068
Endrin	0.0101	NA		ND	0.0061	ND	0.0062	ND	0.0065	ND	0.0058	ND	0.006	ND	0.006	ND	0.0062											ND	0.0068
Endrin Aldehyde	0.0105			ND	0.0061	ND	0.0062	ND	0.0065	ND	0.0058	ND	0.006	ND	0.006	ND	0.0062											ND	0.0068
Endrin Ketone	---			ND	0.0061	ND	0.0062	ND	0.0065	ND	0.0058	ND	0.006	ND	0.006	ND	0.0062											ND	0.0068
Gamma-BHC	0.005			ND	0.0061	ND	0.0062	ND	0.0065	ND	0.0058	ND	0.006	ND	0.006	ND	0.0062											ND	0.0014
Heptachlor	0.00598			ND	0.0061	ND	0.0062	ND	0.0065	ND	0.0058	ND	0.006	ND	0.006	ND	0.0062											ND	0.0068
Heptachlor Epoxide	0.152			ND	0.0061	ND	0.0062	ND	0.0065	ND	0.0058	ND	0.006	ND	0.006	ND	0.0062											ND	0.0068
Methoxychlor	0.0199			ND	0.0061	ND	0.0062	ND	0.007	ND	0.0058	ND	0.006	ND	0.006	ND	0.0062											ND	0.0068
p,p'-DDD	0.758			0.031	0.003	0.011	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003											ND	0.0034
p,p'-DDE	0.596			0.033	0.003	0.0062 D	0.003	ND	0.003	0.0037 D	0.003	ND	0.003	ND	0.003	ND	0.003											ND	0.0034
p,p'-DDT	0.0035			ND	0.003	0.008 D	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003											ND	0.0034
Toxaphene	0.119			ND	0.03	ND	0.031	ND	0.032	ND	0.029	ND	0.03	ND	0.03	ND	0.031											ND	0.034
Other Parameters																													
TPH	---	ND	67	7700	370	350	74	200	78	71	70	160	72	97	72	200	74											NA	
EPH: C9-C40	---	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		120	81
Cyanide	1.33	NA		0.63	0.3	1.5	0.31	0.59	0.32	ND	0.29	ND	0.3	0.38	0.3	0.46	0.31											ND	0.32

Notes:
Bold and Boxed with Yellow Highlight = Exceedance of NJDEP Ecological Soil Screening Criteria
Reporting limit (RL) exceeds the screening criteria
(1) Terrestrial Plant Toxicity Benchmark primarily used, if unavaialble, EcoSSL or Wildlife PRG used.
ND = Non-Detect
J = Value is an estimated concentration, analyte found below the method detection limit
NA = Not analyzed

Table 9a
Ecological Soil Evaluation
Disney Parcel
East Rutherford, New Jersey

Client ID:	NJDEP Ecological Soil Screening Criteria (mg/kg)	E-1F		C-1F		C-2F		C-3F		C-4F		F-3F		F-4F		F-6F		D-1		D-2		D-3		D-4		D-5		S-1A	
Lab ID:		AC35821-001		AC35821-003		AC35821-005		AC35821-007		AC35821-009		AC35821-019		AC35821-021		AC35821-025		AC35821-027		AC35821-028		AC35821-029		AC35821-030		AC35821-031		AC60251-009	
Collection Date:		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		2/14/2008		7/5/2011	
Sample Depth:		0 - 0.5		3.5 - 4		3 - 3.5		3 - 3.5		1 - 1.5		2 - 2.5		2.5 - 3		2.5 - 3		0 - 0.5		0 - 0.5		0 - 0.5		0 - 0.5		0 - 0.5		0-6"	
Units:		Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL

Client ID:	NJDEP Ecological Soil Screening Criteria (mg/kg)	C-1F		C-1A		C-1B		C-1C		C-1D		C-1E-1	
Lab ID:		AC35821-003		11H0954-01		11H0954-02		11H0954-03		11H0954-04		11H0954-05	
Collection Date:		2/14/2008		8/25/2011		8/25/2011		8/25/2011		8/25/2011		8/25/2011	
Sample Depth:		3.5-4.0		3.5 - 4		3.5 - 4		3.5 - 4		3.5 - 4		6.5-7	
Units:		Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
TPH/EPH													
TPH/EPH	---	7700	370	375	120	191	105	477	96.6	ND	102	ND	459

Client ID:	NJDEP Ecological Soil Screening Criteria (mg/kg)	C-2F		C-2A		C-2B		C-2C		C-2D		C-2E-1	
Lab ID:		AC35821-005		11H0954-07		11H0954-08		11H0954-09		11H0954-10		11H0954-11	
Collection Date:		2/14/2008		8/25/2011		8/25/2011		8/25/2011		8/25/2011		8/25/2011	
Sample Depth:		3-3.5		3-3.5		3-3.5		3-3.5		3-3.5		8-8.5	
Units:		Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
Metals													
Antimony	5	**690**	2.5	ND	0.648	ND	0.629	ND	0.614	ND	0.633	ND	0.774

Client ID:	NJDEP Ecological Soil Screening Criteria (mg/kg)	F-1F		F-1A		F-1B		F-1C		F-1D	
Lab ID:		AC35821-015		11H0954-14		11H0954-15		11H0954-16		11H0954-17	
Collection Date:		2/14/2008		8/25/2011		8/25/2011		8/25/2011		8/25/2011	
Sample Depth:		5-5.5		5-5.5		5-5.5		5-5.5		5-5.5	
Units:		Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
PCBs											
Total PCBs	0.371	**1.7**	0.078	ND	0.0277	ND	0.0252	ND	0.03	ND	0.0271

Client ID:	NJDEP Ecological Soil Screening Criteria (mg/kg)	S-4A		S-4B		S-4A		S-4B		S-4C		S-4D		S-4E	
Lab ID:		AC60251-003		AC60251-004		11H0862-05		11H0862-06		11H0862-07		11H0862-08		11H0862-09	
Collection Date:		7/5/2011		7/5/2011		8/22/2011		8/22/2011		8/22/2011		8/22/2011		8/22/2011	
Sample Depth:		0-0.5'		0.5-1'		0.5-1'		0.5-1'		0.5-1'		0.5-1'		1.5-2'	
Units:		Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
PCBs															
Total PCBs	0.371	0.34	0.061	**1.6**	0.058	**0.776**	0.0296	0.253	0.0234	**1.09**	0.0271	ND	0.03	**12.7**	0.058

Client ID:	NJDEP Ecological Soil Screening Criteria (mg/kg)	S-5A		S-5B		S-5A		S-5B		S-5C		S-5D		S-5E	
Lab ID:		AC60251-001		AC60251-002		11H0862-01		11H0862-02		11H0862-03		11H0862-04		11H0954-19	
Collection Date:		7/5/2011		7/5/2011		8/22/2011		8/22/2011		8/22/2011		8/22/2011		8/25/2011	
Sample Depth:		0-0.5'		0.5-1'		0.5-1'		0.5-1'		0.5-1'		0.5-1'		3.5-4'	
Units:		Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
PCBs															
Total PCBs	0.371	**1.7**	0.078	**3.5**	0.083	0.101	0.0227	ND	0.125	**3.12**	0.043	**2.9**	0.0438	ND	0.0437
Pesticides															
Chlordane	0.224	**0.57**	0.078	ND	0.083	0.089	0.00132	ND	0.00132	**1.04**	0.00132	ND	0.00132	ND	0.00132

Table 9a
Ecological Soil Evaluation
Disney Parcel
East Rutherford, New Jersey

Client ID:		S-1B		S-2A		S-2B		S-3A		S-3B		S-4A		S-4B		S-5A		S-5B	
Lab ID:	NJDEP Ecological Soil Screening Criteria (mg/kg)	AC60251-010		AC60251-007		AC60251-008		AC60251-005		AC60251-006		AC60251-003		AC60251-004		AC60251-001		AC60251-002	
Collection Date:		7/5/2011		7/5/2011		7/5/2011		7/5/2011		7/5/2011		7/5/2011		7/5/2011		7/5/2011		7/5/2011	
Sample Depth:		6-12"		0-6"		6-12"		0-6"		6-12"		0-6"		6-12"		0-6"		6-12"	
Units:		Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
Volatile Organics																			
:TotalVolatileTic	---	0.0080J	NA			ND	NA			ND	NA			ND	NA			0.026J	NA
1,1,1-Trichloroethane	29.8	ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
1,1,2,2-Tetrachloroethane	0.127	ND	0.0013			ND	0.0014			ND	0.0015			ND	0.0027			ND	0.0049
1,1,2-Trichloroethane	28.6	ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
1,1-Dichloroethane	---	ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
1,1-Dichloroethene	8.28	ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
1,2,3-Trichlorobenzene	20	ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
1,2,4-Trichlorobenzene	20	ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
1,2-Dibromo-3-chloropropane	---	ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
1,2-Dibromoethane	---	ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
1,2-Dichlorobenzene	2.96	ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
1,2-Dichloroethane	21.2	ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
1,2-Dichloropropane	32.7	ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
1,3-Dichlorobenzene	37.7	ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
1,4-Dichlorobenzene	0.546	ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
1,4-Dioxane	---	ND	0.13			ND	0.14			ND	0.15			ND	0.27			ND	0.49
2-Butanone	---	ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			0.14	0.0098
2-Chloroethylvinylether	---	NA				NA				NA				NA				NA	
2-Hexanone	---	ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
4-Methyl-2-Pentanone	---	ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
Acetone	---	0.041	0.031			0.05	0.036			0.062	0.037			0.13	0.069			0.59	0.12
Acrolein	5.27	NA				NA				NA				NA				NA	
Acrylonitrile	0.0239	NA				NA				NA				NA				NA	
Benzene	0.255	ND	0.0013			ND	0.0014			ND	0.0015			ND	0.0027			ND	0.0049
Bromochloromethane	---	ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
Bromodichloromethane	0.54	ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
Bromoform	15.9	ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
Bromomethane	0.235	ND	0.0013	NA		ND	0.0014	NA		ND	0.0015	NA		ND	0.0027	NA		ND	0.0049
Carbon disulfide	---	ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
Carbon tetrachloride	2.98	ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
Chlorobenzene	13.1	ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
Chloroethane	---	ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
Chloroform	1.19	ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
Chloromethane	---	ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
cis-1,2-Dichloroethene	---	ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
cis-1,3-Dichloropropene	---	ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
Cyclohexane	---	ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
Dibromochloromethane	2.05	ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
Dichlorodifluoromethane	---	ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
Ethylbenzene	5.16	ND	0.0013			ND	0.0014			ND	0.0015			ND	0.0027			ND	0.0049
Isopropylbenzene	---	ND	0.0013			ND	0.0014			ND	0.0015			ND	0.0027			ND	0.0049
m&p-Xylenes	---	ND	0.0013			ND	0.0014			ND	0.0015			ND	0.0027			ND	0.0049
Methyl Acetate	---	ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
Methylcyclohexane	---	ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
Methylene chloride	4.05	ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
Methyl-t-butyl ether	---	ND	0.00063			ND	0.00072			ND	0.00073			ND	0.0014			ND	0.0025
o-Xylene	---	ND	0.0013			ND	0.0014			ND	0.0015			ND	0.0027			ND	0.0049
Styrene	4.69	ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
Tetrachloroethene	9.92	ND	0.0013			ND	0.0014			ND	0.0015			ND	0.0027			ND	0.0049
Toluene	200	ND	0.0013			ND	0.0014			ND	0.0015			ND	0.0027			0.0072	0.0049
trans-1,2-Dichloroethene	0.784	ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
trans-1,3-dichloropropene	---	ND	0.0013			ND	0.0014			ND	0.0015			ND	0.0027			ND	0.0049
Trichloroethene	12.4	ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
Trichlorofluoromethane	---	ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
Vinyl chloride	0.646	ND	0.0025			ND	0.0029			ND	0.0029			ND	0.0055			ND	0.0098
Xylenes (Total)	10	ND	0.0013			ND	0.0014			ND	0.0015			ND	0.0027			ND	0.0049
Semi-Volatile Organic Compounds																			
1,1'-Biphenyl	---			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
1,2,4,5-Tetrachlorobenzene	2.02			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
1,2-Diphenylhydrazine	---			NA				NA				NA				NA			
2,3,4,6-Tetrachlorophenol	---		NA	ND	0.055		NA	ND	0.085		NA	ND	0.081		NA	ND	0.31		NA
2,4,5-Trichlorophenol	9			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
2,4,6-Trichlorophenol	4			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
2,4-Dichlorophenol	87.5			ND	0.014			ND	0.021			ND	0.02			ND	0.078		

Table 9a
Ecological Soil Evaluation
Disney Parcel
East Rutherford, New Jersey

Client ID:		S-1B		S-2A		S-2B		S-3A		S-3B		S-4A		S-4B		S-5A		S-5B	
Lab ID:	NJDEP Ecological Soil Screening Criteria (mg/kg)	AC60251-010		AC60251-007		AC60251-008		AC60251-005		AC60251-006		AC60251-003		AC60251-004		AC60251-001		AC60251-002	
Collection Date:		7/5/2011		7/5/2011		7/5/2011		7/5/2011		7/5/2011		7/5/2011		7/5/2011		7/5/2011		7/5/2011	
Sample Depth:		6-12"		0-6"		6-12"		0-6"		6-12"		0-6"		6-12"		0-6"		6-12"	
Units:		Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
Semi-Volatile Organic Compounds																			
2,4-Dimethylphenol	0.01			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
2,4-Dinitrophenol	0.0609			ND	0.27			ND	0.43			ND	0.41			ND	1.6		
2,4-Dinitrotoluene	1.28			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
2,6-Dinitrotoluene	---			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
2-Chloronaphthalene	---			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
2-Chlorophenol	0.243			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
2-Methylnaphthalene	3.24			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
2-Methylphenol	---			ND	0.014			ND	0.021			ND	0.02			ND	0.078		
2-Nitroaniline	---			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
2-Nitrophenol	---			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
3&4-Methylphenol	---			ND	0.014			0.08	0.021			ND	0.02			ND	0.078		
3,3'-Dichlorobenzidine	0.646			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
3-Nitroaniline	---			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
4,6-Dinitro-2-methylphenol	---			ND	0.27			ND	0.43			ND	0.41			ND	1.6		
4-Bromophenyl-phenylether	---			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
4-Chloro-3-methylphenol	---			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
4-Chloroaniline	---			ND	0.026			ND	0.041			ND	0.039			ND	0.15		
4-Chlorophenyl-phenylether	---			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
4-Nitroaniline	---			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
4-Nitrophenol	5.12			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
Acenaphthene	20			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
Acenaphthylene	682			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
Acetophenone	---			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
Anthracene	1480			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
Atrazine	---			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
Benzaldehyde	---			ND	0.055			0.18	0.085			ND	0.081			ND	0.31		
Benzidine	---			NA				NA				NA				NA			
Benzo[a]anthracene	5.21			0.12	0.055			ND	0.085			0.2	0.081			ND	0.31		
Benzo[a]pyrene	1.52			0.1	0.055			ND	0.085			0.19	0.081			ND	0.31		
Benzo[b]fluoranthene	59.8			0.14	0.055			0.11	0.085			0.29	0.081			0.36	0.31		
Benzo[g,h,i]perylene	119	NA		0.08	0.055	NA		ND	0.085	NA		0.18	0.081	NA		ND	0.31	NA	
Benzo[k]fluoranthene	148			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
Bis(2-Chloroethoxy)methane	---			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
Bis(2-Chloroethyl)ether	23.7			ND	0.014			ND	0.021			ND	0.02			ND	0.078		
Bis(2-Chloroisopropyl)ether	19.9			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
Bis(2-Ethylhexyl)phthalate	0.925			ND	0.055			0.14	0.085			1.2	0.081			19	0.31		
Butylbenzylphthalate	0.239			ND	0.055			ND	0.085			0.09	0.081			ND	0.31		
Caprolactam	---			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
Carbazole	---			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
Chrysene	4.73			0.12	0.055			ND	0.085			0.18	0.081			ND	0.31		
Dibenzo[a,h]anthracene	18.4			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
Dibenzofuran	---			ND	0.014			0.045	0.021			ND	0.02			ND	0.078		
Diethylphthalate	24.8			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
Dimethylphthalate	---			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
Di-n-butylphthalate	0.15			ND	0.055			ND	0.085			0.14	0.081			ND	0.31		
Di-n-octylphthalate	---			ND	0.055			ND	0.085			ND	0.081			1.6	0.31		
Fluoranthene	122			0.1	0.055			0.12	0.085			0.25	0.081			ND	0.31		
Fluorene	122			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
Hexachlorobenzene	0.199			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
Hexachlorobutadiene	0.0398			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
Hexachlorocyclopentadiene	0.755			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
Hexachloroethane	0.596			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
Indeno[1,2,3-cd]pyrene	109			0.063	0.055			ND	0.085			0.13	0.081			ND	0.31		
Isophorone	139			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
Naphthalene	0.0994			ND	0.014			ND	0.021			ND	0.02			ND	0.078		
Nitrobenzene	1.31			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
N-Nitrosodimethylamine	0.0000321			NA				NA				NA				NA			
N-Nitroso-di-n-propylamine	---			ND	0.014			ND	0.021			ND	0.02			ND	0.078		
N-Nitrosodiphenylamine	0.545			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
Pentachlorophenol	0.119			ND	0.27			ND	0.43			ND	0.41			ND	1.6		
Phenanthrene	45.7			ND	0.055			ND	0.085			0.12	0.081			ND	0.31		
Phenol	30			ND	0.055			ND	0.085			ND	0.081			ND	0.31		
Pyrene	78.5			0.13	0.055			0.099	0.085			0.27	0.081			ND	0.31		

Table 9a
Ecological Soil Evaluation
Disney Parcel
East Rutherford, New Jersey

Client ID:		S-1B		S-2A		S-2B		S-3A		S-3B		S-4A		S-4B		S-5A		S-5B	
Lab ID:	NJDEP Ecological Soil Screening Criteria (mg/kg)	AC60251-010		AC60251-007		AC60251-008		AC60251-005		AC60251-006		AC60251-003		AC60251-004		AC60251-001		AC60251-002	
Collection Date:		7/5/2011		7/5/2011		7/5/2011		7/5/2011		7/5/2011		7/5/2011		7/5/2011		7/5/2011		7/5/2011	
Sample Depth:		6-12"		0-6"		6-12"		0-6"		6-12"		0-6"		6-12"		0-6"		6-12"	
Units:		Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
Metals																			
Mercury	0.00051	ND	0.1	**0.5**	0.14	**0.84**	0.12	**0.42**	0.21	ND	0.15	**2.3**	0.2	**2.5**	0.19	**6.2**	0.26	**6.6**	0.28
Aluminum[1]	50	**2,900**	250	**13,000**	330	**11,000**	290	**6,500**	510	**6,200**	360	**9,000**	490	**14,000**	470	**6,500**	620	**6,300**	670
Antimony	5	ND	2.5	ND	3.3	ND	2.9	ND	5.1	ND	3.6	**13**	4.9	**26**	4.7	**31**	6.2	**26**	6.7
Arsenic	9.9	3.1	2.5	**12**	3.3	5.1	2.9	6.8	5.1	**10**	3.6	6.3	4.9	**18**	4.7	**16**	6.2	**17**	6.7
Barium	283	13	12	78	16	48	14	130	26	**71**	18	240	24	**700**	23	**360**	31	**1,100**	33
Beryllium	10	ND	0.75	ND	0.98	ND	0.87	ND	1.5	ND	1.1	ND	1.5	ND	1.4	ND	1.9	ND	2
Cadmium	4	ND	0.75	ND	0.98	ND	0.87	ND	1.5	ND	1.1	**6.9**	1.5	**7.9**	1.4	**13**	1.9	**31**	2
Calcium	---	ND	1200	1,800	1,600	1,500	1400	5,900	2,600	ND	1800	6,200	2,400	5,200	2300	5,800	3,100	6,300	3,300
Chromium	0.4	**8.2**	6.2	**49**	8.2	**24**	7.2	**34**	13	ND	9.1	**130**	12	**250**	12	**420**	16	**190**	17
Cobalt	0.14	ND	3.1	**8.4**	4.1	**6**	3.6	ND	6.4	ND	4.5	**14**	6.1	**13**	5.8	**15**	7.8	**21**	8.3
Copper	5.4	ND	6.2	**47**	8.2	**22**	7.2	**86**	13	**9.1**	9.1	**560**	12	**850**	12	**1,200**	16	**1,400**	17
Iron	---	17,000	250	23,000	330	24,000	290	23,000	510	29,000	360	74,000	490	120,000	470	69,000	620	80,000	670
Lead	50	8.1	6.2	**130**	8.2	33	7.2	**130**	13	27	9.1	**1,200**	12	**1,800**	12	**1,900**	16	**1,700**	17
Magnesium	---	1,100	620	4,900	820	4,300	720	2,900	1,300	1,300	910	3,900	1,200	3,000	1200	3,600	1,600	2,800	1,700
Manganese	---	39	12	180	16	**180**	14	310	26	88	18	600	24	390	23	510	31	580	33
Nickel	13.6	ND	6.2	**24**	8.2	**17**	7.2	**17**	13	ND	9.1	**150**	12	**150**	12	**120**	16	**130**	17
Potassium	---	ND	620	1,800	820	1,300	720	1,500	1,300	ND	910	1,400	1,200	ND	1200	ND	1,600	ND	1,700
Selenium	0.0276	ND	2.2	ND	3	**3.1**	2.6	ND	4.6	ND	3.3	**5.7**	4.4	**9**	4.2	ND	5.6	**7.2**	6
Silver	2	ND	1.9	ND	2.5	ND	2.2	ND	3.8	ND	2.7	**9**	3.7	**16**	3.5	**14**	4.7	**19**	5
Sodium	---	ND	310	500	410	480	360	2,700	640	990	450	1,400	610	750	580	4,500	780	4,200	830
Thallium	1	ND	1.5	ND	2	ND	1.7	ND	3.1	ND	2.2	ND	2.9	ND	2.8	ND	3.8	ND	4
Vanadium	2	**13**	12	**36**	16	**25**	14	**35**	26	**29**	18	58	24	**130**	23	**140**	31	**120**	33
Zinc	6.62	**24**	12	**100**	16	**55**	14	**120**	26	**35**	18	**1,600**	24	**1,600**	23	**1,700**	31	**3,300**	33
PCBS																			
Total PCBs	0.371			ND	0.041			ND	0.064			0.34	0.061	1.6	0.058	1.7	0.078	3.5	0.083
Aroclor-1016	---			ND	0.041			ND	0.064			ND	0.061	ND	0.058	ND	0.078	ND	0.083
Aroclor-1221	---			ND	0.041			ND	0.064			ND	0.061	ND	0.058	ND	0.078	ND	0.083
Aroclor-1232	---			ND	0.041			ND	0.064			ND	0.061	ND	0.058	ND	0.078	ND	0.083
Aroclor-1242	---	NA		ND	0.041	NA		ND	0.064	NA		ND	0.061	ND	0.058	ND	0.078	ND	0.083
Aroclor-1248	---			ND	0.041			ND	0.064			0.12	0.061	ND	0.058	ND	0.078	ND	0.083
Aroclor-1254	---			ND	0.041			ND	0.064			ND	0.061	ND	0.058	1.2	0.078	2.6	0.083
Aroclor-1260	---			ND	0.041			ND	0.064			0.22	0.061	ND	0.058	ND	0.078	ND	0.083
Aroclor-1262	---			ND	0.041			ND	0.064			ND	0.061	ND	0.058	0.53	0.078	0.94	0.083
Aroclor-1268	---			ND	0.041			ND	0.064			ND	0.061	ND	0.058	ND	0.078	ND	0.083
Pesticides																			
Aldrin	0.00332			ND	0.0082			ND	0.013			ND	0.012			ND	0.016	ND	0.017
Alpha-BHC	0.0994			ND	0.0016			ND	0.0026			ND	0.0024			ND	0.0031	ND	0.0033
beta-BHC	0.00398			ND	0.0016			ND	0.0026			ND	0.0024			ND	0.0031	ND	0.0033
Chlordane	0.224			ND	0.041			ND	0.064			ND	0.061			**0.57**	0.078	ND	0.083
delta-BHC	---			ND	0.0082			ND	0.013			ND	0.012			ND	0.016	ND	0.017
Dieldrin	0.00238			ND	0.0016			ND	0.0026			ND	0.0024			ND	0.0031	ND	0.0033
Endosulfan I	---			ND	0.0082			ND	0.013			ND	0.012			ND	0.016	ND	0.017
Endosulfan II	---			ND	0.0082			ND	0.013			ND	0.012			ND	0.016	ND	0.017
Endosulfan Sulfate	0.0358			ND	0.0082			ND	0.013			ND	0.012			ND	0.016	ND	0.017
Endrin	0.0101	NA		ND	0.0082	NA		ND	0.013	NA		ND	0.012	NA		ND	0.016	ND	0.017
Endrin Aldehyde	0.0105			ND	0.0082			ND	0.013			ND	0.012			ND	0.016	ND	0.017
Endrin Ketone	---			ND	0.0082			ND	0.013			ND	0.012			ND	0.016	ND	0.017
Gamma-BHC	0.005			ND	0.0016			ND	0.0026			ND	0.0024			ND	0.0031	ND	0.0033
Heptachlor	0.00598			ND	0.0082			ND	0.013			ND	0.012			ND	0.016	ND	0.017
Heptachlor Epoxide	0.152			ND	0.0082			ND	0.013			ND	0.012			ND	0.016	ND	0.017
Methoxychlor	0.0199			ND	0.0082			ND	0.013			ND	0.012			ND	0.016	ND	0.017
p,p'-DDD	0.758			ND	0.0041			ND	0.0064			ND	0.0061			0.036	0.0078	0.046	0.0083
p,p'-DDE	0.596			ND	0.0041			ND	0.0064			ND	0.0061			ND	0.0078	ND	0.0083
p,p'-DDT	0.0035			ND	0.0041			ND	0.0064			ND	0.0061			ND	0.0078	ND	0.0083
Toxaphene	0.119			ND	0.041			ND	0.064			ND	0.061			ND	0.078	ND	0.083
Other Parameters																			
TPH	---	NA		NA		NA		NA		NA		NA		NA		NA		NA	
EPH: C9-C40	---			160	98			240	150			410	150			1,800	380		
Cyanide	1.33			ND	0.39			1.3	0.62			0.92	0.59			ND	0.75		

Notes:
Bold and Boxed with Yellow Highlight = Exceedan
Reporting limit (RL) exceeds the screening cr
(1) Terrestrial Plant Toxicity Benchmark primarily
ND = Non-Detect
J = Value is an estimated concentration, analyte fc
NA = Not analyzed

Table 9a
Ecological Soil Evaluation
Disney Parcel
East Rutherford, New Jersey

Client ID:	NJDEP Ecological Soil Screening Criteria (mg/kg)	S-1B		S-2A		S-2B		S-3A		S-3B		S-4A		S-4B		S-5A		S-5B	
Lab ID:		AC60251-010		AC60251-007		AC60251-008		AC60251-005		AC60251-006		AC60251-003		AC60251-004		AC60251-001		AC60251-002	
Collection Date:		7/5/2011		7/5/2011		7/5/2011		7/5/2011		7/5/2011		7/5/2011		7/5/2011		7/5/2011		7/5/2011	
Sample Depth:		6-12"		0-6"		6-12"		0-6"		6-12"		0-6"		6-12"		0-6"		6-12"	
Units:		Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
TPH/EPH																			
TPH/EPH	---																		
Metals																			
Antimony	5																		
PCBs																			
Total PCBs	0.371																		
Pesticides																			
Chlordane	0.224																		

Table 9b
Ecological Groundwater Evaluation
Disney Parcel
East Rutherford, New Jersey

SampleID		Surface Water (ug/L)				TMW-1		TMW-2		TMW-3		TMW-4	
YorkID		(FW2) Criteria		(SE & SC) Criteria		11H0954-13		11H0954-18		11H0954-20		11H0954-21	
Sampling Date						3/25/2011 11:20:00 AM		3/25/2011 1:30:00 PM		3/25/2011 2:10:00 PM		3/25/2011 3:00:00 PM	
DilutionFactor		Aquatic		Aquatic		1		2		10		10	
ClientMatrix						Water		Water		Water		Water	
RptUnits		Acute	Chronic	Acute	Chronic	ug/L		ug/L		ug/L		ug/L	
Compound	CASNumber	ug/L	ug/L	ug/L	ug/L	Result	RL	Result	RL	Result	RL	Result	RL
Volatile Organics, TCL (Target Compound List)													
1,1,1-Trichloroethane	71-55-6		76[8]			ND	0.95	ND	1.9	ND	0.95	ND	0.95
1,1,2,2-Tetrachloroethane	79-34-5		380[8]			ND	0.57	ND	1.1	ND	0.57	ND	0.57
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	76-13-1					ND	0.60	ND	1.2	ND	0.60	ND	0.60
1,1,2-Trichloroethane	79-00-5		500[8]			ND	0.61	ND	1.2	ND	0.61	ND	0.61
1,1-Dichloroethane	75-34-3					ND	0.69	ND	1.4	ND	0.69	ND	0.69
1,1-Dichloroethylene	75-35-4		65[8]			ND	1.3	ND	2.7	ND	1.3	ND	1.3
1,2,4-Trichlorobenzene	120-82-1		30[8]			ND	0.48	ND	0.96	ND	0.48	ND	0.48
1,2-Dibromo-3-chloropropane	96-12-8					ND	1.3	ND	2.6	ND	1.3	ND	1.3
1,2-Dibromoethane	106-93-4					ND	0.68	ND	1.4	ND	0.68	ND	0.68
1,2-Dichloroethane	107-06-2		910[8]			ND	0.65	ND	1.3	ND	0.65	ND	0.65
1,2-Dichloropropane	78-87-5		360[8]			ND	0.22	ND	0.44	ND	0.22	ND	0.22
2-Butanone	78-93-3					ND	2.6	ND	5.2	ND	2.6	ND	2.6
2-Hexanone	591-78-6					ND	0.87	ND	1.7	ND	0.87	ND	0.87
4-Methyl-2-pentanone	108-10-1					ND	5.6	ND	11	ND	5.6	ND	5.6
Acetone	67-64-1					ND	3.1	11	6.2	6.3	3.1	6.6	3.1
Benzene	71-43-2	114[8]	824[16]			ND	0.48	ND	0.96	ND	0.48	ND	0.48
Bromodichloromethane	75-27-4					ND	0.62	ND	1.2	ND	0.62	ND	0.62
Bromoform	75-25-2		230[8]			ND	0.58	ND	1.2	ND	0.58	ND	0.58
Bromomethane	74-83-9					ND	1.2	ND	2.5	ND	1.2	ND	1.2
Carbon disulfide	75-15-0					1.4	0.64	1.9	1.3	1.2	0.64	ND	0.64
Carbon tetrachloride	56-23-5		240[8]			ND	1.0	ND	2.1	ND	1.0	ND	1.0
Chlorobenzene	108-90-7		47[8]			ND	0.35	9.4	0.7	6.6	0.35	ND	0.35
Chloroethane	75-00-3					ND	0.76	ND	1.5	ND	0.76	ND	0.76
Chloroform	67-66-3		140[8]			ND	0.36	ND	0.72	ND	0.36	ND	0.36
Chloromethane	74-87-3					1.8	0.89	ND	1.8	ND	0.89	ND	0.89
cis-1,2-Dichloroethylene	156-59-2					ND	0.96	ND	1.9	ND	0.96	ND	0.96
cis-1,3-Dichloropropylene	10061-01-5					ND	0.35	ND	0.70	ND	0.35	ND	0.35
Dibromochloromethane	124-48-1					ND	0.67	ND	1.3	ND	0.67	ND	0.67
Dichlorodifluoromethane	75-71-8					ND	0.83	ND	1.7	ND	0.83	ND	0.83
Ethyl Benzene	100-41-4	14[9]	81[16]			ND	0.35	ND	0.70	ND	0.35	0.97	0.35
Isopropylbenzene	98-82-8					ND	0.39	4.4	0.78	4.8	0.39	4.2	0.39
Methyl tert-butyl ether (MTBE)	1634-04-4	151,000[17]	51,450[16]	51,000[17]	53,000[17]	18,000[17]	ND	0.38	ND	0.76	ND	0.38	ND	0.38
Methylene chloride	75-09-2		940[8]			6.8	1.1	11	2.1	7.4	1.1	6.3	1.1
o-Xylene	95-47-6					ND	0.50	ND	1.0	ND	0.50	1.0	0.5
p- & m- Xylenes	1330-20-7P/M					ND	0.55	ND	1.1	ND	0.55	1.9	0.55
Styrene	100-42-5		32[8]			ND	0.43	ND	0.86	ND	0.43	ND	0.43
Tetrachloroethylene	127-18-4		45[8]			ND	0.52	ND	1	ND	0.52	ND	0.52
Toluene	108-88-3	253[8]	822[16]			ND	0.23	ND	0.46	ND	0.23	ND	0.23
trans-1,2-Dichloroethylene	156-60-5		970[8]			ND	0.65	ND	1.3	ND	0.65	ND	0.65
trans-1,3-Dichloropropylene	10061-02-6					ND	0.68	ND	1.4	ND	0.68	ND	0.68
Trichloroethylene	79-01-6		47[8]			ND	0.57	ND	1.1	ND	0.57	ND	0.57
Trichlorofluoromethane	75-69-4					ND	0.91	ND	1.8	ND	0.91	ND	0.91
Vinyl Chloride	75-01-4		930[8]			ND	0.97	ND	1.9	ND	0.97	ND	0.97
Xylenes, Total	1330-20-7	27[8]	296[16]			ND	1.0	ND	2.1	ND	1.0	3.0	1

Table 9b
Ecological Groundwater Evaluation
Disney Parcel
East Rutherford, New Jersey

Semi-Volatiles, EPA TCL List											
1,2,4-Trichlorobenzene	120-82-1					ND	1.35	ND	1.31	ND	1.35	ND	1.46
1,2-Dichlorobenzene	95-50-1		14[8]			ND	1.68	ND	1.64	ND	1.68	ND	1.82
1,3-Dichlorobenzene	541-73-1		38[8]			ND	2.82	ND	2.75	ND	2.82	ND	3.05
1,4-Dichlorobenzene	106-46-7		9.4[8]			ND	3.31	ND	3.23	ND	3.31	ND	3.58
2,4,5-Trichlorophenol	95-95-4					ND	3.70	ND	3.61	ND	3.70	ND	4.01
2,4,6-Trichlorophenol	88-06-2		4.9[8]			ND	3.36	ND	3.27	ND	3.36	ND	3.64
2,4-Dichlorophenol	120-83-2		11[8]			ND	3.17	ND	3.09	ND	3.17	ND	3.43
2,4-Dimethylphenol	105-67-9		100[8]			ND	3.78	ND	3.68	ND	3.78	ND	4.09
2,4-Dinitrophenol	51-28-5		19[8]			ND	9.85	ND	9.60	ND	9.85	ND	10.7
2,4-Dinitrotoluene	121-14-2		44[8]			ND	2.43	ND	2.37	ND	2.43	ND	2.63
2,6-Dinitrotoluene	606-20-2					ND	3.60	ND	3.51	ND	3.60	ND	3.90
2-Chloronaphthalene	91-58-7		0.396[8]			ND	3.58	ND	3.49	ND	3.58	ND	3.88
2-Chlorophenol	95-57-8		24[8]			ND	3.50	ND	3.42	ND	3.50	ND	3.80
2-Methylnaphthalene	91-57-6		330[8]			ND	3.15	ND	3.07	ND	3.15	16.5	3.42
2-Methylphenol	95-48-7					ND	0.879	ND	0.857	ND	0.879	ND	0.952
2-Nitroaniline	88-74-4					ND	3.08	ND	3.01	ND	3.08	ND	3.34
2-Nitrophenol	88-75-5					ND	3.18	ND	3.10	ND	3.18	ND	3.45
3,3'-Dichlorobenzidine	91-94-1		4.5[8]			ND	3.60	ND	3.51	ND	3.60	ND	3.90
3- & 4-Methylphenols	100-01-6					ND	3.81	ND	3.72	ND	3.81	ND	4.13
3-Nitroaniline	99-09-2					ND	1.64	ND	1.59	ND	1.64	ND	1.77
4,6-Dinitro-2-methylphenol	534-52-1					ND	6.87	ND	6.70	ND	6.87	ND	7.44
4-Bromophenyl phenyl ether	101-55-3					ND	3.53	ND	3.45	ND	3.53	ND	3.83
4-Chloro-3-methylphenol	59-50-7					ND	3.72	ND	3.63	ND	3.72	ND	4.03
4-Chloroaniline	106-47-8					ND	3.84	ND	3.74	ND	3.84	ND	4.16
4-Chlorophenyl phenyl ether	7005-72-3					ND	3.20	ND	3.12	ND	3.20	ND	3.47
4-Nitroaniline	100-02-7					ND	3.87	ND	3.77	ND	3.87	ND	4.19
4-Nitrophenol	56-57-5		60[8]			ND	4.04	ND	3.94	ND	4.04	ND	4.38
Acenaphthene	83-32-9		38[8]			ND	3.32	5.14	3.24	ND	3.32	33.9	3.6
Acenaphthylene	208-96-8		4840[8]			ND	4.38	ND	4.27	ND	4.38	ND	4.75
Anthracene	120-12-7		0.035[8]			ND	3.75	ND	3.66	ND	3.75	**5.34**	4.07
Benzo(a)anthracene	56-55-3		0.025[8]			ND	4.17	ND	4.07	ND	4.17	ND	4.52
Benzo(a)pyrene	50-32-8		0.014[8]			ND	4.97	ND	4.85	ND	4.97	ND	5.39
Benzo(b)fluoranthene	205-99-2					ND	4.23	ND	4.12	ND	4.23	ND	4.58
Benzo(g,h,i)perylene	191-24-2		7.64[8]			ND	4.26	ND	4.15	ND	4.26	ND	4.61
Benzo(k)fluoranthene	207-08-9					ND	3.54	ND	3.46	ND	3.54	ND	3.84
Benzoic acid	65-85-0					ND	8.92	ND	8.70	ND	8.92	ND	9.67
Benzyl alcohol	100-51-6					ND	4.10	ND	4.00	ND	4.10	ND	4.44
Benzyl butyl phthalate	85-68-7					ND	2.36	ND	2.30	ND	2.36	ND	2.56
Bis(2-chloroethoxy)methane	111-91-1					ND	4.97	ND	4.85	ND	4.97	ND	5.39
Bis(2-chloroethyl)ether	111-44-4		1900[8]			ND	4.23	ND	4.12	ND	4.23	ND	4.58
Bis(2-chloroisopropyl)ether	108-60-1					ND	4.26	ND	4.15	ND	4.26	ND	4.61
Bis(2-ethylhexyl)phthalate	117-81-7		0.3[8]			ND	2.64	ND	2.57	**11.0**	2.64	**9.38**	2.86
Chrysene	218-01-9					ND	4.26	ND	4.15	ND	4.26	ND	4.61
Di-n-butyl phthalate	84-74-2		9.7[8]			ND	4.23	ND	4.12	ND	4.23	ND	4.58
Di-n-octyl phthalate	117-84-0					ND	4.26	ND	4.15	ND	4.26	ND	4.61
Dibenzo(a,h)anthracene	53-70-3					ND	3.18	ND	3.10	ND	3.18	ND	3.44
Dibenzofuran	132-64-9					ND	2.97	ND	2.90	ND	2.97	25.3	3.22
Diethyl phthalate	84-66-2		110[8]			ND	2.26	ND	2.20	ND	2.26	ND	2.44
Dimethyl phthalate	131-11-3					ND	4.97	ND	4.85	ND	4.97	ND	5.39
Fluoranthene	206-44-0		1.9[8]			**3.72**	1.64	ND	1.59	ND	1.64	**13.9**	1.77
Fluorene	86-73-7		19[8]			ND	3.31	ND	3.22	ND	3.31	**31.4**	3.58
Hexachlorobenzene	118-74-1		0.0003[8]			ND	3.03	ND	2.96	ND	3.03	ND	3.28
Hexachlorobutadiene	87-68-3		0.053[8]			ND	3.39	ND	3.31	ND	3.39	ND	3.68
Hexachlorocyclopentadiene	77-47-4		77[8]			ND	3.53	ND	3.45	ND	3.53	ND	3.83
Hexachloroethane	67-72-1		8[8]			ND	3.72	ND	3.63	ND	3.72	ND	4.03
Indeno(1,2,3-cd)pyrene	193-39-5		4.31[8]			ND	2.82	ND	2.75	ND	2.82	ND	3.05
Isophorone	78-59-1		920[8]			ND	3.31	ND	3.23	ND	3.31	ND	3.58
N-nitroso-di-n-propylamine	621-64-7					ND	2.64	ND	2.57	ND	2.64	ND	2.86
N-Nitrosodiphenylamine	86-30-6					ND	3.71	ND	3.62	ND	3.71	ND	4.02
Naphthalene	91-20-3		13[8]			ND	3.96	ND	3.86	ND	3.96	**70.8**	4.29
Nitrobenzene	98-95-3		220[8]			ND	2.02	ND	1.97	ND	2.02	ND	2.18
Pentachlorophenol	87-86-5	(b)	(b)	13	7.9	ND	3.86	ND	3.76	ND	3.86	ND	4.18
Phenanthrene	85-01-8		3.6[8]			ND	3.70	ND	3.61	ND	3.70	**38.5**	4.01
Phenol	108-95-2		180[8]			ND	3.36	ND	3.27	ND	3.36	ND	3.64
Pyrene	129-00-0		0.30[8]			**2.92**	2.43	ND	2.37	ND	2.43	**11.0**	2.63

Table 9b
Ecological Groundwater Evaluation
Disney Parcel
East Rutherford, New Jersey

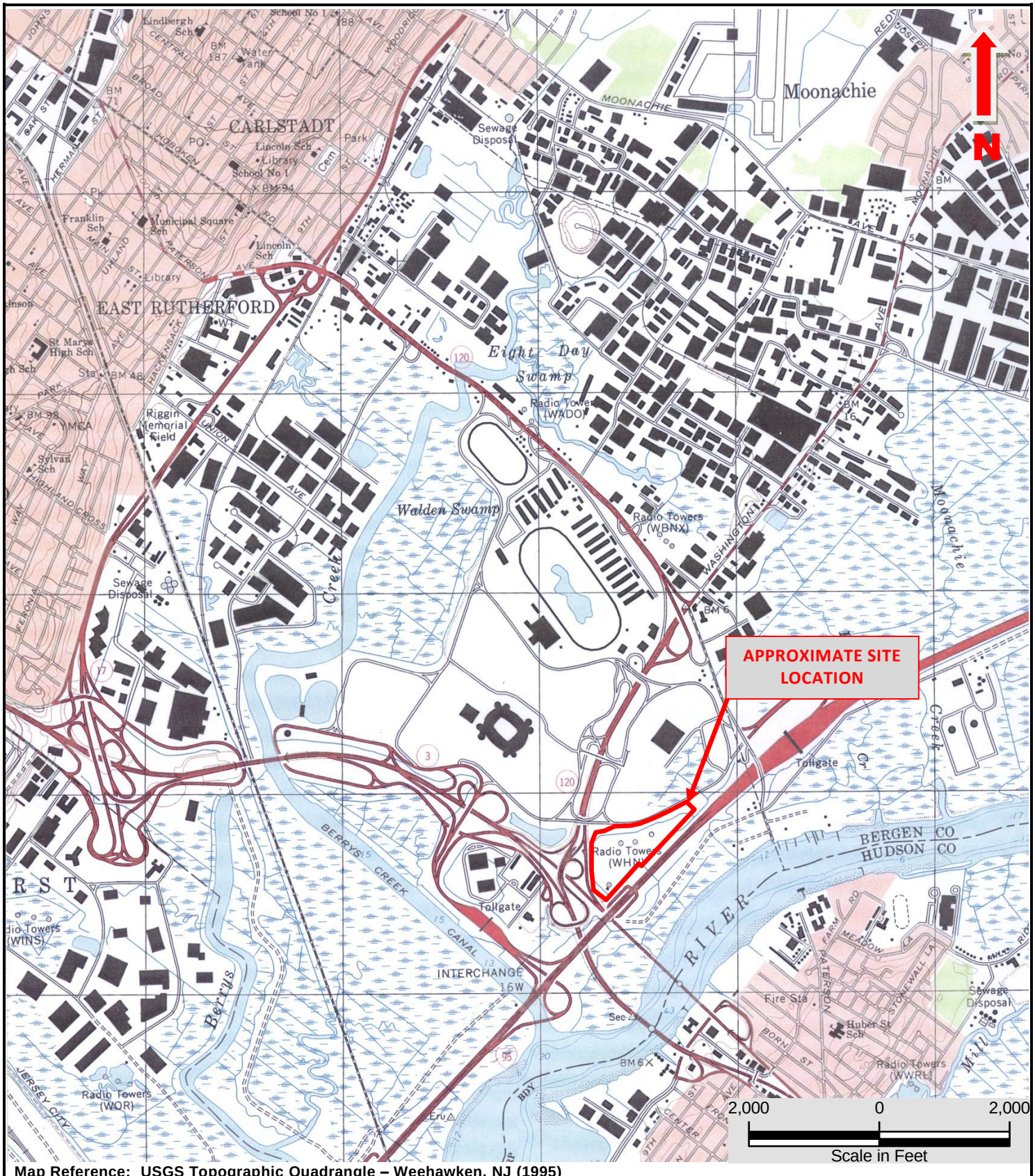
Pesticides/PCBs, EPA TCL List													
4,4'-DDD	72-54-8					ND	0.000950	ND	0.00109	ND	0.00119	ND	0.00131
4,4'-DDE	72-55-9		0.00000000451[8]			ND	0.00100	ND	0.00114	ND	0.00125	ND	0.00138
4,4'-DDT	50-29-3	1.1	0.001	0.13	0.001	ND	0.000840	ND	0.000960	ND	0.00105	ND	0.00116
Aldrin	309-00-2	3	0.017[8]	1.3		ND	0.000870	ND	0.000994	ND	0.00109	ND	0.00120
alpha-BHC	319-84-6		12.4[8]			ND	0.000960	ND	0.00110	ND	0.00120	ND	0.00132
Aroclor 1016	12674-11-2					ND	0.0363	ND	0.0415	ND	0.454	ND	0.501
Aroclor 1221	11104-28-2					ND	0.0363	ND	0.0415	ND	0.454	ND	0.501
Aroclor 1232	11141-16-5					ND	0.0363	ND	0.0415	ND	0.454	ND	0.501
Aroclor 1242	53469-21-9					ND	0.0363	ND	0.0415	ND	0.454	ND	0.501
Aroclor 1248	12672-29-6					ND	0.0363	ND	0.0415	ND	0.454	ND	0.501
Aroclor 1254	11097-69-1					ND	0.0422	ND	0.0482	ND	0.528	ND	0.582
Aroclor 1260	11096-82-5					ND	0.0422	ND	0.0482	ND	0.528	ND	0.582
Total PCBs	1336-36-3		0.014		0.03	ND	0.000790	ND	0.000903	ND	0.000988	ND	0.00109
beta-BHC	319-85-7		0.495[8]			ND	0.00400	ND	0.00457	ND	0.00500	ND	0.00552
Chlordane, total	57-74-9	2.4	0.0043	0.09	0.004	ND	0.000960	ND	0.00110	ND	0.00120	ND	0.00132
delta-BHC	319-86-8					ND	0.000710	ND	0.000811	ND	0.000888	ND	0.000979
Dieldrin	60-57-1	0.24	0.056	0.71	0.0019	ND	0.000790	ND	0.000903	ND	0.000988	ND	0.00109
Endosulfan I	959-98-8					ND	0.000840	ND	0.000960	ND	0.00105	ND	0.00116
Endosulfan II	33213-65-9					ND	0.000950	ND	0.00109	ND	0.00119	ND	0.00131
Endosulfan sulfate	1031-07-8		2.22[8]			ND	0.000940	ND	0.00107	ND	0.00118	ND	0.00130
Endrin	72-20-8	0.086	0.036	0.037	0.0023	ND	0.000680	ND	0.000777	ND	0.000850	ND	0.000938
Endrin aldehyde	7421-93-4		0.15[8]			ND	0.000910	ND	0.00104	ND	0.00114	ND	0.00126
Endrin ketone	53494-70-5					ND	0.000960	ND	0.00110	ND	0.00120	ND	0.00132
gamma-BHC (Lindane)	58-89-9	0.95	0.026[8]	0.16		ND	0.000950	ND	0.00109	ND	0.00119	ND	0.00131
Heptachlor	76-44-8	0.52	0.0038	0.053	0.0036	ND	0.000750	ND	0.000857	ND	0.000938	ND	0.00103
Heptachlor epoxide	1024-57-3	0.52	0.0038	0.053	0.0036	ND	0.00196	ND	0.00224	ND	0.00245	ND	0.00270
Methoxychlor	72-43-5		0.03		0.03	ND	0.0363	ND	0.0415	ND	0.454	ND	0.501
Toxaphene	8001-35-2	0.73	0.0002	0.21	0.0002	ND	0.100	ND	0.114	ND	0.125	ND	0.138

Table 9b
Ecological Groundwater Evaluation
Disney Parcel
East Rutherford, New Jersey

Metals, Target Analyte													
Aluminum	7429-90-5					3610	0.007	1360	0.007	8130	0.007	9230	0.007
Antimony	7440-36-0		80[g]			ND	2	ND	2	10	0.002	ND	2
Arsenic	7440-38-2	340(d)(s)	150(d)(s)	69(d)(s)	36(d)(s)	ND	1	ND	1	ND	1	ND	1
Barium	7440-39-3		220[g]			**1130**	0.004	**929**	0.004	**6020**	0.004	**1500**	0.004
Beryllium	7440-41-7		3.6[g]			ND	0.9	ND	0.9	ND	0.9	ND	0.9
Cadmium	7440-43-9	(a)	(a)	40(d)(s)	8.8(d)(s)	ND	1	ND	1	11	0.001	ND	1
Calcium	7440-70-2					140000	0.009	363000	0.009	285000	0.009	319000	0.009
Chromium	7440-47-3		42[g]			16	0.0009	27	0.0009	**129**	0.0009	**68**	0.0009
Cobalt	7440-48-4		24[g]			ND	1	14	0.001	**26**	0.001	14	0.001
Copper	7440-50-8	(a)	(a)	4.8(d)(s)	3.1(d)(s)	ND	2	**8**	0.002	**116**	0.002	ND	2
Iron	7439-89-6					4850	0.006	35400	0.006	210000	0.006	238000	0.006
Lead	7439-92-1	38(d)(s)	5.4(d)(s)	210(d)(s)	24(d)(s)	**241**	0.001	**946**	0.001	**2630**	0.001	**78**	0.001
Magnesium	7439-95-4					70600	0.008	30500	0.008	122000	0.008	81400	0.008
Manganese	7439-96-5					455	0.001	970	0.001	1990	0.001	3150	0.001
Nickel	7440-02-0	(a)	(a)	64(d)(s)	22(d)(s)	ND	0.8	**32**	0.0008	**64**	0.0008	**398**	0.0008
Potassium	7440-09-7					21000	0.026	8130	0.026	49200	0.026	27600	0.026
Selenium	7782-49-2	20(s)	5.0(s)	290(d)(s)	71(d)(s)	ND	2	21	0.002	47	0.002	58	0.002
Silver	7440-22-4	(a)	0.12[g]	1.9(d)(s)		ND	1	ND	1	ND	1	ND	1
Sodium	7440-23-5					360000	0.066	33200	0.066	686000	0.066	228000	0.066
Thallium	7440-28-0		10[g]			ND	2	ND	2	ND	2	ND	2
Vanadium	7440-62-2		12[g]			**20**	0.001	10	0.001	**86**	0.001	**18**	0.001
Zinc	7440-66-6	(a)	(a)	90(d)(s)	81(d)(s)	**447**	0.0009	**1020**	0.0009	**3970**	0.0009	**2150**	0.0009
Mercury by 7470/7471													
Mercury	7439-97-6	1.4(d)(s)	0.77(d)(s)	1.8(d)(s)	0.94(d)(s)	0.5000	0.000039	**1.500**	0.000039	**3.3**	0.000039	ND	0.03900

Data NOTES:
Bold and Boxed with Yellow Highlight = Exceedance of NJDEP Ecological Soil Screening Criteria
Reporting limit (RL) exceeds the screening criteria
ND=analyte not detected above the reporting limit
B=analyte found in the analysis batch blank
J=analyte detected at or above the MDL (method detection limit) but below the RL (Reporting Limit) - data is estimated
D=result is from an analysis that required a dilution
ESC NOTES:
(a) Criteria as listed at (f)3 below as formula
(d) Criterion is expressed as a function of the Water Effect Ratio (WER). For criterion in the table, WER equates to the default value of 1.0.
(s) Dissolved criterion
8. USEPA Region 5, RCRA Ecological Screening Levels (ESLs) represent a protective benchmark (e.g., water quality criteria, sediment quality guidelines/ criteria, and chronic no adverse effect levels) for 223 contaminants and are not intended to serve as cleanup levels, but are intended to function as screening levels. http://www.epa.gov/reg5rcra/ca/ESL.pdf
16. Westhollow Technical Center Levels were developed by Shell Oil for surface water and were approved for use by NJDEP with the following conditions: 1) the source area is removed, 2) these levels are on the fringe of the contamination area, and 3) active remediation is occurring. These levels are applicable to surface water and wetland areas.
17. USEPA Ambient Water Quality Criteria Update for Methyl Tertiary-Butyl Ether (MTBE) http://www.epa.gov/waterscience/criteria/mtbe-fs.html

FIGURES



Map Reference: USGS Topographic Quadrangle – Weehawken, NJ (1995)

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NEW HAVEN, CT • MIAMI, FL • TRENTON, NJ

USGS SITE LOCATION MAP

AMUSEMENT PARK AND WATER PARK
AMERICAN DREAM MEADOWLANDS
BLOCK 107.02, LOT 3

EAST RUTHERFORD **NEW JERSEY**

JOB NO.	DATE	SCALE	FIGURE NO.
100234201	10/13/2011	1"=2,000'	1

NJ Certificate of Authorization No: 24GA27996400
\\langan.com\data\EP\data2\100234201\Office Data\Reports\Environmental\Site Investigation\Figures\Figure 1 - USGS Site Location Map.doc



Map Reference: Promaps Inc. Flyover Aerial Photography (6-2011)

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NEW HAVEN, CT • MIAMI, FL • TRENTON, NJ

PROPERTY PLAN
AMUSEMENT PARK AND WATER PARK
AMERICAN DREAM MEADOWLANDS
BLOCK 107.02, LOT 3

EAST RUTHERFORD — NEW JERSEY

JOB NO.	DATE	SCALE	FIGURE NO.
100234201	10/13/2011	1"=600'	2

NJ Certificate of Authorization No: 24GA27996400
\\langan.com\data\EP\data2\100234201\Office Data\Reports\Environmental\Site Investigation\Figures\Figure 2 - Site Aerial Photograph.doc

CLIENT ID:		NJDEP RSRS	NJDEP NRSRS	NJDEP IGWSRS	C-2F	
COLLECTION DATE:					2/14/2008	
SAMPLE DEPTH:					3-3.5'	
UNITS		(mg/Kg)	(mg/Kg)	(mg/Kg)	Result	Flg RL
Volatile Organics					ND	
Base Neutral Organics					No Exceedence	
Metals						
Mercury		23	65	0.1	0.14	2.5
Lead		400	800	59	87	6.2
Total PCBs		0.2	1	0.2	0.36	
Pesticides					No Exceedence	
Total Petroleum Hydrocarbons		5100	5100	5100	200	78
Cyanide		1,600	23,000	13	0.59	0.32
Total Phenolics					ND	1.6

CLIENT ID:	NJDEP RSRS	NJDEP NRSRS	NJDEP IGWSRS	S-2A	S-2B
LAB ID:				AC60251-007	AC60251-008
COLLECTION DATE:				7/5/2011	7/5/2011
SAMPLE DEPTH:				0-0.5'	0.5'-1.0
UNITS:	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Metals					
Mercury	23	65	0.1	0.5	0.84
Aluminum	78,000	---	3,900	13,000	6,500
Lead	400	800	59	130	33
Manganese	11,000	5,900	42	180	180

CLIENT ID:		NJDEP RSRS	NJDEP NRSRS	NJDEP IGWSRS	C-4F	
COLLECTION DATE:					2/14/2008	
SAMPLE DEPTH:					1-1.5'	
UNITS		(mg/Kg)	(mg/Kg)	(mg/Kg)	Result	Flg RL
Volatile Organics					No Exceedence	
Base Neutral Organics					No Exceedence	
Metals						
Mercury		23	65	0.1	0.21	0.1
Total PCBs		0.2	1	0.2	0.35	
Pesticides					No Exceedence	
Total Petroleum Hydrocarbons		5100	5100	5100	71	70
Cyanide		1,600	23,000	13	ND	0.29
Total Phenolics					ND	1.5

CLIENT ID:		NJDEP RSRS	NJDEP NRSRS	NJDEP IGWSRS	F-2F		F-2N	
COLLECTION DATE:					2/14/2008		2/14/2008	
SAMPLE DEPTH:					6.5-7'		13.5-14'	
UNITS		(mg/Kg)	(mg/Kg)	(mg/Kg)	Result	Flg RL	Result	Flg RL
Volatile Organics					NE		NE	
Base Neutral Organics								
Bis(2-Ethylhexyl)phthalate		35	140	790	51	7.7	ND	1.1
Metals								
Mercury		23	65	0.1	1.5	0.13	NA	
Antimony		31	450	6	6.3	3.1	NA	
Beryllium		16	140	0.5	0.99	0.92	NA	
Cadmium		78	78	1	17	0.92	NA	
Lead		400	800	59	250	7.7	NA	
Nickel		1,600	23,000	31	45	7.7	NA	
Total PCBs		0.2	1	0.2	0.65		ND	
Pesticides					No Exceedence		NA	
Total Petroleum Hydrocarbons		5100	5100	5100	1500	92	NA	
Cyanide		1,600	23,000	13	1.2	0.38	NA	
Total Phenolics					ND	1.9	NA	

CLIENT ID:		NJDEP RSRS	NJDEP NRSRS	NJDEP IGWSRS	S-1A	S-1B
LAB ID:					AC60251-009	AC60251-010
COLLECTION DATE:					7/5/2011	7/5/2011
SAMPLE DEPTH:					0-0.5'	0.5'-1.0
UNITS:		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Metals						
Manganese		11,000	5,900	42	56	39

CLIENT ID:		NJDEP RSRS	NJDEP NRSRS	NJDEP IGWSRS	C-2F	
COLLECTION DATE:					2/14/2008	
SAMPLE DEPTH:					3-3.5'	
UNITS		mg/Kg	mg/Kg	mg/Kg	Result	Flg RL
Volatile Organics					ND	
Base Neutral Organics					No Exceedence	
Metals						
Mercury		23	65	0.1	0.1	0.1
Antimony		31	450	6	0.99	2.5
Cadmium		78	78	1	0.9	0.74
Lead		400	800	59	4800	6.2
Nickel		1,600	23,000	31	74	6.2
Silver		390	5,700	1	2	1.9
Pesticides					ND	
Total Petroleum Hydrocarbons		5100	5100	5100	350	74
Total PCBs		0.2	1	0.2	0.2	
Cyanide		1,600	23,000	13	1.5	0.31
Total Phenolics					1.5	1.5

Sample Location:		NJDEP Class IIA GW Quality Standards (ug/L)	TMW-1
Date:			8/25/2011
Sample Units:			ug/L
Analyte			
Volatile Organics			
Methylene chloride	3		6.8
Metals			
Aluminum	200		3610
Lead	5		241
Manganese	50		455
Sodium	50000		360000

CLIENT ID:		NJDEP RSRS	NJDEP NRSRS	NJDEP IGWSRS	C-2F	C-2A	C-2B	C-2C	C-2D	C-2E-1
LAB ID:					AC35821-005	11H0954-07	11H0954-08	11H0954-09	11H0954-10	11H0954-11
COLLECTION DATE:					2/14/2008	8/25/2011	8/25/2011	8/25/2011	8/25/2011	8/25/2011
SAMPLE DEPTH:					3-3.5'	3-3.5'	3-3.5'	3-3.5'	3-3.5'	8-8.5'
UNITS:		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Metals										
Antimony		31	450	6	690	ND	ND	ND	ND	ND

CLIENT ID:		NJDEP RSRS	NJDEP NRSRS	NJDEP IGWSRS	C-1F	
COLLECTION DATE:					2/14/2008	
SAMPLE DEPTH:					3.5-4'	
UNITS		mg/Kg	mg/Kg	mg/Kg	Result	Flg RL
Volatile Organics						
VOCs					ND	
Base Neutral Organics						
Benzo(a)anthracene		0.6	2	0.5	3.2	1.2
Benzo(a)pyrene		0.2	0.2	0.2	2.8	1.2
Benzo(b)fluoranthene		0.6	2	2	3.3	1.2
Indeno(1,2,3-cd)pyrene		0.6	2	5	1.4	1.2
Metals						
Mercury		23	65	0.1	0.17	2.5
Lead		400	800	59	390	6.2
Total PCBs		0.2	1	0.2	ND	
Pesticides					No Exceedence	
Total Petroleum Hydrocarbons		5100	5100	5100	7700	370
Cyanide		1,600	23,000	13	0.63	0.3
Total Phenolics					ND	1.5

CLIENT ID:		NJDEP RSRS	NJDEP NRSRS	NJDEP IGWSRS	C-1F	C-1A	C-1B	C-1C	C-1D	C-1E-1
LAB ID:					AC35821-003	11H0954-01	11H0954-02	11H0954-03	11H0954-04	11H0954-05
COLLECTION DATE:					2/14/2008	8/25/2011	8/25/2011	8/25/2011	8/25/2011	8/25/2011
SAMPLE DEPTH:					3.5-4'	3.5-4'	3.5-4'	3.5-4'	3.5-4'	6.5-7'
UNITS:		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
TPH/EPH										
TPH/EPH		5,100	5,100	5,100	7700	375	191	477	ND	ND

CLIENT ID:		NJDEP RSRS	NJDEP NRSRS	NJDEP IGWSRS	C-6	
COLLECTION DATE:					8/23/2011	
MATRIX:					Soil	
UNITS:		mg/Kg	mg/Kg	mg/kg	Concrete	
					mg/kg dry	
ANALYTE					Result	MDL
Volatile Organics						
Methylene chloride		34	97	0.007	0.803	0.023
Metals						
Aluminum		78000	---	3900	11000	1.28
Manganese		11000	5900	42	400	0.081

CLIENT ID:		NJDEP RSRS	NJDEP NRSRS	NJDEP IGWSRS	D-1	
COLLECTION DATE:					2/14/2008	
SAMPLE DEPTH:					0-0.5'	
UNITS		(mg/Kg)	(mg/Kg)	(mg/Kg)	Result	Flg RL
Volatile Organics					NA	
Base Neutral Organics					NA	
Metals					NA	
Total PCBs		0.2	1	0.2	0.45	
Pesticides					NA	
Total Petroleum Hydrocarbons		5100	5100	5100	NA	
Cyanide		1,600	23,000	13	NA	
Total Phenolics					NA	

CLIENT ID:		NJDEP RSRS	NJDEP NRSRS	NJDEP IGWSRS	S-3A	S-3B
LAB ID:					AC60251-005	AC60251-006
COLLECTION DATE:					7/5/2011	7/5/2011
SAMPLE DEPTH:					0-0.5'	0.5'-1.0
UNITS:		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Metals						
Mercury		23	65	0.1	0.42	ND
Aluminum		78,000	---	3,900	6,500	6,200
Lead		400	800	59	130	27
Manganese		11,000	5,900	42	310	68

Sample Location:		NJDEP Class IIA GW Quality Standards (ug/L)	TMW-4
Date:			8/25/2011
Sample Units:			ug/L
Analyte			
Volatile Organics			
Methylene chloride	3		6.3
Semi-Volatiles			
Bis(2-ethylhexyl)phthalate	3		9.38
Metals			
Aluminum	200		9230
Lead	5		78
Manganese	50		3150
Nickel	100		398
Selenium	40		58
Sodium	50000		228000
Zinc	2000		2150

CLIENT ID:		NJDEP RSRS	NJDEP NRSRS	NJDEP IGWSRS	S-4A	S-4B
LAB ID:					AC60251-003	AC60251-004
COLLECTION DATE:					7/5/2011	7/5/2011
SAMPLE DEPTH:					0-0.5'	0.5-1.0
UNITS:		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
PCBs						
Total PCBs		0.2	1	0.2	0.34	1.6
Metals						
Mercury		23	65	0.1	2.3	2.5
Aluminum		78,000	---	3,900	9000	14000
Antimony		31	450	6	13	26
Cadmium		78	78	1	6.9	7.9
Lead		400	800	59	1,200	1,800
Manganese		11,000	5,900	42	600	390
Nickel		1,600	23,000	31	150	120
Selenium		390	5,700	7	5.7	9
Silver		390	5,700	1	9	16
Zinc		23,000	110,000	600	1,600	1,600

Sample Location:		NJDEP Class IIA GW Quality Standards (ug/L)	TMW-2
Date:			8/25/2011
Sample Units:			ug/L
Analyte			
Volatile Organics			
Methylene chloride	3		11
Metals			
Aluminum	200		1360
Lead	5		946
Manganese	50		970

CLIENT ID:		NJDEP RSRS	NJDEP NRSRS	NJDEP IGWSRS	C-2F	C-2N
COLLECTION DATE:					2/14/2008	2/14/2008
SAMPLE DEPTH:					5.5-6'	12.5-13'
UNITS		(mg/Kg)	(mg/Kg)	(mg/Kg)	Result Flg RL	Result Flg RL
Volatile Organics						
1,4-Dichlorobenzene		5	13	1	4	0.23 NA
Chlorobenzene		510	7,400	0.4	0.53	0.23 NA
Base Neutral Organics						
Bis(2-Ethylhexyl)phthalate		35	140	790	41	7.8 NA
Metals						
Mercury		23	65	0.1	4.1	0.19 NA
Antimony		31	450	6	20	4.5 ND
Arsenic		19	19	19	24	4.5 20
Cadmium		78	78	1	3.9	1.4 NA
Lead		400	800	59	1400	11 ND
Nickel		1,600	23,000	31	71	11 NA
Silver		390	5,700	1	710	23 NA
Total PCBs		0.2	1	0.2	0.62	ND
Pesticides						
Total Petroleum Hydrocarbons		5100	5100	5100	2800	140 NA
Cyanide		1,600	23,000	13	1.8	0.57 NA
Total Phenolics					4	2.8 NA

CLIENT ID:		NJDEP RSRS	NJDEP NRSRS	NJDEP IGWSRS	F-1F		F-1N	
COLLECTION DATE:					2/14/2008		2/14/2008	
SAMPLE DEPTH:					5-5.5'		14-14.5'	
UNITS		(mg/Kg)	(mg/Kg)	(mg/Kg)	Result	Flg RL	Result	Flg RL
Volatile Organics					NE		NE	
Base Neutral Organics								
Benzo(a)anthracene		0.6	2	0.5	2.8	J 7.8	ND	1.2
Benzo(a)pyrene		0.2	0.2	0.2	3.1	J 7.8	ND	1.2
Benzo(b)fluoranthene		0.6	2	2	2.7	J 7.8	ND	1.2
Bis(2-Ethylhexyl)phthalate		35	140	790	74	7.8	ND	1.2
Indeno(1,2,3-cd)pyrene		0.6	2	5	1.1	J 7.8	ND	1.2
Metals								
Antimony		31	450	6	6.1	3.1	ND	7.4
Lead		400	800	59	1200	7.8	21	19
Silver		390	5,700	1	12	7.8	NA	
Zinc		23000	110000	600	1700	16	110	37
Total PCBs		0.2	1	0.2	3.09		ND	
Pesticides					No Exceedence		NA	
Total Petroleum Hydrocarbons		5100	5100	5100	5100	140	NA	
Cyanide		1,600	23,000	13	1.6	0.39	NA	
Total Phenolics					2.5	2	NA	

CLIENT ID:		NJDEP RSRS	NJDEP NRSRS	NJDEP IGWSRS	C-6F	C-6N
COLLECTION DATE:					2/14/2008	2/14/2008
SAMPLE DEPTH:					7-7.5'	14-14.5'
UNITS		(mg/Kg)	(mg/Kg)	(mg/Kg)	Result Flg RL	Result Flg RL
Volatile Organics						
Chlorobenzene		510	7,400	0.4	0.42	0.23 NA
Base Neutral Organics						
Benzo(a)anthracene		0.6	2	0.5	0.96 J	1.9 ND
Benzo(a)pyrene		0.2	0.2	0.2	0.34 J	1.9 ND
Benzo(b)fluoranthene		0.6	2	2	0.68	1.9 ND
Metals						
Mercury		23	65	0.1	2.2	0.16 ND
Arsenic		19	19	19	6.3	3.8 ND
Cadmium		78	78	1	7	1.2 ND
Lead		400	800	59	1300	9.6 49
Nickel		1,600	23,000	31	53	9.6 ND
Silver		390	5,700	1	4.3	2.9 ND
Zinc		23000	110000	600	1200	19 71
Total PCBs		0.2	1	0.2	0.81	ND
Pesticides						
Chlordane		0.2	1	0.03	0.49	0.02 NA
Total Petroleum Hydrocarbons		5100	5100	5100	3800	120 NA
Cyanide		1,600	23,000	13	6	0.48 NA
Total Phenolics					3.7	2.4 NA

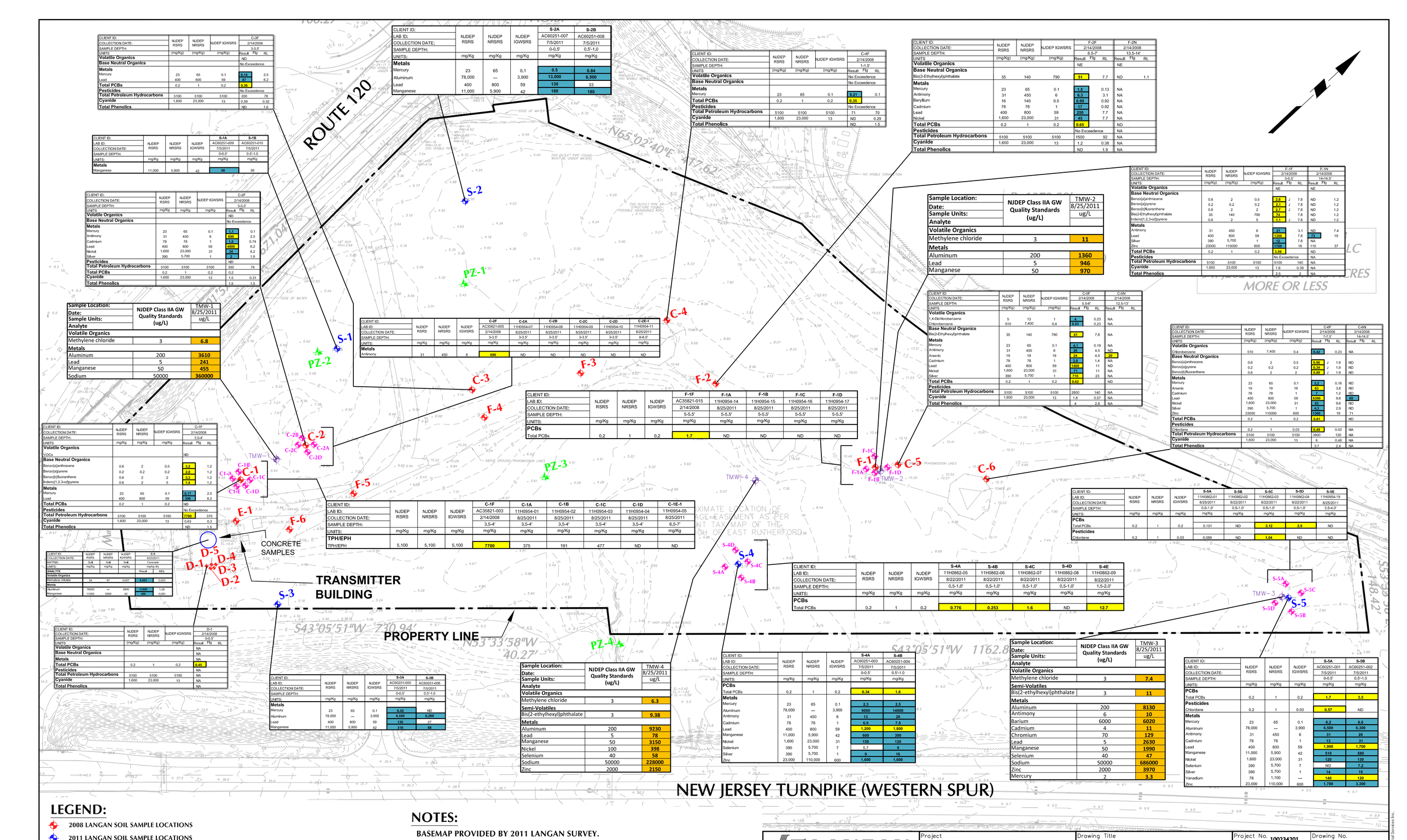
CLIENT ID:		NJDEP RSRS	NJDEP NRSRS	NJDEP IGWSRS	S-5A	S-5B	S-5C	S-5D	S-5E
LAB ID:					11H0862-01	11H0862-02	11H0862-03	11H0862-04	11H0954-19
COLLECTION DATE:					8/22/2011	8/22/2011	8/22/2011	8/22/2011	8/25/2011
SAMPLE DEPTH:					0.5-1.0'	0.5-1.0'	0.5-1.0'	0.5-1.0'	3.5-4.0'
UNITS:		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
PCBs									
Total PCBs		0.2	1	0.2	0.101	ND	3.12	2.9	ND
Pesticides									
Chlordane		0.2	1	0.03	0.089	ND	1.04	ND	ND

CLIENT ID:		NJDEP RSRS	NJDEP NRSRS	NJDEP IGWSRS	S-4A	S-4B	S-4C	S-4D	S-4E
LAB ID:					11H0862-05	11H0862-06	11H0862-07	11H0862-08	11H0862-09
COLLECTION DATE:					8/22/2011	8/22/2011	8/22/2011	8/22/2011	8/22/2011
SAMPLE DEPTH:					0.5-1.0'	0.5-1.0'	0.5-1.0'	0.5-1.0'	1.5-2.0'
UNITS:		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
PCBs									
Total PCBs		0.2	1	0.2	0.776	0.253	1.6	ND	12.7

Sample Location:		NJDEP Class IIA GW Quality Standards (ug/L)	TMW-3
Date:			8/25/2011
Sample Units:			ug/L
Analyte			
Volatile Organics			
Methylene chloride	3		7.4
Semi-Volatiles			
Bis(2-ethylhexyl)phthalate	3		11
Metals			
Aluminum	200		8130
Antimony	6		10
Barium	6000		6020
Cadmium	4		11
Chromium	70		129
Lead	5		2630
Manganese	50		1990
Selenium	40		47
Sodium	50000		686000
Zinc	2000		3970
Mercury	2		3.3

CLIENT ID:		NJDEP RSRS	NJDEP NRSRS	NJDEP IGWSRS	S-5A	S-5B
LAB ID:					AC60251-001	AC60251-002
COLLECTION DATE:					7/5/2011	7/5/2011
SAMPLE DEPTH:					0-0.5'	0.5'-1.0
UNITS:		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
PCBs						
Total PCBs		0.2	1	0.2	1.7	3.5
Pesticides						
Chlordane		0.2	1	0.03	0.57	ND
Metals						
Mercury		23	65	0.1	6.2	6.6
Aluminum		78,000	---	3,900	6,500	6,300
Antimony		31	450	6	31	26
Cadmium		78	78	1	13	11
Lead		400	800	59	1,900	1,700
Manganese		11,000	5,900	42	510	580
Nickel		1,600	23,000	31	120	130
Selenium		390	5,700	7	ND	7.2
Silver		390	5,700	1	14	19
Vanadium		78	1,100	---	140	120
Zinc		23,000	110,000	600	1,700	3,300

CLIENT ID:		NJDEP RSRS	NJDEP NRSRS	NJDEP IGWSRS	F-1F	F-1A	F-1B	F-1C	F-1D
LAB ID:					AC35821-015	11H0954-14	11H0954-15	11H0954-16	11H0954-17
COLLECTION DATE:					2/14/2008	8/25/2011	8/25/2011	8/25/2011	8/25/2011
SAMPLE DEPTH:					5-5.5'	5-5.5'	5-5.5'	5-5.5'	5-5.5'
UNITS:		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
PCBs									
Total PCBs		0.2	1	0.2	1.7	ND	ND	ND	ND



LEGEND:

- 2008 LANGAN SOIL SAMPLE LOCATIONS
- 2011 LANGAN SOIL SAMPLE LOCATIONS
- PIEZOMETER LOCATIONS
- 2011 LANGAN TEMPORARY WELL SAMPLING LOCATIONS
- 2011 LANGAN SOIL BORING LOCATIONS
- EXCEEDANCE OF NJDEP IMPACT TO GROUNDWATER SOIL REMEDIATION STANDARDS
- EXCEEDANCE OF NJDEP RESIDENTIAL OR NON-RESIDENTIAL SOIL REMEDIATION STANDARDS
- EXCEEDANCE OF NJDEP CLASS IIA GROUNDWATER QUALITY STANDARD

NOTES:

BASEMAP PROVIDED BY 2011 LANGAN SURVEY.

SAMPLE LOCATIONS WITHOUT CHEM BOXES DID NOT CONTAIN SAMPLE RESULTS EXCEEDING APPLICABLE NJDEP STANDARDS.

60 0 30 60
SCALE IN FEET

LANGAN ENGINEERING & ENVIRONMENTAL SERVICES
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NEW JERSEY PENNSYLVANIA NEW YORK CONNECTICUT FLORIDA NEVADA VIRGINIA CALIFORNIA
NJ Certificate of Authorization No: 24GA27996400

Project: Block 107.2, Lot 3
EAST RUTHERFORD
BERGEN NEW JERSEY

Drawing Title: SITE INVESTIGATION SOIL AND GROUNDWATER ANALYTICAL RESULTS

Project No. 100234201
Date 08/18/2011
Scale 1" = 60'
Drn. By DB
Last Revised MEB

Drawing No. 3

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Filename: \\Langan.com\data\EP\data2\100234201\Cadd Data - 100234201\Environmental\Site Investigation\Fig 3 Soil Sampling Location and Results.dwg Date: 10/10/2011 Time: 14:37 User: ebuckley Style Table: Langan.stb Layout: Layout1



Map Reference: Promaps Inc. Flyover Aerial Photography (6-2011); NJDEP & NJGS Historic Fill Map (2009)

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ELMWOOD PK, NJ • NEW YORK, NY • PHILADELPHIA, PA • DOYLESTOWN, PA
NEW HAVEN, CT • MIAMI, FL • TRENTON, NJ

NJGS HISTORIC FILL MAP
AMUSEMENT PARK AND WATER PARK
AMERICAN DREAM MEADOWLANDS
BLOCK 107.02, LOT 3

EAST RUTHERFORD — NEW JERSEY

JOB NO.	DATE	SCALE	FIGURE NO.
100234201	10/13/2011	1"=600'	4

NJ Certificate of Authorization No: 24GA27996400
\\langan.com\data\EP\data2\100234201\Office Data\Reports\Environmental\Site Investigation\Figures\Figure 4 - NJGS Historic Fill Map.doc

APPENDIX A

Soil Boring Logs

LOG OF BORING NO: E-1 Sheet 1 of 1

Project Name	Disney Parcel	**Project No.**	1860001
Boring Location	East Rutherford, NJ	**Elevation and Datum**	
Drilling Company	S & S Subsurface Investigations, Inc.	**Date Started** 2/14/2008	**Date Finished** 2/14/2008
Drilling Equipment	Track-Mounted Geoprobe 7720DT	**Completion Depth** 10.0 Feet	**Rock Depth** Not Encountered
Size and Type of Bit	2" Diameter Push Rod		
Casing			
Casing Hammer **Weight** ---	**Drop** ---	**Water Level**	---
Sampler	5', 2" OD Acetate Lined Macrocore	**Driller**	Art Salvatore
Sampler Hammer Weight ---	**Drop** ---	**Inspector**	TA

Depth (ft)	S	Type	Recov. (ft)	PID ppm	DESCRIPTION	REMARKS
1			4.0	0.0	Dark Brown f SAND & SILT, some f-c Gravel	Sample E-1F collected from 0-0.5'
2				0.0	Reddish Brown f SAND, some Silt & f-c Gravel	
3				0.0		Sample E-1N collected from 2.5-3.0 feet
4				0.0	Brown & Reddish Brown f-m SAND	Wet at 3 feet Sample held for contingent analysis
5				0.0	Gray/Brown SILT & f SAND, some f Gravel	
6			4.5	0.0	Brown f SAND & SILT, trace f gravel (runny)	
7				0.0	Brown/Gray f SAND & SILT, some smooth f Gravel	
8				0.0		
9				0.0	Dark Brown SILT & ORGANICS	
10				2.2		
11					End of Boring at 10 feet	
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						

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LOG OF BORING NO: C-1 Sheet 1 of 1

Project Name	Disney Parcel	**Project No.**	1860001
Boring Location	East Rutherford, NJ	**Elevation and Datum**	
Drilling Company	S & S Subsurface Investigations, Inc.	**Date Started** 2/14/2008	**Date Finished** 2/14/2008
Drilling Equipment	Track-Mounted Geoprobe 7720DT	**Completion Depth** 10.0 Feet	**Rock Depth** Not Encountered
Size and Type of Bit	2" Diameter Push Rod		
Casing			
Casing Hammer Weight ---	**Drop** ---	**Water Level**	---
Sampler	5', 2" OD Acetate Lined Macrocore	**Driller**	Art Salvatore
Sampler Hammer Weight ---	**Drop** ---	**Inspector**	TA

Depth (ft)	S	Type	Recov. (ft)	PID ppm	DESCRIPTION	REMARKS
1			4.0	0.0	Dark Brown f SAND & SILT, some f-c Gravel, trace organics	
2				0.0	Brown f SAND & SILT, some Brick, f-c Gravel, & Concrete	
3				0.0		
4				0.0		Sample C-1F collected from 3.5-4.0 feet
5				0.0		
6			3.0	0.0	Brown f SAND & SILT, some f-m Gravel & Wood, trace brick	
7				2.7	Dark Brown SILT & ORGANICS	
8				13.7		
9				44.0		Sample C-1N collected from 8.5-9.0 feet
10				27.4		
11					End of Boring at 10 feet	
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
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24						
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LOG OF BORING NO: C-2(1) Sheet 1 of 1

Project Name	Disney Parcel	**Project No.**	1860001
Boring Location	East Rutherford, NJ	**Elevation and Datum**	
Drilling Company	S & S Subsurface Investigations, Inc.	**Date Started**	**Date Finished**
Drilling Equipment	Track-Mounted Geoprobe 7720DT	2/14/2008	2/14/2008
Size and Type of Bit	2" Diameter Push Rod	**Completion Depth**	**Rock Depth**
Casing		2.0 Feet	Not Encountered
Casing Hammer Weight ---	**Drop** ---	**Water Level**	---
Sampler	5', 2" OD Acetate Lined Macrocore	**Driller**	Art Salvatore
Sampler Hammer Weight ---	**Drop** ---	**Inspector**	TA

Depth (ft)	S	Type	Recov. (ft)	PID ppm	DESCRIPTION	REMARKS
1			1.5	0.0	Brown SILT & f SAND, some f Gravel & Organ	
2				0.0	Brown SILT & f SAND, some f Gravel	
3					Refusal at 2 feet	
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
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LOG OF BORING NO: C-2(2) Sheet 1 of 1

Project Name	Disney Parcel	**Project No.**	1860001
Boring Location	East Rutherford, NJ	**Elevation and Datum**	
Drilling Company	S & S Subsurface Investigations, Inc.	**Date Started** 2/14/2008	**Date Finished** 2/14/2008
Drilling Equipment	Track-Mounted Geoprobe 7720DT	**Completion Depth** 3.0 Feet	**Rock Depth** Not Encountered
Size and Type of Bit	2" Diameter Push Rod		
Casing			
Casing Hammer Weight ---	**Drop** ---	**Water Level**	---
Sampler	5', 2" OD Acetate Lined Macrocore	**Driller**	Art Salvatore
Sampler Hammer Weight ---	**Drop** ---	**Inspector**	TA

Depth (ft)	S	Type	Recov. (ft)	PID ppm	DESCRIPTION	REMARKS
1				0.0	Brown SILT & f SAND, some f Gravel & Organ	
2			2.0	0.0	Brown SILT & f SAND, some f Gravel	
3				0.0		
4					Refusal at 3 feet	
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
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LOG OF BORING NO: C-2 Sheet 1 of 1

Project Name	Disney Parcel	**Project No.**	1860001
Boring Location	East Rutherford, NJ	**Elevation and Datum**	
Drilling Company	S & S Subsurface Investigations, Inc.	**Date Started**	**Date Finished**
Drilling Equipment	Track-Mounted Geoprobe 7720DT	2/14/2008	2/14/2008
Size and Type of Bit	2" Diameter Push Rod	**Completion Depth**	**Rock Depth**
Casing		12.0 Feet	Not Encountered
Casing Hammer Weight ---	**Drop** ---	**Water Level**	---
Sampler	5', 2" OD Acetate Lined Macrocore	**Driller**	Art Salvatore
Sampler Hammer Weight ---	**Drop** ---	**Inspector**	TA

Depth (ft)	S	Type	Recov. (ft)	PID ppm	DESCRIPTION	REMARKS
1				0.0	Brown SILT & f SAND, some f Gravel & Organ	
2				0.0	Brown SILT & f SAND, some f Gravel	
3			3.0	0.0		
4				0.0	Brown SILT & f SAND, some f-c Gravel, Concrete, & Brick, trace rock fragments	Sample C-2F collected from 3.0-3.5 feet
5				0.0		
6					Brown/Gray SILT, some Wood & f-c Gravel (runny)	
7				0.0		
8			3.5	0.0		
9				0.0		
10				0.0		
11				0.0	Brown/Gray SILT, some Concrete, Brick, & Rock Fragments	
12			2.0	0.0	Dark Brown SILT & f SAND	Sample C-2N collected from 11.5-12.0 feet
13					Refusal at 12 feet	
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
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LOG OF BORING NO: C-3(1) Sheet 1 of 1

Project Name	Disney Parcel	**Project No.**	1860001
Boring Location	East Rutherford, NJ	**Elevation and Datum**	
Drilling Company	S & S Subsurface Investigations, Inc.	**Date Started** 2/14/2008	**Date Finished** 2/14/2008
Drilling Equipment	Track-Mounted Geoprobe 7720DT	**Completion Depth** 3.0 Feet	**Rock Depth** Not Encountered
Size and Type of Bit	2" Diameter Push Rod		
Casing			
Casing Hammer Weight ---	**Drop** ---	**Water Level**	---
Sampler	5', 2" OD Acetate Lined Macrocore	**Driller**	Art Salvatore
Sampler Hammer Weight ---	**Drop** ---	**Inspector**	TA

Depth (ft)	S	Type	Recov. (ft)	PID ppm	DESCRIPTION	REMARKS
1					Brown & Reddish Brown f SAND & SILT, some f Gravel	
2			2.0	0.0		
3				0.0		
4					Refusal at 3 feet	
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
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LOG OF BORING NO: C-3(2) Sheet 1 of 1

Project Name	Disney Parcel	**Project No.**	1860001
Boring Location	East Rutherford, NJ	**Elevation and Datum**	
Drilling Company	S & S Subsurface Investigations, Inc.	**Date Started** 2/14/2008	**Date Finished** 2/14/2008
Drilling Equipment	Track-Mounted Geoprobe 7720DT	**Completion Depth** 4.0 Feet	**Rock Depth** Not Encountered
Size and Type of Bit	2" Diameter Push Rod		
Casing			
Casing Hammer Weight ---	**Drop** ---	**Water Level**	---
Sampler	5', 2" OD Acetate Lined Macrocore	**Driller**	Art Salvatore
Sampler Hammer Weight ---	**Drop** ---	**Inspector**	TA

Depth (ft)	S	Type	Recov. (ft)	PID ppm	DESCRIPTION	REMARKS
1					Brown & Reddish Brown f SAND & SILT, some f Gravel	
2				0.0		
3			3.5	0.0		
4				0.0	Reddish Brown SILT, some f Sand & f Gravel	
5					Refusal at 4 feet	
6						
7						
8						
9						
10						
11						
12						
13						
14						
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16						
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LOG OF BORING NO: C-3 Sheet 1 of 1

Project Name	Disney Parcel	**Project No.**	1860001
Boring Location	East Rutherford, NJ	**Elevation and Datum**	
Drilling Company	S & S Subsurface Investigations, Inc.	**Date Started** 2/14/2008	**Date Finished** 2/14/2008
Drilling Equipment	Track-Mounted Geoprobe 7720DT	**Completion Depth** 6.0 Feet	**Rock Depth** Not Encountered
Size and Type of Bit	2" Diameter Push Rod		
Casing		**Water Level**	---
Casing Hammer Weight ---	**Drop** ---	**Driller**	Art Salvatore
Sampler	5', 2" OD Acetate Lined Macrocore	**Inspector**	TA
Sampler Hammer Weight ---	**Drop** ---		

Depth (ft)	S	Type	Recov. (ft)	PID ppm	DESCRIPTION	REMARKS
1					Brown & Reddish Brown f SAND & SILT, some f Gravel	
2				0.0		
3			3.5	0.0		
4				0.0		Sample C-3F collected from 3.0-3.5 feet
5				0.0	Reddish Brown SILT, some f Sand & f Gravel, trace glass	
6			1.0	0.0	Brown SILT, some Clay & f Sand, trace f gravel	Sample C-3N collected from 5.5-6.0 feet
7					Refusal at 6 feet	Sample held for contingent analysis
8						
9						
10						
11						
12						
13						
14						
15						
16						
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LOG OF BORING NO: C-4 Sheet 1 of 1

Project Name	Disney Parcel	**Project No.**	1860001
Boring Location	East Rutherford, NJ	**Elevation and Datum**	
Drilling Company	S & S Subsurface Investigations, Inc.	**Date Started** 2/14/2008	**Date Finished** 2/14/2008
Drilling Equipment	Track-Mounted Geoprobe 7720DT	**Completion Depth** 15.0 Feet	**Rock Depth** Not Encountered
Size and Type of Bit	2" Diameter Push Rod		
Casing			
Casing Hammer Weight ---	**Drop** ---	**Water Level**	---
Sampler	5', 2" OD Acetate Lined Macrocore	**Driller**	Art Salvatore
Sampler Hammer Weight ---	**Drop** ---	**Inspector**	TA

Depth (ft)	S	Type	Recov. (ft)	PID ppm	DESCRIPTION	REMARKS
1			3.5	0.0	Reddish Borwn f SAND, some Silt & f-c Gravel	Sample C-4F collected from 1.0-1.5 feet
2				0.0		
3				0.0		
4				0.0		
5				0.0	Brown/Gray CLAY & SILT	
6			5.0	0.0	Reddish/Brown SILT, some f Sand	
7				0.0	Brown SILT Brown/Gray SILT, some Organics, trace clay	
8				0.0		
9				0.0		
10				0.0	WOOD, some Nylon Netting	
11			4.0	0.0	Reddish Borwn f-m SAND	
12				0.0		
13				0.0		
14				0.0	WOOD	
15				0.0	Dark Brown SILT & ORGANICS	Sample C-4N collected from 14.5-15.0 feet Sample held for contingent analysis
16					End of Boring at 15 feet	
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LANGAN Engineering & Environmental Services, Inc.
River Drive Center 1, Elmwood Park, NJ 07407

LOG OF BORING NO: C-5 Sheet 1 of 1

Project Name	Disney Parcel	**Project No.**	1860001
Boring Location	East Rutherford, NJ	**Elevation and Datum**	
Drilling Company	S & S Subsurface Investigations, Inc.	**Date Started** 2/14/2008	**Date Finished** 2/14/2008
Drilling Equipment	Track-Mounted Geoprobe 7720DT		
Size and Type of Bit	2" Diameter Push Rod	**Completion Depth** 15.0 Feet	**Rock Depth** Not Encountered
Casing			
Casing Hammer Weight ---	**Drop** ---	**Water Level**	---
Sampler	5', 2" OD Acetate Lined Macrocore	**Driller**	Art Salvatore
Sampler Hammer Weight ---	**Drop** ---	**Inspector**	TA

Depth (ft)	S	Type	Recov. (ft)	PID ppm	DESCRIPTION	REMARKS
1				0.0	Reddish Brown f SAND & SILT, some f-c Gravel, trace glass	
2				0.0		
3			3.5	0.0		
4				0.0		
5				0.0	Brown SILT & f SAND, some Wood	
6				4.0	Brown SILT & f SAND, some f-c Gravel & Glass, trace wood	Sample C-5F collected from 5.5-6.0 feet
7				0.0		
8			4.0	0.0		
9				0.0		
10				0.0	WOOD	
11				0.0	Brown SILT & f SAND, some f-c Gravel & Glass, trace wood	
12				3.5		
13			3.5	15.0	Dark Brown SILT & ORGANICS	Sample C-5N collected from 12.5-13.0 feet
14						
15				11.7		
16					End of Boring at 15 feet	
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LANGAN Engineering & Environmental Services, Inc.
River Drive Center 1, Elmwood Park, NJ 07407

LOG OF BORING NO: C-6 Sheet 1 of 1

Project Name	Disney Parcel	**Project No.**	1860001
Boring Location	East Rutherford, NJ	**Elevation and Datum**	
Drilling Company	S & S Subsurface Investigations, Inc.	**Date Started** 2/14/2008	**Date Finished** 2/14/2008
Drilling Equipment	Track-Mounted Geoprobe 7720DT		
Size and Type of Bit	2" Diameter Push Rod	**Completion Depth** 15.0 Feet	**Rock Depth** Not Encountered
Casing			
Casing Hammer Weight ---	**Drop** ---	**Water Level**	---
Sampler	5', 2" OD Acetate Lined Macrocore	**Driller**	Art Salvatore
Sampler Hammer Weight ---	**Drop** ---	**Inspector**	TA

Depth (ft)	S	Type	Recov. (ft)	PID ppm	DESCRIPTION	REMARKS
1			3.5	0.0	Brown & Reddish Brown f SAND & SILT, some f-c Gravel & Wood, trace glass & fabric	
2				0.0		
3				0.0		
4				0.0	Dark Gray f-m SAND	
5				0.0		
6			4.0	0.0		
7				4.3	Dark Brown SILT & f SAND, some Wood & f Gravel, trace clay, plastic, & glass	Sample C-6F collected from 7.0-7.5 feet
8				52.9		
9				0.0		
10				0.0		
11			4.0	0.0	Dark Gray/Brown f-m SAND, some f Gravel	
12				0.0		
13				0.0	Dark Gray/Brown f-m SAND & WOOD	
14				0.0	Dark Brown SILT & ORGANICS	Sample C-6N collected from 14.0-14.5 feet
15				0.0		
16					End of Boring at 15 feet	
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LANGAN Engineering & Environmental Services, Inc.
River Drive Center 1, Elmwood Park, NJ 07407

LOG OF BORING NO: F-1 Sheet 1 of 1

Project Name	Disney Parcel	**Project No.**	1860001
Boring Location	East Rutherford, NJ	**Elevation and Datum**	
Drilling Company	S & S Subsurface Investigations, Inc.	**Date Started** 2/14/2008	**Date Finished** 2/14/2008
Drilling Equipment	Track-Mounted Geoprobe 7720DT	**Completion Depth** 15.0 Feet	**Rock Depth** Not Encountered
Size and Type of Bit	2" Diameter Push Rod		
Casing			
Casing Hammer Weight ---	**Drop** ---	**Water Level**	---
Sampler	5', 2" OD Acetate Lined Macrocore	**Driller**	Art Salvatore
Sampler Hammer Weight ---	**Drop** ---	**Inspector**	TA

Depth (ft)	S	Type	Recov. (ft)	PID ppm	DESCRIPTION	REMARKS
1				0.0	Brown SILT & f SAND, some f-c Gravel & Glass, trace plastic, wood, & concrete	
2				0.0		
3			3.5	0.0		
4				5.9		
5				4.0		
6				10.0		Sample F-1F collected from 5.0-5.5 feet
7				1.7	WOOD / BRICK	
8			3.0	0.5	Dark Brown SILT & f SAND, some f-c Gravel / WOOD	
9				0.0	Dark Borwn SILT & f SAND, some f-c Gravel,	
10				0.0	Wood, & Glass, trace cardboard & gray sticky/gooey material	
11				0.0		
12				0.0		
13			3.0	0.0		
14				0.0		
15				0.0	Dark Brown SILT & ORGANICS	Sample F-1N collected from 14.0-14.5 feet
16					End of Boring at 15 feet	
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LANGAN Engineering & Environmental Services, Inc.
River Drive Center 1, Elmwood Park, NJ 07407

LOG OF BORING NO: F-2 Sheet 1 of 1

Project Name	Disney Parcel	**Project No.**	1860001
Boring Location	East Rutherford, NJ	**Elevation and Datum**	
Drilling Company	S & S Subsurface Investigations, Inc.	**Date Started** 2/14/2008	**Date Finished** 2/14/2008
Drilling Equipment	Track-Mounted Geoprobe 7720DT	**Completion Depth** 15.0 Feet	**Rock Depth** Not Encountered
Size and Type of Bit	2" Diameter Push Rod		
Casing			
Casing Hammer Weight ---	**Drop** ---	**Water Level**	---
Sampler	5', 2" OD Acetate Lined Macrocore	**Driller**	Art Salvatore
Sampler Hammer Weight ---	**Drop** ---	**Inspector**	TA

Depth (ft)	S	Type	Recov. (ft)	PID ppm	DESCRIPTION	REMARKS
1			3.5	0.0	Brown SILT & f SAND, some Concrete, f-c Gravel, & Wood, trace fabric	
2				0.0		
3				0.0		
4				0.0		
5				0.0	WOOD	
6			3.0	0.0	Brown SILT & f SAND, some f-c Gravel, Wood & Concrete, trace plastic	Sample F-2F collected from 6.5-7.0 feet
7				0.0		
8				0.0		
9				0.0		
10				0.0	WOOD	
11			2.0	0.0		
12				0.0		
13				0.0		
14				0.0	Brown SILT & ORGANICS	Sample F-2N collected from 13.5-14.0 feet
15				0.0		
16					End of Boring at 15 feet	
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LANGAN Engineering & Environmental Services, Inc.
River Drive Center 1, Elmwood Park, NJ 07407

LOG OF BORING NO: F-3 Sheet 1 of 1

Project Name	Disney Parcel	**Project No.**	1860001
Boring Location	East Rutherford, NJ	**Elevation and Datum**	
Drilling Company	S & S Subsurface Investigations, Inc.	**Date Started** 2/14/2008	**Date Finished** 2/14/2008
Drilling Equipment	Track-Mounted Geoprobe 7720DT	**Completion Depth** 10.0 Feet	**Rock Depth** Not Encountered
Size and Type of Bit	2" Diameter Push Rod		
Casing			
Casing Hammer Weight ---	**Drop** ---	**Water Level**	---
Sampler	5', 2" OD Acetate Lined Macrocore	**Driller**	Art Salvatore
Sampler Hammer Weight ---	**Drop** ---	**Inspector**	TA

Depth (ft)	S	Type	Recov. (ft)	PID ppm	DESCRIPTION	REMARKS
1			3.5	0.0	Brown SILT & f SAND, some Organics, trace wood	Sample F-3F collected from 2.0-2.5 feet
2				0.0	Brown SILT & f SAND, some Concrete & f-c Gravel	
3				0.0		
4				0.0		
5				0.0	Reddish Brown f SAND & SILT, some Rock Fragments	
6			4.0	0.0	Brown SILT & ORGANICS	Sample F-3F collected from 6.5-7.0 feet
7				0.0		
8				0.0	Brown SILT, some Clay, trace organics	
9				0.0		
10				0.0		
11					End of Boring at 10 feet	
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LANGAN Engineering & Environmental Services, Inc.
River Drive Center 1, Elmwood Park, NJ 07407

LOG OF BORING NO: F-4 Sheet 1 of 1

Project Name	Disney Parcel	**Project No.** 1860001	
Boring Location	East Rutherford, NJ	**Elevation and Datum**	
Drilling Company	S & S Subsurface Investigations, Inc.	**Date Started** 2/14/2008	**Date Finished** 2/14/2008
Drilling Equipment	Track-Mounted Geoprobe 7720DT	**Completion Depth** 15.0 Feet	**Rock Depth** Not Encountered
Size and Type of Bit	2" Diameter Push Rod		
Casing			
Casing Hammer Weight ---	**Drop** ---	**Water Level** ---	
Sampler	5', 2" OD Acetate Lined Macrocore	**Driller** Art Salvatore	
Sampler Hammer Weight ---	**Drop** ---	**Inspector** TA	

Depth (ft)	S	Type	Recov. (ft)	PID ppm	DESCRIPTION	REMARKS
1				0.0	Dark Brown SILT & f SAND, some f-c Gravel & Concrete	
2				0.0		
3			3.0	0.0		Sample F-4F collected from 2.5-3.0 feet
4				0.0	Brown f SAND & SILT, some f Gravel	
5				0.0		
6				0.0	Brown SILT & f SAND	
7				0.0	Brown CLAY & SILT	
8			3.0	0.0	Gray/Brown CLAY & SILT	
9				0.0	Dark Brown SILT, some f-c Gravel, trace wood	
10				0.0		
11				0.0		
12				0.0	Gray/Brown SILT & f SAND, some f-c Gravel (runny)	
13			4.0	0.0	Dark Brown SILT, some f Sand & Rock Fragments	
14				16.4	Brown SILT & ORGANICS	Sample F-4N collected from 13.0-13.5 feet Sample held for contingent analysis
15				2.7		
16					End of Boring at 15 feet	
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LANGAN Engineering & Environmental Services, Inc.
River Drive Center 1, Elmwood Park, NJ 07407

LOG OF BORING NO: F-5 Sheet 1 of 1

Project Name	Disney Parcel	**Project No.**	1860001
Boring Location	East Rutherford, NJ	**Elevation and Datum**	
Drilling Company	S & S Subsurface Investigations, Inc.	**Date Started** 2/14/2008	**Date Finished** 2/14/2008
Drilling Equipment	Track-Mounted Geoprobe 7720DT	**Completion Depth** 15.0 Feet	**Rock Depth** Not Encountered
Size and Type of Bit	2" Diameter Push Rod		
Casing			
Casing Hammer Weight ---	**Drop** ---	**Water Level**	---
Sampler	5', 2" OD Acetate Lined Macrocore	**Driller**	Art Salvatore
Sampler Hammer Weight ---	**Drop** ---	**Inspector**	TA

Depth (ft)	S	Type	Recov. (ft)	PID ppm	DESCRIPTION	REMARKS
1				0.0	Brown SILT & f SAND, sm c Gravel & Organ.	
					Dark Brown f SAND & SILT, some Concrete	
2				0.0		
3			2.5	0.0	Orange/Brown SILT, some f SAND & f Gravel	
4				0.0		
5				0.0		
6				0.0	Brown SILT, some f Sand & f-m Gravel, trace glass	
7				0.0		
8			4.0	0.0		Sample F-5F collected from 7.0-7.5 feet
					MICA SCHIST	
9				0.0	Dark Borwn f SAND, some Silt & Rock Fragments	
10				0.0		
11				0.0	Dark Brown SILT, some f Sand & f-c Gravel (runny)	
12				0.0		
13			4.0	0.0		
14				0.0	Brown SILT & ORGANICS	Sample F-5N collected from 13.5-14.0 feet
15				0.0		
16					End of Boring at 15 feet	
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LANGAN Engineering & Environmental Services, Inc.
River Drive Center 1, Elmwood Park, NJ 07407

LOG OF BORING NO: F-6 Sheet 1 of 1

Project Name	Disney Parcel	**Project No.**	1860001
Boring Location	East Rutherford, NJ	**Elevation and Datum**	
Drilling Company	S & S Subsurface Investigations, Inc.	**Date Started** 2/14/2008	**Date Finished** 2/14/2008
Drilling Equipment	Track-Mounted Geoprobe 7720DT	**Completion Depth** 15.0 Feet	**Rock Depth** Not Encountered
Size and Type of Bit	2" Diameter Push Rod		
Casing			
Casing Hammer Weight ---	**Drop** ---	**Water Level**	---
Sampler	5', 2" OD Acetate Lined Macrocore	**Driller**	Art Salvatore
Sampler Hammer Weight ---	**Drop** ---	**Inspector**	TA

Depth (ft)	S	Type	Recov. (ft)	PID ppm	DESCRIPTION	REMARKS
1			2.5	0.0	Dark Brown/Gray f-m SAND, some Silt & Concrete, trace brick	Sample F-6F collected from 2.5-3.0 feet
2				0.0		
3				0.0		
4				0.0		
5				0.0	Brown/Dark Brown SILT, some f Gravel	
6			4.0	0.0		
7				0.0		
8				0.0		
9				0.0	Dark Brown f SAND & SILT, some f-c Gravel, Brick, Concrete, & Wood	
10				0.0		
11			4.0	0.0	Dark Brown SILT & ORGNICS	Sample F-6N collected from 13.0-13.5 feet
12				2.1		
13				4.9		
14				6.9		
15				3.3		
16					End of Boring at 15 feet	
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LANGAN Engineering & Environmental Services, Inc.
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BORING LOG: C-1A Sheet 1 of 1

Project Name	Block 107.02, Lot 3	**Project No.**	100234201
Boring Location	East Rutherford, NJ	**Elevation and Datum**	
Drilling Company	AWT Environmental, Inc.	**Date Started** 8/25/2011	**Date Finished** 8/25/2011
Drilling Equipment	Track-mounted Geoprobe		
Size and Type of Bit	---	**Completion Depth** 4'	**Rock Depth** ---
Casing	---		
Casing Hammer Weight	---- **Drop** ----	**Water Level**	---
Sampler	4', 2" OD macrocore ----	**Driller**	Anthony Stegner
Sampler Hammer Weight	--- **Drop** ----	**Inspector**	Mike Bator

Depth (ft)	S	Type	PID (ppm)	Rec. (in)	DESCRIPTION	REMARKS
1	1	Core	0.0	36"	TOPSOIL Dark brown FILL; sand, some gravel, tr silt, tr brick, tr glass	
2						
3			0.0			
4						Sample C-1A (3.5-4')
5					End boring at 4' below grade	
6						
7						
8						
9						
10						
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*Standard Penetration Test N-Value

LANGAN Engineering & Environmental Services, Inc.
River Drive Center 1, Elmwood Park, NJ 07407

BORING LOG: C-1B Sheet 1 of 1

Project Name	Block 107.02, Lot 3	**Project No.**	100234201
Boring Location	East Rutherford, NJ	**Elevation and Datum**	
Drilling Company	AWT Environmental, Inc.	**Date Started** 8/25/2011	**Date Finished** 8/25/2011
Drilling Equipment	Track-mounted Geoprobe		
Size and Type of Bit	---	**Completion Depth** 4'	**Rock Depth** ---
Casing	---		
Casing Hammer Weight	---- **Drop** ----	**Water Level**	---
Sampler	4', 2" OD macrocore ----	**Driller**	Anthony Stegner
Sampler Hammer Weight	--- **Drop** ----	**Inspector**	Mike Bator

Depth (ft)	S	Type	PID (ppm)	Rec. (in)	DESCRIPTION	REMARKS
1	1	Core	0.0	36"	TOPSOIL Light brown FILL, sand, some gravel, some brick, tr organics	
2			1.8			
3			1.2			
4			1.0			Sample C-1B (3.5-4')
5					End boring at 4' below grade	
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7						
8						
9						
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*Standard Penetration Test N-Value

LANGAN Engineering & Environmental Services, Inc.
River Drive Center 1, Elmwood Park, NJ 07407

BORING LOG: C-1C Sheet 1 of 1

Project Name	Block 107.02, Lot 3	**Project No.**	100234201
Boring Location	East Rutherford, NJ	**Elevation and Datum**	
Drilling Company	AWT Environmental, Inc.	**Date Started** 8/25/2011	**Date Finished** 8/25/2011
Drilling Equipment	Track-mounted Geoprobe		
Size and Type of Bit	---	**Completion Depth** 4'	**Rock Depth** ---
Casing	---		
Casing Hammer Weight	---- **Drop** ----	**Water Level**	---
Sampler	4', 2" OD macrocore ----	**Driller**	Anthony Stegner
Sampler Hammer Weight	--- **Drop** ----	**Inspector**	Mike Bator

Depth (ft)	S	Type	PID (ppm)	Rec. (in)	DESCRIPTION	REMARKS
1	1	Core	0.0	30"	TOPSOIL	
2			0.6		Ligth brown SILT, tr organics	
3			0.8		Brown FILL; sane, some gravel, tr brick, tr silt	
4			1.2			Sample C-1C (3.5-4')
5					End boring at 4' below grade	
6						
7						
8						
9						
10						
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12						
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*Standard Penetration Test N-Value

LANGAN Engineering & Environmental Services, Inc.
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BORING LOG: C-1D Sheet 1 of 1

Project Name	Block 107.02, Lot 3	**Project No.**	100234201
Boring Location	East Rutherford, NJ	**Elevation and Datum**	
Drilling Company	AWT Environmental, Inc.	**Date Started** 8/25/2011	**Date Finished** 8/25/2011
Drilling Equipment	Track-mounted Geoprobe		
Size and Type of Bit	---	**Completion Depth** 4'	**Rock Depth** ---
Casing	---		
Casing Hammer Weight	---- **Drop** ----	**Water Level**	---
Sampler	4', 2" OD macrocore ----	**Driller**	Anthony Stegner
Sampler Hammer Weight	--- **Drop** ----	**Inspector**	Mike Bator

Depth (ft)	S	Type	PID (ppm)	Rec. (in)	DESCRIPTION	REMARKS
1	1	Core	0.0	36"	TOPSOIL	
2			0.8		Ligth brown SILT, tr organics	
3			0.2		Brown FILL; sane, some gravel, tr brick, tr silt	
4			0.4			Sample C-1D (3.5-4')
5					End boring at 4' below grade	
6						
7						
8						
9						
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*Standard Penetration Test N-Value

LANGAN Engineering & Environmental Services, Inc.
River Drive Center 1, Elmwood Park, NJ 07407

BORING LOG: C-1E Sheet 1 of 1

Project Name	Block 107.02, Lot 3			**Project No.**	100234201
Boring Location	East Rutherford, NJ			**Elevation and Datum**	
Drilling Company	AWT Environmental, Inc.			**Date Started** 8/25/2011	**Date Finished** 8/25/2011
Drilling Equipment	Track-mounted Geoprobe				
Size and Type of Bit	---			**Completion Depth** 12'	**Rock Depth** ---
Casing	---				
Casing Hammer Weight	----	**Drop**	----	**Water Level**	4'
Sampler	4', 2" OD macrocore		----	**Driller**	Anthony Stegner
Sampler Hammer Weight	---	**Drop**	----	**Inspector**	Mike Bator

Depth (ft)	S	Type	PID (ppm)	Rec. (in)	DESCRIPTION	REMARKS
1			0.0		TOPSOIL	
					Ligth brown SILT, tr organics	
2	1	Core	0.2	36"	Brown FILL; sane, some gravel, tr brick, tr silt	
3			0.4			
4			0.1			
5					BRICK and GRAVEL, wet	
6			0.0			
7					MEADOWMAT - silt and organics	Sample C-1E-1 (6.5-7')
8			0.0			
9						
10			0.0			
11					Gray/brown sandy SILT, wet	Sample C-1E-2 (10.5-11') Sample C-1E-2 put on hold
12			0.0			
13					End boring at 12' below grade	Boring performed in location of 2008 soil boring C-1
14						
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*Standard Penetration Test N-Value

LANGAN Engineering & Environmental Services, Inc.
River Drive Center 1, Elmwood Park, NJ 07407

BORING LOG: C-2A Sheet 1 of 1

Project Name	Block 107.02, Lot 3	**Project No.**	100234201
Boring Location	East Rutherford, NJ	**Elevation and Datum**	
Drilling Company	AWT Environmental, Inc.	**Date Started** 8/25/2011	**Date Finished** 8/25/2011
Drilling Equipment	Track-mounted Geoprobe		
Size and Type of Bit	---	**Completion Depth** 4'	**Rock Depth** ---
Casing	---		
Casing Hammer Weight	---- **Drop** ----	**Water Level**	---
Sampler	4', 2" OD macrocore ----	**Driller**	Anthony Stegner
Sampler Hammer Weight	--- **Drop** ----	**Inspector**	Mike Bator

Depth (ft)	S	Type	PID (ppm)	Rec. (in)	DESCRIPTION	REMARKS
1	1	Core	0.0	36"	Brown SILT, some organics Brown SILT, some clay	
2						
3			0.0			
4						Sample C-2A (3-3.5')
5					End boring at 4' below grade	
6						
7						
8						
9						
10						
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12						
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*Standard Penetration Test N-Value

LANGAN Engineering & Environmental Services, Inc.
River Drive Center 1, Elmwood Park, NJ 07407

BORING LOG: C-2B Sheet 1 of 1

Project Name	Block 107.02, Lot 3	**Project No.**	100234201
Boring Location	East Rutherford, NJ	**Elevation and Datum**	
Drilling Company	AWT Environmental, Inc.	**Date Started** 8/25/2011	**Date Finished** 8/25/2011
Drilling Equipment	Track-mounted Geoprobe		
Size and Type of Bit	---	**Completion Depth** 4'	**Rock Depth** ---
Casing	---		
Casing Hammer Weight	---- **Drop** ----	**Water Level**	---
Sampler	4', 2" OD macrocore ----	**Driller**	Anthony Stegner
Sampler Hammer Weight	--- **Drop** ----	**Inspector**	Mike Bator

Depth (ft)	S	Type	PID (ppm)	Rec. (In)	DESCRIPTION	REMARKS
1	1	Core	0.0	48"	Light brown SILT, some organics	
2					Brown SILT, some clay, tr f-sand	
3			0.0			Sample C-2B (3-3.5')
4						
5					End boring at 4' below grade	
6						
7						
8						
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*Standard Penetration Test N-Value

LANGAN Engineering & Environmental Services, Inc.
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BORING LOG: C-2C Sheet 1 of 1

Project Name	Block 107.02, Lot 3	**Project No.**	100234201
Boring Location	East Rutherford, NJ	**Elevation and Datum**	
Drilling Company	AWT Environmental, Inc.	**Date Started** 8/25/2011	**Date Finished** 8/25/2011
Drilling Equipment	Track-mounted Geoprobe		
Size and Type of Bit	---	**Completion Depth** 4'	**Rock Depth** ---
Casing	---		
Casing Hammer Weight	---- **Drop** ----	**Water Level**	---
Sampler	4', 2" OD macrocore ----	**Driller**	Anthony Stegner
Sampler Hammer Weight	--- **Drop** ----	**Inspector**	Mike Bator

Depth (ft)	S	Type	PID (ppm)	Rec. (in)	DESCRIPTION	REMARKS
1	1	Core	0.0	42"	Brown FILL, silt, some organics, tr brick	
2					Light brown FILL, silt, some clay, tr sand, tr brick	
3			0.0			Sample C-2C (3-3.5')
4						
5					End boring at 4' below grade	
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*Standard Penetration Test N-Value

LANGAN Engineering & Environmental Services, Inc.
River Drive Center 1, Elmwood Park, NJ 07407

BORING LOG: C-2D Sheet 1 of 1

Project Name	Block 107.02, Lot 3	**Project No.**	100234201
Boring Location	East Rutherford, NJ	**Elevation and Datum**	
Drilling Company	AWT Environmental, Inc.	**Date Started** 8/25/2011	**Date Finished** 8/25/2011
Drilling Equipment	Track-mounted Geoprobe		
Size and Type of Bit	---	**Completion Depth** 4'	**Rock Depth** ---
Casing	---		
Casing Hammer Weight	---- **Drop** ----	**Water Level**	---
Sampler	4', 2" OD macrocore ----	**Driller**	Anthony Stegner
Sampler Hammer Weight	--- **Drop** ----	**Inspector**	Mike Bator

Depth (ft)	S	Type	PID (ppm)	Rec. (in)	DESCRIPTION	REMARKS
1	1	Core	0.0	42"	Brown FILL, silt, some organics, tr brick	
2					Brown sandy SILT, tr clay	
3			0.0			
4					Brown/gray SILT, tr clay, tr f-sand	Sample C-2D (3-3.5')
5					End boring at 4' below grade	
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*Standard Penetration Test N-Value

LANGAN Engineering & Environmental Services, Inc.
River Drive Center 1, Elmwood Park, NJ 07407

BORING LOG: C-2E Sheet 1 of 1

Project Name	Block 107.02, Lot 3	**Project No.**	100234201
Boring Location	East Rutherford, NJ	**Elevation and Datum**	
Drilling Company	AWT Environmental, Inc.	**Date Started** 8/25/2011	**Date Finished** 8/25/2011
Drilling Equipment	Track-mounted Geoprobe		
Size and Type of Bit	---	**Completion Depth** 12'	**Rock Depth** ---
Casing	---		
Casing Hammer Weight	---- **Drop** ----	**Water Level**	4'
Sampler	4', 2" OD macrocore ----	**Driller**	Anthony Stegner
Sampler Hammer Weight	--- **Drop** ----	**Inspector**	Mike Bator

Depth (ft)	S	Type	PID (ppm)	Rec. (in)	DESCRIPTION	REMARKS
1	1	Core	0.0	42"	Brown FILL, silt, some organics, tr brick	
2					Brown sandy SILT, tr clay	
3						
4			0.0		Brown/gray SILT, tr clay, tr f-sand	
5	2	Core	0.0	30"		
6						
7						
8			0.0			
9	3	Core	0.0	48"	Gray sandy SILT, some clay	Sample C-2E-1 (8-8.5')
10						
11					MEADOWMAT - silt and organics	Sample C-2E-2 (10-10.5') Sample C-2E-2 put on hold
12			0.0			
13					End boring at 12' below grade	Boring performed in location of 2008 soil boring C-2
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*Standard Penetration Test N-Value

LANGAN Engineering & Environmental Services, Inc.
River Drive Center 1, Elmwood Park, NJ 07407

BORING LOG: F-1A Sheet 1 of 1

Project Name	Block 107.02, Lot 3	**Project No.**	100234201
Boring Location	East Rutherford, NJ	**Elevation and Datum**	
Drilling Company	AWT Environmental, Inc.	**Date Started** 8/25/2011	**Date Finished** 8/25/2011
Drilling Equipment	Track-mounted Geoprobe		
Size and Type of Bit	---	**Completion Depth** 6'	**Rock Depth** ---
Casing	---		
Casing Hammer Weight	---- **Drop** ----	**Water Level**	5'
Sampler	4', 2" OD macrocore ----	**Driller**	Anthony Stegner
Sampler Hammer Weight	--- **Drop** ----	**Inspector**	Mike Bator

Depth (ft)	S	Type	PID (ppm)	Rec. (in)	DESCRIPTION	REMARKS
1	1	Core	0.0	48"	Brown FILL; sand, some silt, some bricks	
2						
3			0.0			
4						
5	2	Core	29.3	18"	WOOD	Odor at 5'
6					Black WOOD and SAND, tr silt, wet	Sample F-1A (5-5.5')
7					End boring at 6' below grade	
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*Standard Penetration Test N-Value

LANGAN Engineering & Environmental Services, Inc.
River Drive Center 1, Elmwood Park, NJ 07407

BORING LOG: F-1B Sheet 1 of 1

Project Name	Block 107.02, Lot 3	**Project No.**	100234201
Boring Location	East Rutherford, NJ	**Elevation and Datum**	
Drilling Company	AWT Environmental, Inc.	**Date Started** 8/25/2011	**Date Finished** 8/25/2011
Drilling Equipment	Track-mounted Geoprobe		
Size and Type of Bit	---	**Completion Depth** 6'	**Rock Depth** ---
Casing	---		
Casing Hammer Weight	---- **Drop** ----	**Water Level**	5'
Sampler	4', 2" OD macrocore ----	**Driller**	Anthony Stegner
Sampler Hammer Weight	--- **Drop** ----	**Inspector**	Mike Bator

Depth (ft)	S	Type	PID (ppm)	Rec. (in)	DESCRIPTION	REMARKS
1	1	Core	0.0	48"	Brown FILL; sand, some silt, some bricks	
2						
3			0.0			
4						
5	2	Core	12.4	18"		
6					Black FILL; sand, tr silt	Sample F-1B (5-5.5')
7					End boring at 6' below grade	
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*Standard Penetration Test N-Value

LANGAN Engineering & Environmental Services, Inc.
River Drive Center 1, Elmwood Park, NJ 07407

BORING LOG: F-1C Sheet 1 of 1

Project Name	Block 107.02, Lot 3	**Project No.**	100234201
Boring Location	East Rutherford, NJ	**Elevation and Datum**	
Drilling Company	AWT Environmental, Inc.	**Date Started** 8/25/2011	**Date Finished** 8/25/2011
Drilling Equipment	Track-mounted Geoprobe		
Size and Type of Bit	---	**Completion Depth** 6'	**Rock Depth** ---
Casing	---		
Casing Hammer Weight	---- **Drop** ----	**Water Level**	5'
Sampler	4', 2" OD macrocore ----	**Driller**	Anthony Stegner
Sampler Hammer Weight	--- **Drop** ----	**Inspector**	Mike Bator

Depth (ft)	S	Type	PID (ppm)	Rec. (in)	DESCRIPTION	REMARKS
1	1	Core	0.0	48"	Brown FILL; sand, tr silt, tr gravel, tr glass, tr brick	
2						
3			0.0			
4						
5	2	Core	12.1	18"		
6					Black FILL; silty sand, tr wood, tr brick	Sample F-1C (5-5.5')
7					End boring at 6' below grade	
8						
9						
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*Standard Penetration Test N-Value

LANGAN Engineering & Environmental Services, Inc.
River Drive Center 1, Elmwood Park, NJ 07407

BORING LOG: F-1D Sheet 1 of 1

Project Name	Block 107.02, Lot 3	**Project No.**	100234201
Boring Location	East Rutherford, NJ	**Elevation and Datum**	
Drilling Company	AWT Environmental, Inc.	**Date Started** 8/25/2011	**Date Finished** 8/25/2011
Drilling Equipment	Track-mounted Geoprobe		
Size and Type of Bit	---	**Completion Depth** 6'	**Rock Depth** ---
Casing	---		
Casing Hammer Weight	---- **Drop** ----	**Water Level**	5'
Sampler	4', 2" OD macrocore ----	**Driller**	Anthony Stegner
Sampler Hammer Weight	--- **Drop** ----	**Inspector**	Mike Bator

Depth (ft)	S	Type	PID (ppm)	Rec. (in)	DESCRIPTION	REMARKS
1	1	Core	0.0	48"	Brown FILL; sand, tr silt, tr gravel, tr glass, tr brick	
2						
3			0.0			
4						
5	2	Core	26.3	18"		
6					Black FILL; silty sand, tr wood, tr brick	Sample F-1D (5-5.5')
7					End boring at 6' below grade	
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*Standard Penetration Test N-Value

LANGAN Engineering & Environmental Services, Inc.
River Drive Center 1, Elmwood Park, NJ 07407

BORING LOG: S-1 Sheet 1 of 1

Project Name	Block 107.02, Lot 3	**Project No.**	100234201
Boring Location	East Rutherford, NJ	**Elevation and Datum**	
Drilling Company	---	**Date Started** 7/5/2011	**Date Finished** 7/5/2011
Drilling Equipment	---		
Size and Type of Bit	---	**Completion Depth** 12"	**Rock Depth** ---
Casing	---		
Casing Hammer Weight	---- **Drop** ----	**Water Level**	---
Sampler	Shovel ----	**Driller**	---
Sampler Hammer Weight	--- **Drop** ----	**Inspector**	Mike Bator

Depth (ft)	S	Type	PID (ppm)		DESCRIPTION	REMARKS
1			0.0		Brown MEADOWMAT (0-6") Black/gray SILT, tr sand, tr organics (6-12")	Sample S-1A (0-6") Sample S-1B (6-12")
2					End boring at 12" below grade	Orange mottling observed on sand
3						
4						
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*Standard Penetration Test N-Value

LANGAN Engineering & Environmental Services, Inc.
River Drive Center 1, Elmwood Park, NJ 07407

BORING LOG: S-2 Sheet 1 of 1

Project Name	Block 107.02, Lot 3	**Project No.**	100234201
Boring Location	East Rutherford, NJ	**Elevation and Datum**	
Drilling Company	---	**Date Started** 7/5/2011	**Date Finished** 7/5/2011
Drilling Equipment	---		
Size and Type of Bit	---	**Completion Depth** 12"	**Rock Depth** ---
Casing	---		
Casing Hammer Weight	---- **Drop** ----	**Water Level**	12"
Sampler	Shovel ----	**Driller**	---
Sampler Hammer Weight	--- **Drop** ----	**Inspector**	Mike Bator

Depth (ft)	S	Type	PID (ppm)		DESCRIPTION	REMARKS
1			0.0		Brown MEADOWMAT (0-4") Gray silty CLAY, tr f-m sand, moist (4-12")	Sample S-2A (0-4") Sample S-2B (6-12")
2					End boring at 12" below grade	
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*Standard Penetration Test N-Value

LANGAN Engineering & Environmental Services, Inc.
River Drive Center 1, Elmwood Park, NJ 07407

BORING LOG: S-3 Sheet 1 of 1

Project Name	Block 107.02, Lot 3	**Project No.**	100234201
Boring Location	East Rutherford, NJ	**Elevation and Datum**	
Drilling Company	---	**Date Started** 7/5/2011	**Date Finished** 7/5/2011
Drilling Equipment	---		
Size and Type of Bit	---	**Completion Depth** 12"	**Rock Depth** ---
Casing	---		
Casing Hammer Weight ----	**Drop** ----	**Water Level**	12"
Sampler Shovel	----	**Driller**	---
Sampler Hammer Weight ---	**Drop** ----	**Inspector**	Mike Bator

Depth (ft)	S	Type	PID (ppm)		DESCRIPTION	REMARKS
1			0.0		Brown MEADOWMAT (0-6") Gray silty f-m SAND, moist (6-12")	Sample S-3A (0-6") Sample S-3B (6-12")
2					End boring at 12" below grade	Orange mottling observed on sand
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*Standard Penetration Test N-Value

LANGAN Engineering & Environmental Services, Inc.
River Drive Center 1, Elmwood Park, NJ 07407

BORING LOG: S-4 Sheet 1 of 1

Project Name	Block 107.02, Lot 3	**Project No.**	100234201
Boring Location	East Rutherford, NJ	**Elevation and Datum**	
Drilling Company	---	**Date Started** 7/5/2011	**Date Finished** 7/5/2011
Drilling Equipment	---		
Size and Type of Bit	---	**Completion Depth** 12"	**Rock Depth** ---
Casing	---		
Casing Hammer Weight	---- **Drop** ----	**Water Level**	10"
Sampler	Shovel ----	**Driller**	---
Sampler Hammer Weight	--- **Drop** ----	**Inspector**	Mike Bator

Depth (ft)	S	Type	PID (ppm)		DESCRIPTION	REMARKS
1			0.0		Brown MEADOWMAT, tr f-sand, tr glass, tr wood, moist	Sample S-4A (0-6") Sample S-4B (6-12")
2					End boring at 12" below grade	
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*Standard Penetration Test N-Value

LANGAN Engineering & Environmental Services, Inc.
River Drive Center 1, Elmwood Park, NJ 07407

BORING LOG: S-4A Sheet 1 of 1

Project Name	Block 107.02, Lot 3	**Project No.**	100234201
Boring Location	East Rutherford, NJ	**Elevation and Datum**	
Drilling Company	---	**Date Started** 8/22/2011	**Date Finished** 8/22/2011
Drilling Equipment	---		
Size and Type of Bit	---	**Completion Depth** 12"	**Rock Depth** ---
Casing	---		
Casing Hammer Weight ----	**Drop** ----	**Water Level**	---
Sampler Shovel	----	**Driller**	---
Sampler Hammer Weight ---	**Drop** ----	**Inspector**	Mike Bator

Depth (ft)	S	Type	PID (ppm)		DESCRIPTION	REMARKS
1			0.0		Brown/tan FILL: sand, tr gravel, tr silt, tr plastic, tr rubber	Sample S-4A (6-12")
2					End boring at 12" below grade	
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*Standard Penetration Test N-Value

LANGAN Engineering & Environmental Services, Inc.
River Drive Center 1, Elmwood Park, NJ 07407

BORING LOG: S-4B Sheet 1 of 1

Project Name	Block 107.02, Lot 3	**Project No.**	100234201
Boring Location	East Rutherford, NJ	**Elevation and Datum**	
Drilling Company	---	**Date Started** 8/22/2011	**Date Finished** 8/22/2011
Drilling Equipment	---	**Completion Depth** 12"	**Rock Depth** ---
Size and Type of Bit	---		
Casing	---		
Casing Hammer Weight	---- **Drop** ----	**Water Level**	4"
Sampler	Shovel ----	**Driller**	---
Sampler Hammer Weight	--- **Drop** ----	**Inspector**	Mike Bator

Depth (ft)	S	Type	PID (ppm)		DESCRIPTION	REMARKS
1			0.0		Brown/tan f-c SAND, some silt, tr organics, tr f-gravel	Sample S-4B (6-12")
2					End boring at 12" below grade	
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*Standard Penetration Test N-Value

LANGAN Engineering & Environmental Services, Inc.
River Drive Center 1, Elmwood Park, NJ 07407

BORING LOG: S-4A Sheet 1 of 1

Project Name	Block 107.02, Lot 3	**Project No.**	100234201
Boring Location	East Rutherford, NJ	**Elevation and Datum**	
Drilling Company	---	**Date Started** 8/22/2011	**Date Finished** 8/22/2011
Drilling Equipment	---		
Size and Type of Bit	---	**Completion Depth** 12"	**Rock Depth** ---
Casing	---		
Casing Hammer Weight	---- **Drop** ----	**Water Level**	---
Sampler	Shovel ----	**Driller**	---
Sampler Hammer Weight	--- **Drop** ----	**Inspector**	Mike Bator

Depth (ft)	S	Type	PID (ppm)		DESCRIPTION	REMARKS
1			0.0		Brown/tan FILL: sand, some silt, tr gravel, tr plastic, moist	Sample S-4C (6-12")
2					End boring at 12" below grade	
3						
4						
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*Standard Penetration Test N-Value

LANGAN Engineering & Environmental Services, Inc.
River Drive Center 1, Elmwood Park, NJ 07407

BORING LOG: S-4D Sheet 1 of 1

Project Name	Block 107.02, Lot 3	**Project No.**	100234201
Boring Location	East Rutherford, NJ	**Elevation and Datum**	
Drilling Company	---	**Date Started** 8/22/2011	**Date Finished** 8/22/2011
Drilling Equipment	---		
Size and Type of Bit	---	**Completion Depth** 12"	**Rock Depth** ---
Casing	---		
Casing Hammer Weight ----	**Drop** ----	**Water Level**	---
Sampler Shovel	----	**Driller**	---
Sampler Hammer Weight ---	**Drop** ----	**Inspector**	Mike Bator

Depth (ft)	S	Type	PID (ppm)		DESCRIPTION	REMARKS
1			0.0		Brown/gray SILT, some clay, tr organics, moist	Sample S-4D(6-12")
2					End boring at 12" below grade	
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*Standard Penetration Test N-Value

LANGAN Engineering & Environmental Services, Inc.
River Drive Center 1, Elmwood Park, NJ 07407

BORING LOG: S-4E Sheet 1 of 1

Project Name	Block 107.02, Lot 3			**Project No.**	100234201
Boring Location	East Rutherford, NJ			**Elevation and Datum**	
Drilling Company	---			**Date Started** 8/22/2011	**Date Finished** 8/22/2011
Drilling Equipment	---				
Size and Type of Bit	---			**Completion Depth** 12"	**Rock Depth** ---
Casing	---				
Casing Hammer Weight	----	**Drop**	----	**Water Level**	12"
Sampler	Shovel		----	**Driller**	---
Sampler Hammer Weight	---	**Drop**	----	**Inspector**	Mike Bator

Depth (ft)	S	Type	PID (ppm)		DESCRIPTION	REMARKS
1			0.0		Brown MEADOWMAT, tr f-sand, tr glass, tr wood, moist	
2			0.0		Brown FILL. Sand, tr silt, tr brick, tr glass, tr plastic	Sample S-4E (18-24")
3					End boring at 24" below grade	Boring advanced in location of July 2011 boring S-4
4						
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*Standard Penetration Test N-Value

LANGAN Engineering & Environmental Services, Inc.
River Drive Center 1, Elmwood Park, NJ 07407

BORING LOG: S-5 Sheet 1 of 1

Project Name	Block 107.02, Lot 3	**Project No.**	100234201
Boring Location	East Rutherford, NJ	**Elevation and Datum**	
Drilling Company	---	**Date Started** 7/5/2011	**Date Finished** 7/5/2011
Drilling Equipment	---		
Size and Type of Bit	---	**Completion Depth** 12"	**Rock Depth** ---
Casing	---		
Casing Hammer Weight ----	**Drop** ----	**Water Level**	8"
Sampler Shovel	----	**Driller**	---
Sampler Hammer Weight ---	**Drop** ----	**Inspector**	Mike Bator

Depth (ft)	S	Type	PID (ppm)		DESCRIPTION	REMARKS
1			0.0		Brown MEADOWMAT, tr glass, tr brick, tr garbage, moist	Sample S-5A (0-6") Sample S-5B (6-12")
2					End boring at 12" below grade	
3						
4						
5						
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*Standard Penetration Test N-Value

LANGAN Engineering & Environmental Services, Inc.
River Drive Center 1, Elmwood Park, NJ 07407

BORING LOG: S-5A Sheet 1 of 1

Project Name	Block 107.02, Lot 3	**Project No.**	100234201
Boring Location	East Rutherford, NJ	**Elevation and Datum**	
Drilling Company	---	**Date Started** 8/22/2011	**Date Finished** 8/22/2011
Drilling Equipment	---		
Size and Type of Bit	---	**Completion Depth** 12"	**Rock Depth** ---
Casing	---		
Casing Hammer Weight	---- **Drop** ----	**Water Level**	6"
Sampler	Shovel ----	**Driller**	---
Sampler Hammer Weight	--- **Drop** ----	**Inspector**	Mike Bator

Depth (ft)	S	Type	PID (ppm)		DESCRIPTION	REMARKS
1			0.0		0-3" - TOPSOIL 3-12" Brown f-m SAND, tr silt	Sample S-5A (6-12")
2					End boring at 12" below grade	
3						
4						
5						
6						
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*Standard Penetration Test N-Value

LANGAN Engineering & Environmental Services, Inc.
River Drive Center 1, Elmwood Park, NJ 07407

BORING LOG: S-5B Sheet 1 of 1

Project Name	Block 107.02, Lot 3	**Project No.**	100234201
Boring Location	East Rutherford, NJ	**Elevation and Datum**	
Drilling Company	---	**Date Started** 8/22/2011	**Date Finished** 8/22/2011
Drilling Equipment	---		
Size and Type of Bit	---	**Completion Depth** 12"	**Rock Depth** ---
Casing	---		
Casing Hammer Weight	---- **Drop** ----	**Water Level**	6"
Sampler	Shovel ----	**Driller**	---
Sampler Hammer Weight	--- **Drop** ----	**Inspector**	Mike Bator

Depth (ft)	S	Type	PID (ppm)		DESCRIPTION	REMARKS
1			0.0		MEADOWMAT - silt and organics	Sample S-5B (6-12")
2					End boring at 12" below grade	
3						
4						
5						
6						
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*Standard Penetration Test N-Value

LANGAN Engineering & Environmental Services, Inc.
River Drive Center 1, Elmwood Park, NJ 07407

BORING LOG: S-5C Sheet 1 of 1

Project Name	Block 107.02, Lot 3	**Project No.**	100234201
Boring Location	East Rutherford, NJ	**Elevation and Datum**	
Drilling Company	---	**Date Started** 8/22/2011	**Date Finished** 8/22/2011
Drilling Equipment	---		
Size and Type of Bit	---	**Completion Depth** 12"	**Rock Depth** ---
Casing	---		
Casing Hammer Weight	---- **Drop** ----	**Water Level**	6"
Sampler	Shovel ----	**Driller**	---
Sampler Hammer Weight	--- **Drop** ----	**Inspector**	Mike Bator

Depth (ft)	S	Type	PID (ppm)		DESCRIPTION	REMARKS
1			0.0		0-3" - MEADOWMAT - silt and organics 3-12" - Brown SILT, tr sand, tr brick, tr plastic	Sample S-5C (6-12")
2					End boring at 12" below grade	
3						
4						
5						
6						
7						
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*Standard Penetration Test N-Value

LANGAN Engineering & Environmental Services, Inc.
River Drive Center 1, Elmwood Park, NJ 07407

BORING LOG: S-5D Sheet 1 of 1

Project Name	Block 107.02, Lot 3	**Project No.**	100234201
Boring Location	East Rutherford, NJ	**Elevation and Datum**	
Drilling Company	---	**Date Started** 8/22/2011	**Date Finished** 8/22/2011
Drilling Equipment	---		
Size and Type of Bit	---	**Completion Depth** 12"	**Rock Depth** ---
Casing	---		
Casing Hammer Weight	---- **Drop** ----	**Water Level**	6"
Sampler	Shovel ----	**Driller**	---
Sampler Hammer Weight	--- **Drop** ----	**Inspector**	Mike Bator

Depth (ft)	S	Type	PID (ppm)		DESCRIPTION	REMARKS
1			0.0		Brown FILL; silt, some organics, tr sand, tr glass, tr plastic	Sample S-5D (6-12")
2					End boring at 12" below grade	
3						
4						
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16						
17						
18						
19						
20						
21						

*Standard Penetration Test N-Value

LANGAN Engineering & Environmental Services, Inc.
River Drive Center 1, Elmwood Park, NJ 07407

BORING LOG: S-5E Sheet 1 of 1

Project Name	Block 107.02, Lot 3	**Project No.**	100234201
Boring Location	East Rutherford, NJ	**Elevation and Datum**	
Drilling Company	AWT Environmental, Inc.	**Date Started** 8/25/2011	**Date Finished** 8/25/2011
Drilling Equipment	Track-mounted Geoprobe		
Size and Type of Bit	---	**Completion Depth** 4'	**Rock Depth** ---
Casing	---		
Casing Hammer Weight	---- **Drop** ----	**Water Level**	---
Sampler	4', 2" OD macrocore ----	**Driller**	Anthony Stegner
Sampler Hammer Weight	--- **Drop** ----	**Inspector**	Mike Bator

Depth (ft)	S	Type	PID (ppm)	Rec. (in)	DESCRIPTION	REMARKS
1			0.0		Brown MEADOWMAT, tr glass, tr brick, tr garbage, moist	
2	1	Core	12.8	24"		
3			22.6			
4			12.1		Black FILL; sandy silt, some wood, tr brick	Sample S-5E (3.5-4')
5					End boring at 4' below grade	
6						
7						
8						
9						
10						
11						
12						
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*Standard Penetration Test N-Value

LANGAN Engineering & Environmental Services, Inc.
River Drive Center 1, Elmwood Park, NJ 07407

APPENDIX B

Laboratory Data and Electronic Data Deliverables

APPENDIX D

HABITAT SUITABILITY ASSESSMENT

HABITAT SUITABILITY ASSESSMENT

Amusement Park and Water Park
American Dream Meadowlands
Block 107.02, Lot 3
Borough of East Rutherford
Bergen County, New Jersey

Prepared For:

Metro Central, LLC
c/o Triple Five Development
60 East Broadway
Bloomington, MN 55425

Prepared By:

Langan Engineering and Environmental Services, Inc.
River Drive Center 1
Elmwood Park, NJ 07407
NJ Certificate of Authorization No: 24GA27996400

October 2011
100234201

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

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1.0 INTRODUCTION

This Habitat Suitability Determination Assessment has been prepared by Langan Engineering and Environmental Services (Langan) for a 21.75-acre property, referred to herein as the "radio tower site", located in East Rutherford, Bergen County, New Jersey. This study has been prepared in accordance with the section of the New Jersey Department of Environmental Protection (NJDEP) Water Quality Management Planning Rules that lists the requirements of a Habitat Suitability Determination (N.J.A.C. 7:15-5.26), and specifically addresses whether the radio tower site contains suitable habitat for the threatened and endangered species mapped by the NJDEP onsite.

2.0 GENERAL SITE LOCATION AND DESCRIPTION

The radio tower site is designated as Block 107.02, Lot 3 in East Rutherford, Bergen County, New Jersey and occupies approximately 21.75 acres (Figures 1 and 2). The property is bounded to the north by the "East Peripheral Road" and the American Dream Meadowlands Project (formerly known as the Meadowlands Xanadu Redevelopment Project), to the east by the New Jersey Turnpike, to the south by NJ State Route 3, and to west by NJ State Route 120 (Figure 3).

The site is presently developed with three, 500+ foot high steel lattice radio transmission towers, access roads and a radio transmission building (Figure 3 and Site Photographs and Photograph Location Map in Appendix A). The three radio towers are aligned in a southwest to northeast orientation near the central portion of the site. The transmission building, associated parking and access driveways occur in the southern and western sections of the site. Herbaceous upland and wetland areas comprise the vegetative community on the site.

Historically the site has been used as a radio tower transmission. Based on a review of historic aerial photographs, the site and adjacent lands were filled before 1967 as part of the development of Route 120. With the construction of the New Jersey Turnpike and the Meadowlands Sports Complex in the 1960's and 1970's, further fill and isolation of this site from the Hackensack River occurred (Figure 4). According to the New Jersey Geological Survey Historic Fill Map prepared in 2009, the site is located within a "historic fill" area, except for the very northern tip of the site.

The radio tower site is located within the Hackensack River watershed. The majority of the site, including a small tidally influenced wetland, drains to an

Unnamed Tributary (UNT) to the Hackensack River that flows through a 96-inch corrugated metal pipe (CMP) beneath the New Jersey Turnpike (Figure 5). A small portion of the northern extent of the site, including a separate tidally influenced wetland, drains to an UNT to Cedar Creek. This tributary drains through a 108-inch reinforced concrete pipe (RCP) beneath the New Jersey Turnpike (Figure 5).

Two separate tidally influenced emergent wetlands dominated by *Phragmites* are located along the eastern portion of the site adjacent to the New Jersey Turnpike right-of-way. These tidal wetlands are adjacent to the two tidal tributaries that convey water through the culverts underneath the Turnpike. In addition, a number of non-tidal emergent wetland features dominated by Common Reed are located in the southern and western portions of the site. An isolated ditch system was re-established along the newly constructed ramps for Route 120/ Route 3 in 2008. Two of the non-tidal wetland features in the western portion of the site are isolated. Wetlands and waters are described in more detail in Section 5.4 below.

3.0 NATURAL HERITAGE PROGRAM AND LANDSCAPE PROJECT FINDINGS

In order to identify potential habitat for threatened and endangered species on the radio tower site, Langan completed the following:

- Submitted written correspondence to the New Jersey Natural Heritage Program (NJNHP);
- Reviewed NJDEP Landscape Project GIS mapping; and,
- Reviewed comments provided by staff of NJDEP's Division of Fish and Wildlife Program concerning threatened and endangered species on the project site.

Written correspondence was submitted to the NJNHP on August 16, 2011 to obtain a list of specific threatened and endangered species known to occur on or within the vicinity of the site (Appendix B). In their response dated August 29, 2011, the NJNHP indicates that a mapping and database search identified potential habitat for the following:

- State threatened yellow-crowned night-heron *(Nyctanassa violacea)*;

- Two State Species of Special Concern: Glossy ibis (*Plegadis falcinellus*) and snowy egret (*Egretta thula)*;

- Northern harrier (*Circus cyaneus*), which is a state endangered bird species for breeding populations, and a Species of Special Concern for non-breeding populations.

No additional potential habitat for any rare wildlife was identified by NJNHP within ¼ mile of the site.

The New Jersey Landscape Project Habitat Mapping (Figure 6) identifies potential habitat onsite for all of the above referenced species. Potential habitat for the yellow-crowned night-heron, glossy ibis and snowy egret is mapped within the isolated wetland ditch system located along the Route 120/East Peripheral Road ramps and in the tidal wetland in the southeastern portion of the site.

Potential habitat for northern harrier is also mapped within the tidal wetland area in the northeastern portion of the site. However, it is important to note that although this tidal wetland is mapped as habitat for northern harrier, it isn't mapped as habitat for any breeding populations of northern harrier and thus, is not considered habitat for a state endangered species. This conclusion is supported by Langan's review of the NJDEP Landscape Project GIS mapping data for the tidal wetland feature in question.

NJDEP's Landscape Project data identifies habitat with a ranking of "3" for state threatened species and a ranking of "4" for state endangered species. The landscape project ranking assigned to the onsite tidal wetland area in question is "3", which does not indicate the presence of breeding populations of northern harrier. This conclusion was confirmed by phone conference with Mr. Patrick Warner of the NJDEP Fish and Wildlife Department on September 15, 2011, who indicated that on the radio tower site, the northern harrier was ranked for foraging/sighting (non-breeding) and thus was given the rank of "3" for the wetland area (the ranking of "3" is associated with the yellow-crowned night-heron); whereas property northeast of the radio tower site near Paterson Plank Road (offsite) was ranked as "4" - state endangered, because it was considered an area used for foraging for breeding populations of northern harrier.

Langan also received written correspondence from Ms. Kelly Davis of NJDEP's Division of Fish and Wildlife as part of the overall response received as part of NJDEP's Permit Readiness Checklist process (Appendix B). Ms. Davis identified habitat onsite for yellow-crowned night-heron, glossy ibis, snowy egret, and the great blue heron (*Ardea herodias*), another Species of Special Concern. The great blue heron was not identified by either the NJNHP correspondence or by NJDEP's Landscape Project mapping. However, we have included a discussion in this report based on Ms. Davis' correspondence.

Table 1 below provides a summary of the different species identified onsite with the various sources described above.

Table 1- List of Species Identified Onsite

Common Name	Latin Name	Ranking	Source
Yellow-Crowned Night-Heron	*Nyctanassa violacea*	State Threatened	NJNHP; NJDEP Landscape Project GIS Mapping; NJDEP emailed comments
Glossy Ibis	*Plegadis falcinellus*	Species of Special Concern for breeding populations; Regional Priority for non-breeding populations	NJNHP; NJDEP Landscape Project GIS Mapping; NJDEP emailed comments
Snowy Egret	*Egretta thula*	Species of Special Concern for breeding populations; Regional Priority for non-breeding populations	NJNHP; NJDEP Landscape Project GIS Mapping; NJDEP emailed comments
Northern Harrier	*Circus cyaneus*	State Endangered for breeding populations Species of Special Concern for non-breeding populations	NJNHP; NJDEP Landscape Project GIS Mapping
Great Blue Heron	*Ardea herodias*	Species of Special Concern for breeding populations	NJDEP emailed comments

4.0 HABITAT REQUIREMENTS

This Habitat Suitability Determination Assessment was performed to determine if habitat for the species specifically identified by NJDEP is in fact present onsite. As documented in Section 3.0 above, there is only potential habitat for one state listed threatened or endangered species onsite: the yellow-crowned night-heron, a state threatened bird species. The remaining species identified by NJDEP within emergent wetland habitat areas onsite are Species of Special Concern including glossy ibis (*Plegadis falcinellus*), snowy egret (*Egretta thula),* and great blue heron *(Ardea herodias)* for breeding populations only and northern harrier

(*Circus cyaneus*) for non-breeding populations. The glossy ibis, snowy egret, and great blue heron are also identified as Species of Special Concern for Regional Priority for non-breeding populations. NJDEP defines Species of Special Concern as those species that warrant special attention because of some evidence of decline, inherent vulnerability to environmental deterioration, or habitat modification that would result in their becoming a threatened species. This category would also be applied to species that meet the foregoing criteria and for which there is little understanding of their current population status in the state.

Although the requirements for a Habitat Suitability Determination described at N.J.A.C. 7:15-5.26 are for state listed threatened and endangered species, this report herein also discusses habitat of the Species of Special Concern identified onsite by NJDEP. Habitat requirements for all of the above listed species are discussed below.

4.1 Yellow-Crowned Night-Heron *(Nyctanassa violacea)*

The yellow-crowned night-heron ranges from 22 to 27 inches in length and has a wingspan of up to 42 inches (enature.com, 2007). This species is slate gray in appearance, with a black head, white cheeks, a yellowish crown and plumes for which it is named, and yellow or orange legs.

This type of night-heron normally resides in wooded swamps and fresh or saltwater thickets. Nesting typically occurs on barrier islands, dredge spoil islands, and bay islands that contain forested wetlands or scrub/shrub thickets (NJDEP, 2011a). They nest in small colonies of several pairs up to several hundred pairs on islands that are safe from predators. Nest sites are in trees near water. Both sexes help build the nest, which can be as high as 60 feet or so, away from the trunk on a horizontal limb, often hanging over water (Cornell 2011).

Yellow-crowned night-herons use similar habitat types for nesting and roosting, avoiding areas with insufficient cover. (NJDEP, 2011a).

The majority of the yellow-crowned night-heron diet is made up of crustaceans and crayfish, but is also known to eat fish, eels, mussels, frogs, tadpoles, aquatic insects, snails and small snakes (Watts, 1995). This species forages along tidal marshes, in tide pools and the shores of water bodies (Watts, 1995). Yellow-crowned night-herons hunt along the shores of tidal creeks and tide pools within salt and brackish marshes

dominated by salt marsh cordgrass (*Spartina alterniflora*). They also wade in shallow water and mudflats in search of prey and seek food along the wrack line during low tides.

The NJDEP Landscape Project, Version 2.1 maps the extent of a nesting colony of yellow-crowned night heron if available; otherwise a 71.25 meter radius buffer for a confirmed and/or known breeding location point is applied. A 1.7 mile radius buffer is applied to a nesting colony using the surrounding area for foraging (Niles, Valent, Winkler and Woerner, 2008).

4.2 Glossy Ibis (*Plegadis falcinellus*)

The glossy ibis is a large, all-dark wetland generalist with a down-curved, sickle-shaped bill. It has a curved bill for probing through mud for fiddler crab, crawfish, insects and small snakes (Davis and Kricher, 2000). This species ranges in length from 22 to 25 inches with a wingspan of 37 inches.

Typical habitat for the glossy ibis includes marshes, swamps, flooded fields, coastal bays and estuaries (eNature, 2007b). During breeding season, this species typically inhabits wooded wetlands close to the coast (National Audubon Society, Inc, 2011). The glossy ibis nests in colonies, often with other herons. Nests are formed of sticks in bushes or trees and rarely on the ground (eNature, 2007b).

Foraging birds wade in moist to submerged marshes, lagoons, and mudflats. This ibis is also found on flooded and dry fields, sewage ponds, and estuaries. Its wintering habitat appears to be similar. (National Audubon Society, Inc, 2011).

Often feeding in small, close flocks, the glossy ibis walks slowly through marshes, feeling for prey with its long, curved bill by probing into mud and submerged vegetation. This dark ibis may also hold its bill open in shallow water, swing its bill through water, and peck items from various surfaces. The bird's omnivorous diet includes water beetles, dragonflies, flies, earth and marine worms, leeches, mussels, clams, frogs, small snakes, small fish, and various seeds. Glossy ibis often associate with other wading birds; some herons, like the snowy egret, appear to find prey disturbed by the ibis (National Audubon Society, Inc, 2011).

The NJDEP Landscape Project, Version 2.1 maps the extent of a nesting colony for glossy ibis if available; otherwise a 71.25 meter radius buffer for a confirmed and/or known breeding location point is applied. A 9.1 mile radius buffer is applied to a nesting colony using the surrounding area for foraging (Niles, Valent, Winker and Woerner, 2008).

4.3 Snowy Egret (*Egretta thula*)

The snowy egret is a large (two feet in length, three foot wingspan) bird with white feathers, a yellow patch around its eyes, a black bill, black legs and bright yellow feet (Parsons and Master, 2000).

Typical habitat for the snowy egret consists of marshes, swamps, ponds and mudflats (eNature, 2007c). Nesting occurs in colonies, often with other heron species. Nests are placed on a platform of sticks in a bush of reedbed or on the ground (eNature, 2007c). A majority of their diet consists of crustaceans, insects, frogs, and fish (NHPTV, 2011).

Snowy egrets forage in many types of aquatic habitats, both freshwater and marine. In North America, they generally prefer shallow, sheltered estuarine sites. These feeding areas include salt marsh pools, tidal channels, and shallow bays (National Audubon Society, Inc, 2011). The snowy egret's varied diet is composed primarily of fish and crustaceans, but also includes snails, snakes, lizards, worms, and both aquatic and terrestrial insects. Rather than simply standing still or walking slowly to ambush prey, snowy egrets dash through shallow water, quickly changing direction, and using their feet to flush prey from hiding places. Food is also captured through pecking, slow walking, hopping, hovering, dipping, and other "disturb and chase" behaviors (National Audubon Society, Inc, 2011).

The NJDEP Landscape Project, Version 2.1 maps the extent of a nesting colony for snowy egret if available; otherwise a 71.25 meter radius buffer for a confirmed and/or known breeding location point is applied. A 9.8 mile radius buffer is applied to a nesting colony using the surrounding area for foraging (Niles, Valent, Winkler and Woerner, 2008).

4.4 Northern Harrier (*Circus cyaneus*)

Northern harriers are long-winged, long-tailed hawks that normally hunt over open grassland and marshes looking for small rodents. Males and

females have different plumage; males are white below with a light gray back and hood while females are a mottled mix of browns (MacWhirter and Bildstein, 1996).

Typical habitat consists of tidal marshes and emergent wetlands, often dominated by salt hay (*Spartina patens*), marsh elder (*Iva frutescens*) or reed grass (*Phragmites australis*) (NJDEP, 2011b). This species nest in freshwater tidal marshes that consist of *Phragmites*, sedges or other emergent vegetation (NJDEP, 2011b). Northern harriers are not very territorial, except while nesting. Male breeding territories are approximately 100 hectares (247 acres) and female breeding territories are approximately 10 hectares (25 acres) (Niles, Valent, Winkler and Woerner, 2008).

Northern harriers forage over marshes, fields, bushes, and edge habitats that contain low vegetation, often 1 to 2 meters (3 to 6 feet) high. *Phragmites* offers poor foraging due to its dense, impenetrable stands (NJDEP, 2011b). Northern harriers feed on mice, other small mammals and small birds; however, larger prey such as rabbits and ducks will also be pursued (MacWhirter and Bildstein, 1996).

The NJDEP Landscape Project, Version 2.1 provides a 500 foot radius buffer for known nests, foraging during breeding, and sighting during breeding, and a 300 foot radius buffer for known foraging during non-breeding, and sighting during non-breeding (Niles, Valent, Winkler and Woerner, 2008).

4.5 Great Blue Heron (*Ardea herodias*)

The great blue heron is a large, grayish heron that is commonly identified. The great blue heron has black shoulder patches, a white face, and a white crown that is underscored by black eye-stripes ending in slender plumes. The bird has a thick yellow bill and long, stilt-like brownish or greenish legs with chestnut thigh feathers (National Audubon Society, Inc, 2011). They usually nest in mature trees or bushes near a water source (Naumann, 2002). Great blue herons nest in colonies in tall trees (eNature, 2007). Nests consist of a large platform of sticks, lined with pine needles, moss, reed, dry grass, or twigs (Butler; 1992). Preferred nest sites are close to foraging areas and relatively difficult for humans and terrestrial predators to reach. In New York and New Hampshire, the

birds avoid nesting in marine habitats, favoring inland sites instead (National Audubon Society, Inc, 2011).

Great blue herons can be found in a wide variety of aquatic habitats, ranging from riverbanks, marshes, and swamps to tidal flats and shores (National Audubon Society, Inc, 2011). They can be found along calm freshwater and seacoasts (Glahn, Dorr, Harrel and Khoo, 2002). Food consists of fish, invertebrates, amphibians, reptiles, birds, and small mammals (eNature, 2007e). Feeding takes place mostly in still or slow-moving fresh or salt water, and occasionally along seacoasts and in fields. Patient hunters, the birds forage night and day, usually alone, but sometimes in small groups. They hunt by slowly wading or standing still in shallow water until prey comes close enough to be caught with a rapid thrust of the bill (National Audubon Society, Inc, 2011).

The NJDEP Landscape Project, Version 2.1 maps the extent of a nesting colony of great blue heron if available, otherwise a 71.25 meter radius buffer for a confirmed and/or known breeding location point is applied. For roosting areas (non-breeding), a point buffer of 71.25 meters is drawn around the point. If mapped as a polygon, the polygon is the occurrence area. A 7.5 mile radius buffer is applied to a nesting colony using the surrounding area for foraging (Niles, Valent, Winkler and Woerner, 2008).

5.0 EXISTING SITE HABITAT DESCRIPTION

Site visits were performed by Langan on August 23rd, August 30th, August 31st and September 2nd of 2011. A habitat description was prepared based on the site visits and available mapped information.

5.1 Topography

The topography of the site is relatively flat, with a topographic high of approximately 15 (NGVD 29 datum) feet at the north-central portion of the site and reaching a minimum of approximately 1 foot at the southeastern part of the site (Drawing 61.01). On other portions of the site topography varies with higher areas around the existing roads and radio towers and lower areas in the wetlands. The steepest grades on the site are approximately 10% at the north-central limit of the site and directly southeast of Radio Tower 1.

5.2 Geology

Based on a review of the NJDEP bedrock geology mapping (Figure 7), the entire site is underlain by the Passaic Formation. The NJDEP surficial geology mapping (Figure 8) identifies the area is on Salt-marsh and Estuarine Deposits. A description of the bedrock geology obtained from the United States Geological Survey and surficial geology obtained from NJDEP is provided below.

- Passaic Formation - Predominantly red beds consisting of argillaceous siltstone; silty mudstone; argillaceous, very fine grained sandstone; and shale; mostly reddish-brown to brownish-purple, and grayish-red. Red beds occur typically in 3 to 7 meter (10 to 23 feet) thick, cyclic playa-lake-mudflat sequences and fining-upward fluvial sequences. Lamination is commonly indistinct due to burrowing, desiccation, and paleosol formation. Where layering is preserved, most bedforms are wavy parallel lamination and trough and climbing-ripple cross lamination. Calcite or dolomite-filled vugs and flattened cavities, mostly 0.5 to 0.2 millimeter (mm) (0.02 to 0.08 inches) across, occur mostly in the lower half. Sand-filled burrows, 2 to 5 mm (0.08 to 0.2 in) in diameter, are prevalent in the upper two-thirds of the unit. Desiccation cracks, intraformational breccias, and curled silt laminae are abundant in the lower half. Lake cycles, mostly 2 to 5 meters (7 to 16 feet) thick, have a basal, greenish-gray, argillaceous siltstone; a medial, dark-gray to black, pyritic, carbonaceous, fossiliferous, and, in places, calcareous lake-bottom fissile mudstone or siltstone; and an upper thick-bedded, gray to reddish and purplish-gray argillaceous siltstone with desiccation cracks, intraformational breccias, burrows, and mineralized vugs. Thickness of the formation between Sourland Mountain and Sand Brook syncline is about 3,500 meters (11,483 feet).

- Salt-marsh and Estuarine Deposits – The lithology of this geologic unit contains silt, sand, peat, clay and minor pebble gravel that can be brown, dark-brown, gray or black. The formation is as much as 300 feet thick in the Hudson Valley and 100 feet thick elsewhere. These deposits contain abundant organic matter and sediments accumulated in salt marshes, estuaries, and tidal channels during Holocene sea-level rise.

5.3 Soils

As shown on the NRCS Soil Survey Map (Figure 9), there are two soil types mapped within the site. A description of this soil type is provided below.

- UdouB-Udorthents-Organic Substratum-Urban Land Complex – These soils are found in low areas of marine and estuarine deposits and in uplands. Udorthents consist of areas where various types of material have been used to fill tidal marsh. Dredged material makes up a considerable portion of this unit. The largest area of this soil mapping unit is found in the Hackensack Meadowlands in East Rutherford.

- UR – Urban Land – This soil is characteristic of areas that have been cut and filled or areas in which more than 85 percent of the surface has been urbanized and covered by man-made impervious surfaces such as pavement or buildings. These soil areas tend to be nearly level or gently sloping, with grades from 1 to 5 percent. Also included in this map unit are high-density residential areas where less than 85 percent of the surface is urbanized but the soil material has been reworked or contains Udorthents that have a loamy or wet substratum (USDA, 1995).

5.4 Hydrologic Features

Langan wetland scientists conducted a delineation and survey of the wetlands and waters on the radio tower site in the May and June of 2011. As shown on Figure 10, the radio tower site contains one main surface water feature, an unnamed tributary to the Hackensack River located in the southeastern portion of the property. Another surface water feature is located just offsite to the northeast, an unnamed tributary to Cedar Creek. As shown on Drawing 61.01, the Wetland Delineation Plan, these surface water features are located within tidally-influenced wetland areas that were delineated by Langan (Wetlands A and B). There is also an isolated linear stormwater ditch located partially on the radio tower site (Ditch 2) (Drawing 61.01). This ditch was constructed to manage stormwater runoff from the adjacent newly aligned, State Route 120 and East Peripheral Road ramp system.

As discussed above, there are two emergent, tidally-influenced *Phragmites* dominated wetland areas along the eastern perimeter of the site, referenced as Wetland A and Wetland B. Wetlands D and E are small non-tidal palustrine emergent wetlands. Wetland E drains into Wetland D, which drains into Wetland A via Ditch 1, which is likely flooded intermittently during storm events. Wetland E is directly connected to Wetland D through an underground pipe beneath the access road to the on-site transmission building. Wetlands A and B both drain into the two unnamed tributaries discussed above, which convey flow under the New Jersey Turnpike right-of-way and ultimately to the Hackensack River (Drawing 61.01).

Two non-tidal *Phragmites* dominated isolated wetlands are located on the western portion of the site, labeled Wetland X and Wetland Y on Drawing 61.01. These wetlands are located on either side of the site access road within topographic depressions (Drawing 61.01).

The U.S. Army Corps of Engineers (USACE) has verbally confirmed the delineation depicted on Drawing 61.01. The formal Jurisdictional Determination request is currently pending with the USACE.

5.5 Natural or Man-Made Disturbances

The majority of the site has been previously disturbed by filling activities and construction of the existing access roads and various structures including a radio transmitter building and three radio towers. According to the New Jersey Geologic Historic Fill Map, the entire site is classified as fill material (Figure 4). The site was most likely filled during the construction of Route 120 to the northwest of the site. Access roads are located on the site to access the three radio towers at the center of the site and transmitter building.

5.6 Ecological Vegetative Communities Onsite

Langan identified several vegetative/ecological communities on the radio tower site during our site investigations: isolated emergent non-tidal wetlands (*Phragmites*); tidally-influenced emergent wetlands (*Phragmites*); non-tidal palustrine emergent wetlands; non-tidal wetland ditches; upland *Phragmites*; old field uplands; and an upland tree line area. These communities are described in detail below and shown on the Vegetative Cover Map (Figure 10).

Isolated Emergent Non-Tidal Wetlands (*Phragmites*)

Two isolated emergent non-tidal wetlands are located on the western portion of the site (Wetlands X and Y) (Figure 10 and Drawing 61.01). These wetlands areas are dominated primarily by common reed (*Phragmites australis*). These wetland areas do contain some areas of standing water after significant rainfall events, but do not contain permanent water areas.

These two isolated wetland areas are not mapped by the NJDEP Landscape Project mapping as potential habitat for any of the species discussed in Section 4.0 above (Figure 6 and Drawing 61.01).

Tidally-Influenced Emergent Wetlands (*Phragmites*)

As discussed above, there are two emergent, tidally-influenced wetland areas along the eastern perimeter of the site, referenced as Wetland A and Wetland B (Figure 10 and Drawing 61.01). Wetlands A and B both drain into the two unnamed tributaries discussed in Section 5.4 above, under the New Jersey Turnpike right-of-way and into the Hackensack River. These wetlands areas are dominated by common reed (*Phragmites australis*).

Portions of Wetlands A and B are identified on the NJDEP Landscape Project mapping as potential habitat for yellow-crowned night heron, glossy ibis, snowy egret, and northern harrier (Figure 6 and Drawing 61.01).

Non-Tidal Palustrine Emergent Wetlands

Non-tidal palustrine emergent wetlands are located in the southern part of the radio tower site (Wetlands D and E) (Figure 10 and Drawing 61.01). Wetlands D and E are small non-tidal palustrine emergent wetlands. Wetland E drains to Wetland D, which drains into Wetland A via Ditch 1 which is likely flooded intermittently during storm events. Wetland E is directly connected to Wetland D through an underground pipe beneath the access road to the on-site transmission building. Wetland D is dominated by emergent vegetation comprised mainly of common reed (*Phragmites australis*). Wetland E is dominated by emergent vegetation comprised mainly of *Phragmites*, broadleaf cattail (*Typha latifolia*), common three square (*Scirpus pungens*), and purple loosestrife (*Lythrum salicaria*).

These two wetland areas are not mapped by the NJDEP Landscape Project mapping as potential habitat for any of the species discussed in Section 4.0 above (Figure 6 and Drawing 61.01).

Wetland Ditches

There is an isolated linear stormwater ditch located partially on the radio tower site (Ditch 2) (Drawing 61.01). Where vegetation is present within Ditch 2, it is dominated by common reed (*Phragmites australis*), broadleaf cattail (*typha latifolia*), and common three square (*Scirpus pungens*). Standing water has been observed in this ditch during field visits. The ditch contains steep slopes and is surrounded by uplands.

As discussed above, another ditch is located between Wetlands D and E (Ditch 1). Based on our observations, Ditch 1 appears to occasionally carry excess surface water during major rain events from Wetlands D and E, to Wetland A. Vegetation within Ditch 1 is dominated by common reed (*Phragmites australis)* and mile-a-minute vine (*Persicaria perfoliata*).

As shown on Figure 6, a portion of the Ditch 2 feature is mapped by NJDEP as habitat for yellow-crowned night heron, glossy ibis, and snowy egret. Ditch 1 is not identified as potential habitat by NJDEP for any of the species discussed in Section 4.0 above (Figure 6).

Phragmites-Dominated Uplands

Phragimites-dominated uplands are found in central portions of the radio tower site (Figure 10). These upland areas are dominated primarily by (*Phragmites australis)* and mile-a-minute vine (*Persicaria perfoliata*).

None of the *Phragmites*-dominated uplands that are present onsite are mapped by the NJDEP Landscape Project mapping as potential habitat for any of the species discussed in Section 4.0 above (Figure 6).

Old Field Uplands

Old field uplands, which are sporadically mowed throughout the year, are found on the radio tower site (Figure 10). These areas are dominated by mugwort (*Artemisia vulgaris*), foxtail (*setaria sp.*), common reed (*Phragmites australis)*, goldenrod species (*solidago spp.*), and crown vetch (*vicia cracca*).

None of the old field uplands that are present onsite are mapped by the NJDEP Landscape Project mapping as potential habitat for any of the species discussed in Section 4.0 above (Figure 6).

Upland Tree Line Area

As shown on Figure 10, there is one small area along the western boundary of the radio tower site that contains trees. Dominant tree species along this linear zone include boxelder (*Acer negundo*) and tree-of-heaven (*Ailanthus altissima*).

This small tree line area is not mapped by the NJDEP Landscape Project mapping as potential habitat for any of the species discussed in Section 4.0 above (Figure 6).

6.0 HABITAT FIELD ASSESSMENT

6.1 Survey Methodology

A habitat field assessment was completed by David Charette, Linda Kenney, Kelly McCormick, Robert March, Craig Amundson, and Joseph Buckley from Langan Engineering and Environmental Services, Inc. on August 23, 2011 from 10:00 AM to 1:00 PM. Qualifications of these individuals are provided in Appendix E. The site was examined for vegetation communities (discussed above in Section 5.6) and a habitat review for each of the species identified onsite by NJDEP was conducted.

Research was conducted in accordance with the "Standards for Conducting Endangered or Threatened Wildlife or Plant Species Habitat Impact Assessment" pursuant to the Coastal Zone Management Rules (N.J.A.C. 7:7E-3C.2). Specific attention was given to potential foraging habitat for the yellow-crowned night-heron, glossy ibis, northern harrier, snowy egret, and great blue heron. In preparation for the field assessment, the Langan wildlife biologist collected information regarding the nesting, foraging, and perching behavior for these species as well as habitat requirements from a variety of sources. These sources included information from the websites of the NJDEP Division of Fish and Wildlife, The National Audubon Society, Cornell Lab of Ornithology, New World Encyclopedia, and the U.S. Fish and Wildlife Service. References are provided in Section 8.0 below. A description of the preferred habitats for these species is provided in Section 4.0 above.

6.2 Findings

Based upon the field assessment, mapped information and characteristics of the species of interest, on-site vegetative communities consisting of wetlands and open grasslands could potentially provide marginal forging habitat for northern harrier, snowy egret, glossy ibis, and great blue heron. Wooded swamps or scrub/shrub thickets typical of yellow-crowned night-heron habitat and barrier islands typical of nesting habitat for yellow-crowned night heron were not identified within the radio tower site.

Yellow-crowned Night-Heron (*Nycantass violacea*) Habitat

As discussed above in Section 4.1, yellow-crowned night-heron normally resides in wooded swamps and fresh or saltwater thickets. Yellow-crowned night-herons use similar habitat types for nesting and roosting, avoiding areas with insufficient cover. The radio tower site does not provide suitable habitat for either nesting or roosting yellow-crowned night heron. The closest potential nesting or roosting habitat for the yellow-crowned night-heron is the "upland tree line area" at the northwestern portion of the site. However, this area is only a small strip of trees and is not truly a "forested upland". Nests were not observed within the trees in this area. An off-site ditch (Ditch 2) that could potentially be considered yellow-crowned night-heron nesting habitat is located on the northwestern side of the tree line. However, due to the small size, fragmented nature, and frequent disturbance surrounding this area, it is unlikely to be utilized by yellow-crowned night heron.

Yellow-crowned night-herons typically hunt along the shores of tidal creeks and tide pools or wade in shallow water and mudflats in search of food. The majority of the wetland areas identified as potential yellow-crowned night-heron habitat by NJDEP onsite are dominated by dense, monotypic stands of *Phragmites* and contain very limited area of open water suitable for foraging. As such, because of the lack of open water areas and mudflats onsite, the radio tower site does not provide any significant suitable habitat for foraging yellow-crowned night heron.

Glossy Ibis (*Plegadis falcinellus*) Habitat

Typical habitat for the glossy ibis includes wooded wetlands, moist to submerged marshes, lagoons and mudflats, or flooded and dry fields. Marsh-like conditions are present within the isolated emergent non-tidal

wetlands, tidally influenced emergent wetlands, non-tidal palustrine emergent wetlands; and, dry field conditions are present within the *Phragmites*-dominated uplands and old field uplands making these areas potential glossy ibis habitat. However, the dense extensive cover of *Phragmites* minimizes the site as potential habitat. Preferred nesting habitat for this species includes bushes, trees and wooded wetlands close to the coast. The closest potential nesting habitat for the glossy ibis is the "upland tree line area" at the northwester portion of the site. This area is limited to a small strip of trees within an upland area of the site. Nests were not observed within the trees in this area and it is unlikely that this area would be utilized for nesting due to its small size and proximity to frequent disturbance (i.e., roadway traffic).

Glossy ibis' typically hunt mudflats in search of crawfish, insects and small snakes. Because of the lack of any significant open water areas and mudflats onsite, the radio tower site does not provide any significant suitable habitat for foraging glossy ibis.

Snowy Egret (*Egretta thula*) Habitat

Snowy egrets tend to live and forage in marshes and swamps with aquatic vegetation, dry fields or urbanized areas. Most of the areas adjacent to the site are urbanized. Nests are typically placed on a platform of sticks in a bush of reedbed or on the ground. Marsh-like conditions are present within the isolated emergent non-tidal wetlands, tidally influenced emergent wetlands, non-tidal palustrine emergent wetlands, and dry field conditions are present within the *Phragmites*-dominated uplands and old field uplands making these areas possible snowy egret nesting habitat. Nests were not observed during Langan's evaluation of the habitat onsite.

Snowy egrets feed on crustaceans, insects, frogs and fish. This food source could be present within the "tidally influenced wetlands" or possibly the "isolated wetlands", however substantial sources of water for these food sources would be found within off-site waterways southeast and northeast of the site and in larger marsh systems with a greater tidal influence.

Northern Harrier (*Circus cyaneus*) Habitat

Northern harriers are known to hunt over areas with low vegetation, which is present throughout the site. The maintained nature of the "old field uplands" provides some foraging opportunities for the northern

harrier. However, the majority of the site consists of *Phragmites*, which offers poor foraging due to its dense, impenetrable stands.

The northern harrier typically nests within freshwater tidal marshes that consist of *Phragmites,* sedges and other emergent vegetation. The majority of the site consists of *Phragmites* providing potential nesting areas. However, tidally influenced marshes are only located at the southeastern and northeastern portions of the site. These areas are monoculture providing limited diversity. Additionally, male breeding territories are approximately 247 acres while female breeding territories are approximately 25 acres. The radio tower site does not provide ample area for breeding territories. As such, the site does not provide significant nesting habitat for northern harrier. Northern harrier nests were not observed during Langan's evaluation of the habitat onsite.

Great Blue Heron (*Ardea herodias*) Habitat

Great blue herons are very adaptable birds that live in a variety of habitats. However, they are typically found in freshwater and seacoasts. Their typical foraging habitat includes rivers, marshes, lakes and swamps. Marsh-like conditions are present within the "isolated non-tidal wetlands", "tidally influenced wetlands", and "non-tidal wetlands". The on-site wetland areas are comprised of dense stands of *Phragmites* with limited open water areas making them marginal foraging habitat for the great blue heron.

Great blue heron prefer to nest in tall trees near a water source. The closest potential nesting habitat for the great blue heron is the "upland tree line area" at the northwester portion of the site. This area is comprised of a small strip of trees within an upland area of the site. Trees in this area do not exceed approximately 25 feet in height and are situated close to frequently disturbed areas (i.e., roadways). Therefore, it is unlikely that this area would be utilized as nesting habitats for great blue heron. Nests were not observed within the trees in this area.

7.0 WILDLIFE FIELD SURVEY

A wildlife survey was also completed on the radio tower site in August and September 2011. The survey was completed by David Charette, Linda Kenney, Kelly McCormick, Michael Nevins, Robert March, Craig Amundson and Joseph Buckley from Langan Engineering and Environmental Services, Inc. Observations were performed on August 23, 2011 from 11:00 AM to 1:00 PM,

August 30, 2011 5:30 PM to 7:30 PM, August 31, 2011 from 6:00 AM to 8:00 AM and 5:10 PM to 7:10 PM, and September 2, 2011 from 6:30 AM to 8:30 AM. Wildlife observation stations were located in representative habitat types and were repeatedly visited during each of the separate site visits. A total of six (6) stations located within representative habitat types on site were used in this assessment (Figure 11). The six stations were visited to observe wildlife. Wildlife was observed and recorded at each station for approximately 15 to 20 minutes. Photographs of each station and a photo-location plan are provided in Appendix A. Data on wildlife presence was collected in the field based on visual and auditory identification. Secondary indicators of wildlife presence such as tracks or scat were also recorded. Habitat Assessment Checklists for the NJDEP listed species are provided in Appendix C. Wildlife Observation Checklists listing all of the species observed on the site are provided in Appendix D. Qualifications of individuals who performed the investigations are provided in Appendix E. A summary of each observation station is provided below.

Station A

Station A includes an overall view of the entire site (see Photographs 1, 2 and 3), with an emphasis on Ditch 2, Wetland X and upland field areas. These areas are dominated by *Phragmites*, mugwort (*Artemisia vulgaris*), cattail (*Typha latifolia*), and vetch (*Vicia sp.*). The habitats within Station A are dominated almost entirely by *Phragmites* with few other species around the fringes of the wetland delineation.

Species observed from Station A included Eastern phoebe (*Sayornis phoebe*), grey catbird (*Durnetella carolinensis*), redwinged blackbird (*Agelaius phoeniceus*), American crow (*Corvus brachyrhynchos*), American kestrel (*Falco sparverius*), European starling (*Sturnus vulgaris*), and mourning dove (*Zenaida macroura*). A transient osprey (*Pandion haliaetus*), and multiple transient gulls were also observed from this station. Field crickets were heard throughout the observation periods at this station and raccoon tracks were observed along the access road.

Station B

Station B consists of a linear "wooded area" and an isolated wetland. The "wooded upland" area can be described as an "upland edge" with several tree species present. Dominant tree species along this linear zone include boxelder (*Acer negundo*) and tree-of-heaven (*Ailanthus altissima*). The isolated wetland (Wetland Y) is dominated by *Phragmites.*

Species observed from Station B included Eastern phoebe (*Sayornis phoebe*), American robin (*Turdus migratorius*), redwinged blackbird (*Agelaius phoeniceus*), European starling (*Sturnus vulgaris*), yellowthroat (*Geothypis trichas*), and multiple transient gulls. Field crickets were heard throughout the observation periods at this station. Groundhog (*Marmota monax*) burrows and meadow vole trails were also observed within close proximity of this station.

Station C

Station C is an open field upland area that is largely dominated by *Phragmites*. This area has defining characteristics such as dry open fields, low vegetation, and very sparse canopy cover (see Photograph 6). Plant species include mugwort (*Artemisia vulgaris*), purple milkweed (*Asclepias purpurascens*), foxtail (*Alopecurus pratensis*), *Phragmites*, and a single eastern cottonwood (*Populus deltoides*).

Species observed from Station C included grey catbird (*Durnetella carolinensis*), redwinged blackbird (*Agelaius phoeniceus*), European starling (*Sturnus vulgaris*), field sparrow (*Spizella pusilla*), mourning dove (*Zenaida macroura*), and rock pigeon (*Columba livia).* A transient osprey (*Pandion haliaetus*) and multiple transient gulls were also observed flying over the ERC component of the American Dream Meadowlands Project site from Station C. Field crickets and cicadas were heard throughout observation periods at this station and groundhog (*Marmota monax*) burrows and meadow vole trails were observed within close proximity of this station.

Station D

Station D is situated near a tidally influenced wetland dominated by *Phragmites*. This area differs from Stations A and B in that Station D is situated near a tidally influenced wetland that contains brackish water. Stations A and B are located near wetlands that exhibit stormwater and groundwater-based hydrology.

Species observed from Station D include grey catbird (*Durnetella carolinensis*), European starling (*Sturnus vulgaris*), house sparrow (*Passer domesticus*), mourning dove (*Zenaida macroura*), and multiple transient gulls. Field crickets were heard throughout observation periods at this station and groundhog (*Marmota monax*) burrows and meadow vole trails were observed within close proximity of this station.

Station E

Station E is situated near the tidally influenced Wetland A (see Photograph 10), some open field areas, and the radio towers. Vegetation in this area is

dominated by *Phragmites,* mugwort (*Artemisia vulgaris*), purple milkweed (*Asclepias purpurascens*), and mile-a-minute vine (*Persicaria perfoliata*).

Species observed from Station E include grey catbird (*Durnetella carolinensis*), redwinged blackbird (*Agelaius phoeniceus*), European starling (*Sturnus vulgaris*), song sparrow (*Melospiza phoeniceus*), mourning dove (*Zenaida macroura*), rock pigeon (*Columba livia)*, a flycatcher, and multiple transient gulls. Field crickets and cicadas were heard throughout observation periods at this station and groundhog (*Marmota monax*) burrows and meadow vole trails were observed within close proximity of this station.

Station F

Station F is situated near tidally influenced wetlands (Wetland A), along with upland fields, access roads, utility poles, and a transmission building (see Photograph 12). This area has defining characteristics such as dry open fields, low vegetation, very sparse canopy cover, and *Phragmites* (see Photograph 11). Plant species include mugwort (*Artemisia vulgaris*) and purple milkweed (*Asclepias purpurascens*) are also present.

Species observed from Station F include grey catbird (*Durnetella carolinensis*), American robin (*Turdus migratorius)*, blue-winged warbler (*Vernivora pinus*), European starling (*Sturnus vulgaris*), song sparrow (*Melospiza melodia*), mourning dove (*Zenaida macroura*), rock pigeon (*Columba livia)*, flycatcher, and multiple transient gulls. Field crickets were heard throughout this station and groundhog (*Marmota monax*) burrows and meadow vole trails were observed within portions of this station.

Summary

Observations occurred during 2 days in the month of August and 2 days in the month of September. These observation periods were selected to provide a representative observation of wildlife present on the site. In some of the observation areas, habitats were dominated by thick stands of *Phragmites*. These stands of *Phragmites* make it difficult to observe the ground surface or small mammals which may be living in the underbrush. Some animals are nocturnal, like raccoons, bats, and opossums, or crepuscular, like shrews, and moles, and thus were not necessarily active at the time of the observations. Evidence of mammalian species was observed in various areas of the site (Photographs 13 and 15). Wildlife observations were conducted on several days during the summer of 2011 and do not necessarily reflect the potential use of the site during other seasons of the year.

Avian observations were influenced due to the time of year and location of the site. The Hackensack Meadowlands District is along a major migration route for avian species, known as the Atlantic Flyway. Six species of songbirds were observed during the site investigations. These birds are likely involved in a southward migration along the Atlantic Flyway, utilizing the habitats of the Meadowlands for feeding and resting during their long journey. Some may be year round residents.

The largest number of avian species were observed from Station E. Many of these species utilized the radio towers as resting areas, as evidence in Photograph 4. The next highest number of avian species observed within the site were from Stations A and C. The lowest overall diversity of wildlife species observed occurred from Station D.

None of the species identified with potential habitat onsite by NJDEP (See Section 3.0) were observed onsite during the wildlife field survey visits. No nests were observed during the site visits. Avian species that were documented at almost every monitoring event include grey catbird (*Dumetella carolinensis*), redwing blackbird (*Agelaius phoeniceus*), mourning dove (*Zenaida macroura*), and unidentified gull species. Less frequent avian species identified include American robin (*Turdus migratorius*), osprey (*Pandion haliaetus*), American kestrel (*Falco sparverius*) (see Photograph 14), blue-winged warbler (*Vermivora pinus*), rock dove (*Columba livia*), field sparrow (*Spizella pusilla*), song sparrow (*Melospiza melodia*), house sparrow (*Passer domesticus*) and yellowthroat (*Geothlypis trichas*).

Evidence of mammalian species were found in less abundance and included meadow vole (*Microtus pennsylvanicus*) and groundhog (*Marmota monax*) burrows (see Photograph 15) located in the upland areas near Stations B, C, and D. Raccoon (*Pryocyon lotor*) tracks (see Photograph 13) were also observed between Stations A and B adjacent to the access road. The species documented are abundant in the region and are common to urban and developed areas.

8.0 OTHER WILDLIFE SURVEYS CONDUCTED NEAR THE RADIO TOWER SITE

8.1 New Jersey Audubon Meadowlands District Avian Study

The Hackensack Meadowlands District is home to many breeding avian species, several of which are listed as "endangered" or "threatened" by the State of New Jersey, including pied-billed grebe (*Podilymbus*

podiceps), American bittern (*Botaurus lentiginosus*), Yellow-crowned night-heron (*Nycticorax violaceus*), black-crowned night-heron (*Nycticorax nycticorax*), and Northern harrier (*Circus cyaneus*) (New Jersey Audubon Society, 2011).

The New Jersey Audubon Society was contracted by the New Jersey Meadowlands Commission (NJMC) to perform two full years of avian surveys in the Hackensack Meadowlands District from August 2004 to September 2006. The goal of the project was to collect baseline data about the species present, and their abundance and distribution in different sites and habitats (NJAS, 2007). The study included observations conducted on 31 different sites in the Hackensack Meadowlands District.

The most commonly seen endangered species in the Meadowlands was the northern harrier (*Circus cyaneus*), recorded at 59% of the survey points over the two years of the survey. The most commonly seen threatened species were osprey (*Pandion haliaetus*), Savannah sparrow (*Passerculus sandwichensis*), and Black-crowned night-heron (*Nycticorax nycticorax*), each recorded at more than 30% of the points. Red-winged blackbird (*Agelaius phoeniceus*), song sparrow (*Melospiza melodia*), and European starling (*Sturnus vulgaris*) were the most common and most abundant passerine species. Herring (*Larus argentatus)*, ring-billed (*L. delawarensis*), and great blackbacked gull (*L. marinus*) were the most common colonial water birds, while mallards (*Anas platyrhynchos*) and Canada geese (*Branta canadensis*) were the most common waterfowl. Finally, the most common raptor seen was the red-tailed hawk (*Buteo jamaicensis*). Semipalmated sandpiper (*Calidris pusilla*) and ruddy duck (*Oxyura jamaicensis*) were the birds seen in highest numbers (NJAS, 2007).

The closest observation sites to the radio tower site include the Oritani Marsh located south of the radio tower site, south of Route 3, and the Empire Tract (now referred to as the Richard P. Kane Wetland Mitigation Bank or the Kane Tract) and the Resources Metromedia Marsh, both located to the north of the radio tower site. Additional study locations were located along the Hackensack River, which is located to the east of the radio tower site, east of the N.J. Turnpike roadway.

According to this study, there were multiple sightings of yellow-crowned night-heron within the Eastern Brackish Marsh, Hackensack River,

Kingsland Walkway, Lyndhurst Riverside, Mill Creek Marsh, Sawmill Wildlife Management Area, and Schmidt's Woods (NJAS, 2007). Yellow-crowned night-herons were not observed within any of the marshes near the radio tower site. Three sightings of this Night-heron species were observed at stations along the Hackensack River.

The Audubon Society study identified northern harriers in the marshes located near the radio tower site during breeding season and in various locations near the radio tower site during non-breeding season.

The snowy egret and great blue heron are more adaptable species, typically found in various wetland habitats. The snowy egret and great blue heron were observed in multiple areas throughout the Meadowlands. The glossy ibis was not observed at any of the study locations (NJAS, 2007).

8.2 Meadowlands Xanadu Wildlife Study

A wildlife survey of the Meadowlands Xanadu Project site (Arena site) was conducted in August through October of 2003 by Langan to observe wildlife utilization of the habitats on the Arena Site. Wildlife observation stations were located in representative habitat types and were repeatedly and randomly visited during each of the separate site visits.

A total of 32 bird species were observed within the Meadowlands Xanadu Project Study Area during the 2003 field investigations (Langan 2003). Herring gull (*Larus argentatus*) and morning dove (*Zenaida macroura*) were the species most commonly observed throughout the six established observation stations. Barn swallow (*Hirundo rustica*), song sparrow (*Melospiza melodia*), European starling (*Sturnus vulgaris*), gray catbird (*Dumetella carolinensis*) and redwing blackbird were also observed at several stations. Black-crowned night-heron (*Nycticorax nycticorax*) was the only state or federally listed threatened or endangered avian species observed within the Xanadu Project study area. This species is a state-listed threatened species for the breeding population only. A pair of black-crowned night herons was observed on several occasions at a Sports Complex stormwater lagoon located just southwest of Route 120.

The observation station closest to the radio tower site was located just north of the radio tower site in the wetland area located between the

East Peripheral Road and the New Jersey Turnpike roadway. Species observed from this station included the following: American robin (*Turdus migratorius*), mourning dove (*Zenaida macroura*) herring gull (*Larus argentatus*), European starling (*Sturnus vulgaris*), house sparrow (*Passer domesticus*), song sparrow (*Melospiza melodia*), rough-winged swallow (*Stelgidopteryx ruficollis*), black duck (*Anas rubripes*), double-crested cormorant (*Phalacrocorax auritus*), and redwing blackbird (*Agelaius phoeniceus*).

No reptiles or amphibians were observed during the 2003 field investigations performed by Langan. The only mammals observed during the 2003 field investigations performed by Langan included grey squirrel (*Sciurus carolinensis*) and eastern cottontail (*Sylvilagus floridanus*). Dead carcasses of Norway rat (*Rattus norvegicus*) and muskrat (*Ondatra zibethica*) were also observed during the wetland delineation performed in June 2003. A red fox (*Vulpes vulpes*) was observed once on the peripheral during a water sampling field investigation. The rat, grey squirrel and rabbit are common urban species, while the muskrat is common in freshwater and brackish marshes.

9.0 CONCLUSION

As identified on Table 2, the glossy ibis, great blue heron, northern harrier, yellow-crowned night-heron, and snowy egret were not observed on the radio tower site during the site investigations. Based on current site conditions and habitat present on the radio tower site, the site provides marginal foraging habitat for the northern harrier and limited foraging habitat for the glossy ibis, great blue heron, and snowy egret.

The radio tower site does not afford foraging and nesting habitat for the yellow-crowned night-heron. The wetlands onsite are fragmented and located in an urban environment surrounded by development with high levels of human activity, traffic and noise. The wetlands onsite are dominated by *Phragmites* with little or no tree cover that would provide suitable roosting and nesting habitat for this heron species. Yellow-crowned night-herons typically hunt along the shores of tidal creeks and tide pools or wade in shallow water and mudflats in search of food. As such, because of the lack of open water areas and mudflats onsite, the radio tower site does not provide any significant suitable habitat for foraging for the yellow-crowned night-heron.

Table 2 – Summary of Species Habitat Evaluation

Common Name	Latin Name	Ranking	Source	Observed Onsite During Langan Wildlife Survey	Presence of Suitable Habitat Onsite for Species
Yellow-Crowned Night-Heron	*Nyctanassa violacea*	State Threatened	NJNHP NJDEP Landscape Project GIS Mapping NJDEP emailed comments	No	No habitat for nesting or roosting; No significant foraging habitat.
Glossy Ibis	*Plegadis falcinellus*	Species of Special Concern for breeding populations; Regional Priority for non-breeding populations	NJNHP NJDEP Landscape Project GIS Mapping NJDEP emailed comments	No	No habitat for nesting or roosting; No significant suitable foraging habitat.
Snowy Egret	*Egretta thula*	Species of Special Concern for breeding populations; Regional Priority for non-breeding populations	NJNHP NJDEP Landscape Project GIS Mapping NJDEP emailed comments	No	No habitat for nesting or roosting; Limited foraging habitat.
Northern Harrier	*Circus cyaneus*	State Endangered for breeding populations Species of Special Concern for non-breeding populations	NJNHP NJDEP Landscape Project GIS Mapping	No	No habitat for nesting or roosting; Marginal foraging habitat.
Great Blue Heron	*Ardea herodias*	Species of Special Concern for breeding populations	NJDEP Landscape Project GIS Mapping	No	Marginal habitat for nesting or roosting; Marginal foraging habitat.

The radio tower site affords limited foraging habitat for the glossy ibis, snowy egret, and great blue heron. Optimal nesting habitat is not present for these species. Although wetland areas are present on-site for the glossy ibis, snowy egret and great blue heron, these areas are monoculture and do not provide quality habitat for these species. One open water feature exists off-site at the northwest corner of the site, however this feature is small in size and provides limited nesting and foraging opportunities. Another open water feature was observed within the tidally-influenced *Phragmites* wetland at the southeastern portion of the site. This open water feature is also small and surrounded by *Phragmites* making it less than ideal foraging habitat for the glossy ibis, snowy egret, or great blue heron.

The old field uplands located on the radio tower site provide marginal foraging habitat for the northern harrier. Due to the overgrowth of *Phragmites* onsite, resulting in minimal open areas for hunting, foraging habitat is limited. Although the northern harrier nests in *Phragmites* marshes, other vegetative species such as sedges and elder allow for a more diverse nesting and foraging habitat. The only documented breeding habitat for northern harrier in the vicinity of the

Empire Tract (Kane Tract) is located in Lower Berry's Creek, roughly one mile from the southern portion of the tract (USACE 2002). While northern harriers were observed on the Empire Tract during the 1996/1997 site investigations conducted for the Meadowlands Mills Project, no breeding areas for this species were observed or documented on the radio tower site.

As documented by a Wildlife Field Survey conducted on the radio tower site in August and September 2011, the avian use of the radio tower site appears to be transient use in nature, rather than resident populations. None of the NJDEP listed species (Threatened/Endangered/Species of Special Concern) for the site were observed during these field investigations. Over half of the avian species observed (69%) were present during only one to two observation dates. Twenty-five percent of the avian species observed were present on four to five of the observation dates. A total of 16 avian species were observed during the site investigations. The gulls and osprey were transient and observed flying overhead. Osprey breeding habitat is listed as threatened in New Jersey. However, the ospreys observed at the radio tower site were transient.

The majority of the vegetative communities on the radio tower site, both wetland and upland, are dominated by *Phragmites*. The invasion of Common Reed usually reduces the habitat value of tidal marshes by altering the structure

and function of relatively diverse marshes (USACE 2002). As discussed in the Audubon Society study, multiple sitings of the great blue heron, snowy egret, yellow-crowned night-heron and northern harrier have been observed in various marsh and open water habitats in the vicinity of the site including the Empire Tract (Kane Tract), Resources Metromedia Marsh, Orantini Marsh, and the Hackensack River. The glossy ibis was not identified in any of the Meadowlands marsh or open water areas according to the Audubon Society study.

10.0 REFERENCES

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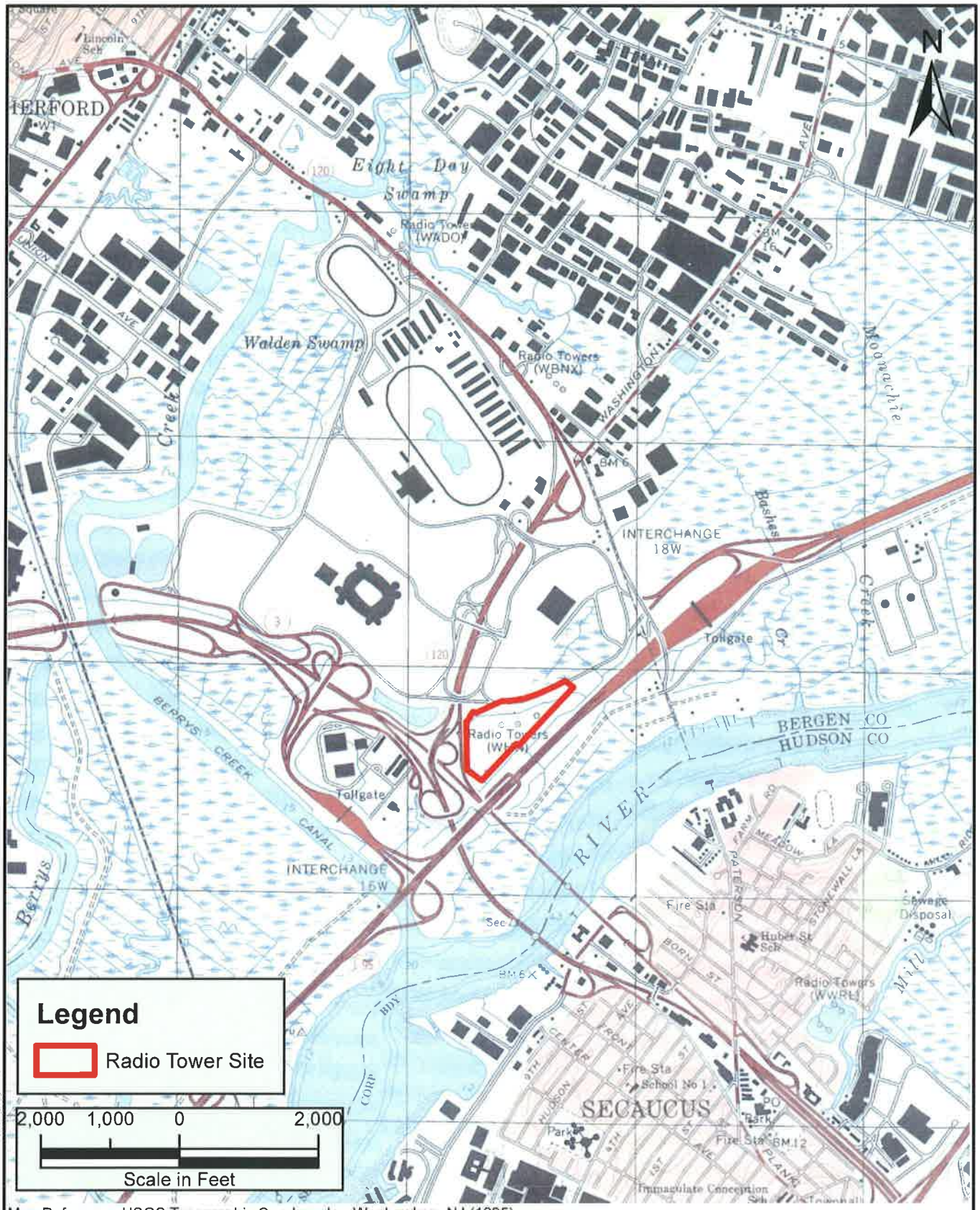
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FIGURES



Map Reference: USGS Topographic Quadrangle - Weehawken, NJ (1995)

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USGS SITE LOCATION MAP

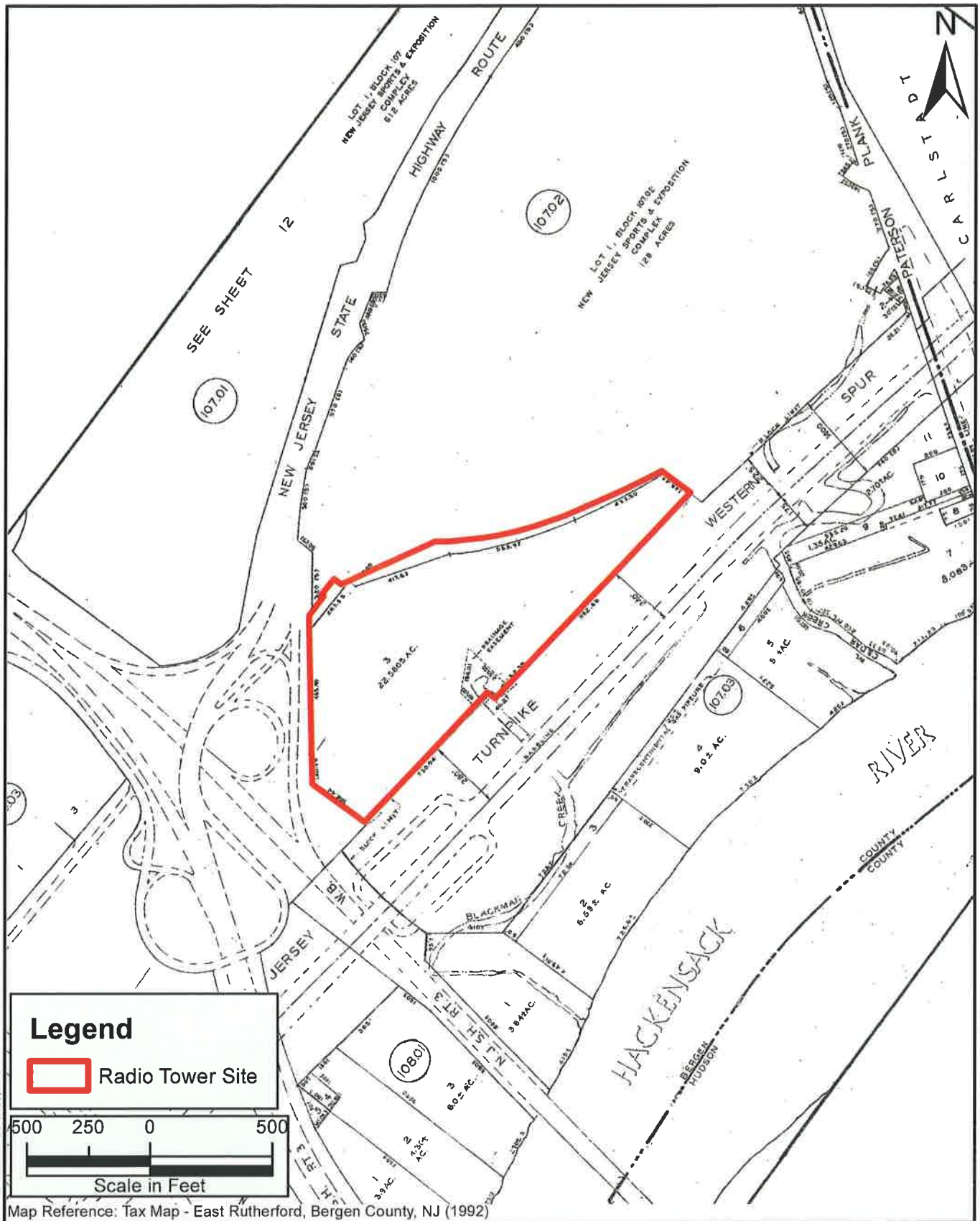
AMUSEMENT PARK AND WATER PARK
AMERICAN DREAM MEADOWLANDS
BLOCK 107.02, LOT 3

EAST RUTHERFORD NEW JERSEY

Project No.	Date	Scale	Figure No.
100234201	9/30/11	1"= 2000'	1

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\\langan.com\data\EP\data2\100234201\ArcGIS\MXD_MapDocuments\Habitat Suitability Report\MXD\Figure 1 - USGS Site Location Map.mxd



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TAX MAP
AMUSEMENT PARK AND WATER PARK
AMERICAN DREAM MEADOWLANDS
BLOCK 107.02, LOT 3

EAST RUTHERFORD NEW JERSEY

Project No.	Date	Scale	Figure No.
100234201	9/30/11	1"= 500'	2

\\langan.com\data\EP\data2\100234201\ArcG\SMXD_MapDocuments\Habitat Suitability Report\MXD\Figure 2 - Tax Map.mxd



Map Reference: Promaps Inc., Moorestown, NJ - Flyover Aerial Photography (6-2011)

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AERIAL PHOTOGRAPH

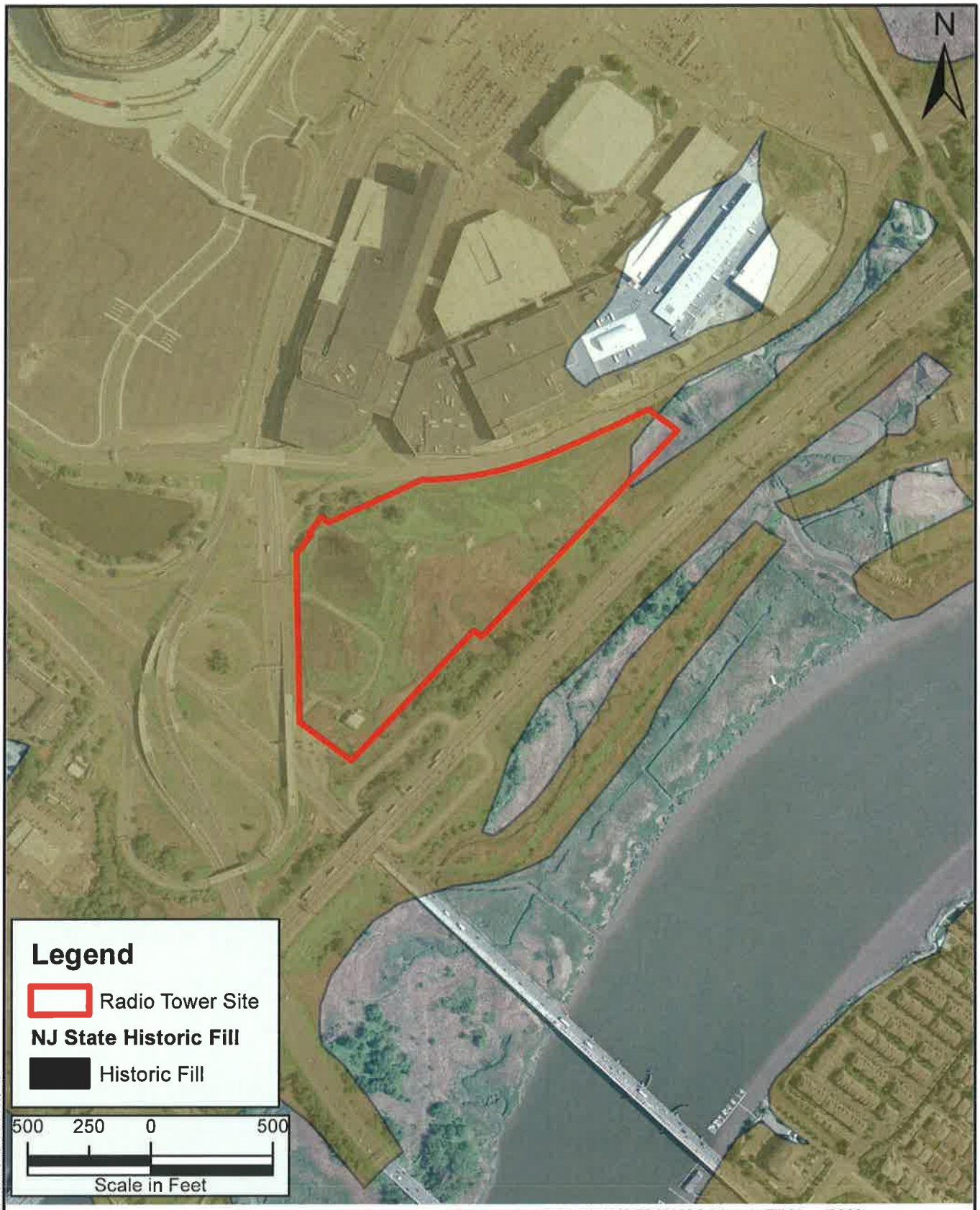
AMUSEMENT PARK AND WATER PARK
AMERICAN DREAM MEADOWLANDS
BLOCK 107.02, LOT 3

EAST RUTHERFORD NEW JERSEY

Project No.	Date	Scale	Figure No.
100234201	9/30/11	1"= 500'	3

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\\langan.com\data\EP\data2\100234201\ArcG\S\MXD_MapDocuments\Habitat Suitability Report\MXD\Figure 3 - Aerial Photograph.mxd



Map Reference: Promaps Inc., Moorestown, NJ - Flyover Aerial Photography (6-2011); NJDEP&NJGS Historic Fill Map (2009)

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NJGS HISTORIC FILL MAP

AMUSEMENT PARK AND WATER PARK
AMERICAN DREAM MEADOWLANDS
BLOCK 107.02, LOT 3

EAST RUTHERFORD NEW JERSEY

Project No.	Date	Scale	Figure No.
100234201	9/30/11	1"= 500'	4

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Map Reference: Promaps Inc., Moorestown, NJ - Flyover Aerial Photography (6-2011); NJDEP Surface Water Quality Standards GIS Data (2011); NJDEP HUC-14 Watershed Boundaries (2010)

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NJDEP SURFACE WATERS MAP

AMUSEMENT PARK AND WATER PARK
AMERICAN DREAM MEADOWLANDS
BLOCK 107.02, LOT 3

EAST RUTHERFORD NEW JERSEY

Project No.	Date	Scale	Figure No.
100234201	9/30/11	1"= 600'	5

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Map Reference: Promaps Inc., Moorestown, NJ - Flyover Aerial Photography (6-2011); NJDEP Landscape Project GIS Data (2008)

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NJDEP LANDSCAPE PROJECT HABITAT MAP

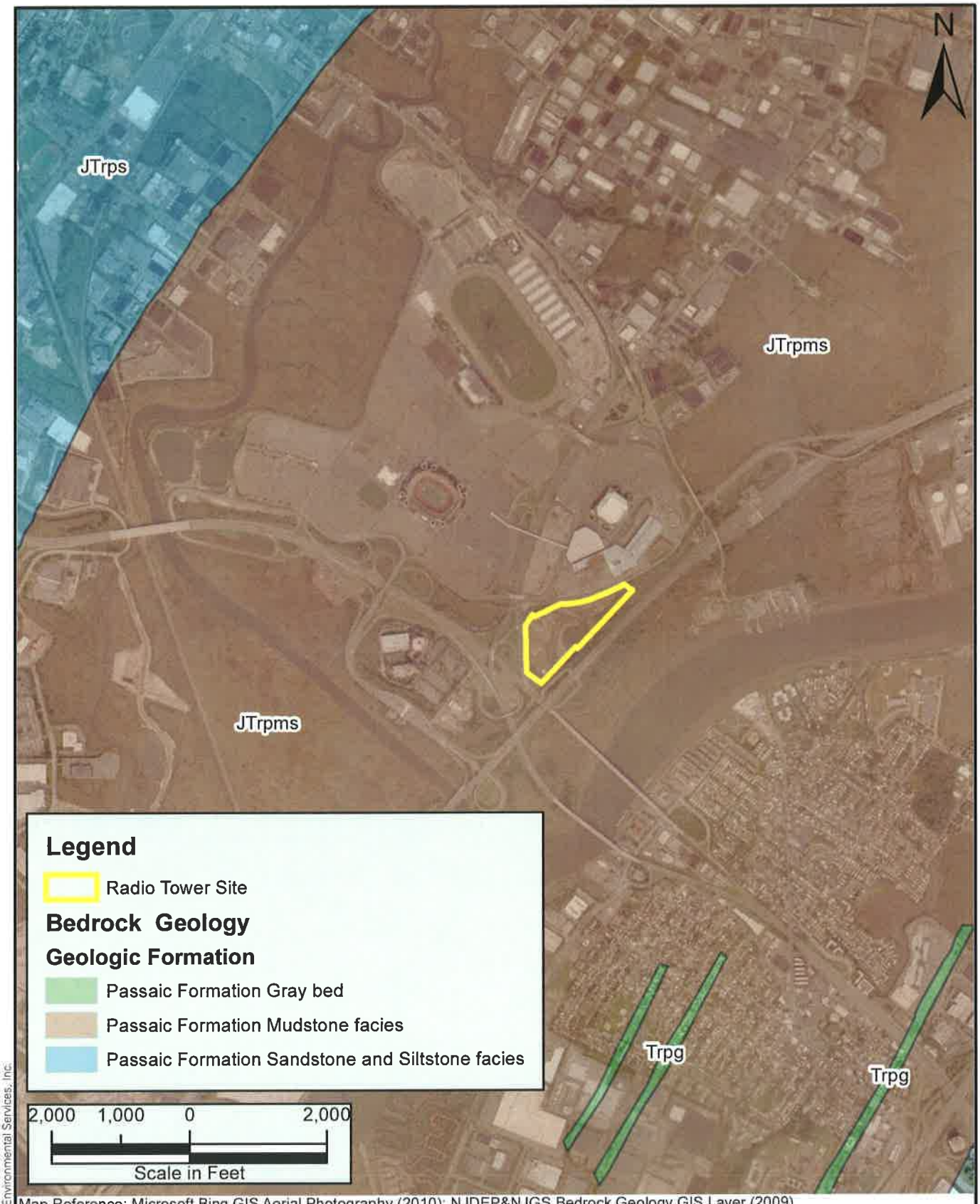
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Project No.	Date	Scale	Figure No.
100234201	9/30/11	1"= 600'	6

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\\langan.com\data\EP\data2\100234201\ArcGIS\MXD_MapDocuments\Habitat Suitability Report\MXD\Figure 6 - NJDEP Landscape Project Habitat Map.mxd



Map Reference: Microsoft Bing GIS Aerial Photography (2010); NJDEP&NJGS Bedrock Geology GIS Layer (2009)

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USGS BEDROCK GEOLOGIC MAP

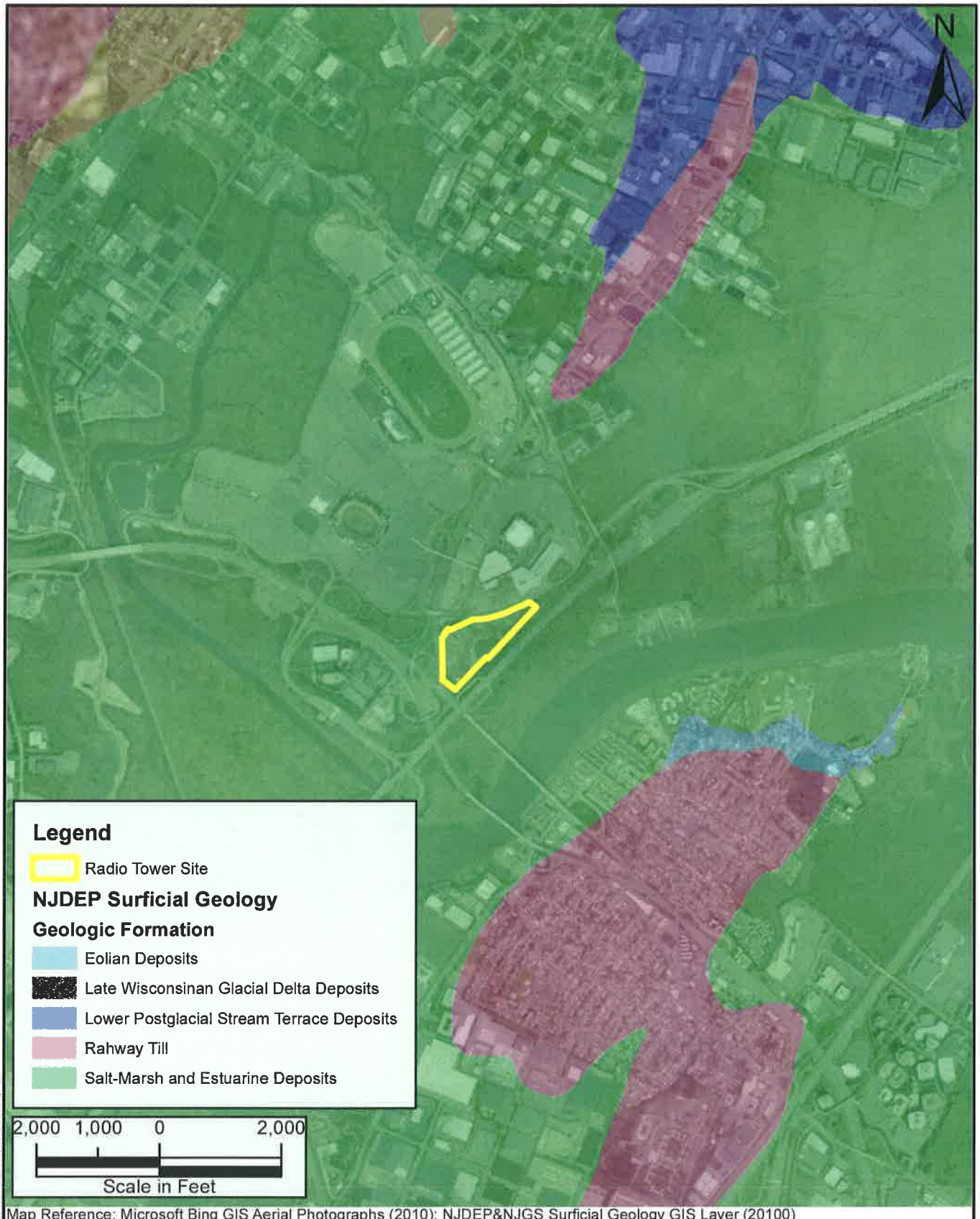
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Project No.	Date	Scale	Figure No.
100234201	9/30/11	1"= 2000'	7

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Map Reference: Microsoft Bing GIS Aerial Photographs (2010); NJDEP&NJGS Surficial Geology GIS Layer (20100)

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SURFICIAL GEOLOGY MAP

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EAST RUTHERFORD NEW JERSEY

Project No.	Date	Scale	Figure No.
100234201	9/30/11	1"= 2000'	8

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MUSYM	Soil Description	Hydric
UdouB	Udorthents, organic substratum -Urban land complex, 0 to 8 percent slopes	No
UR	Urban Land	No

Map Reference: Promaps Inc., Moorestown, NJ - Flyover Aerial Photography (6-2011); NRCS Soil Boundaries - Bergen County, NJ (2008)

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SOIL SURVEY MAP

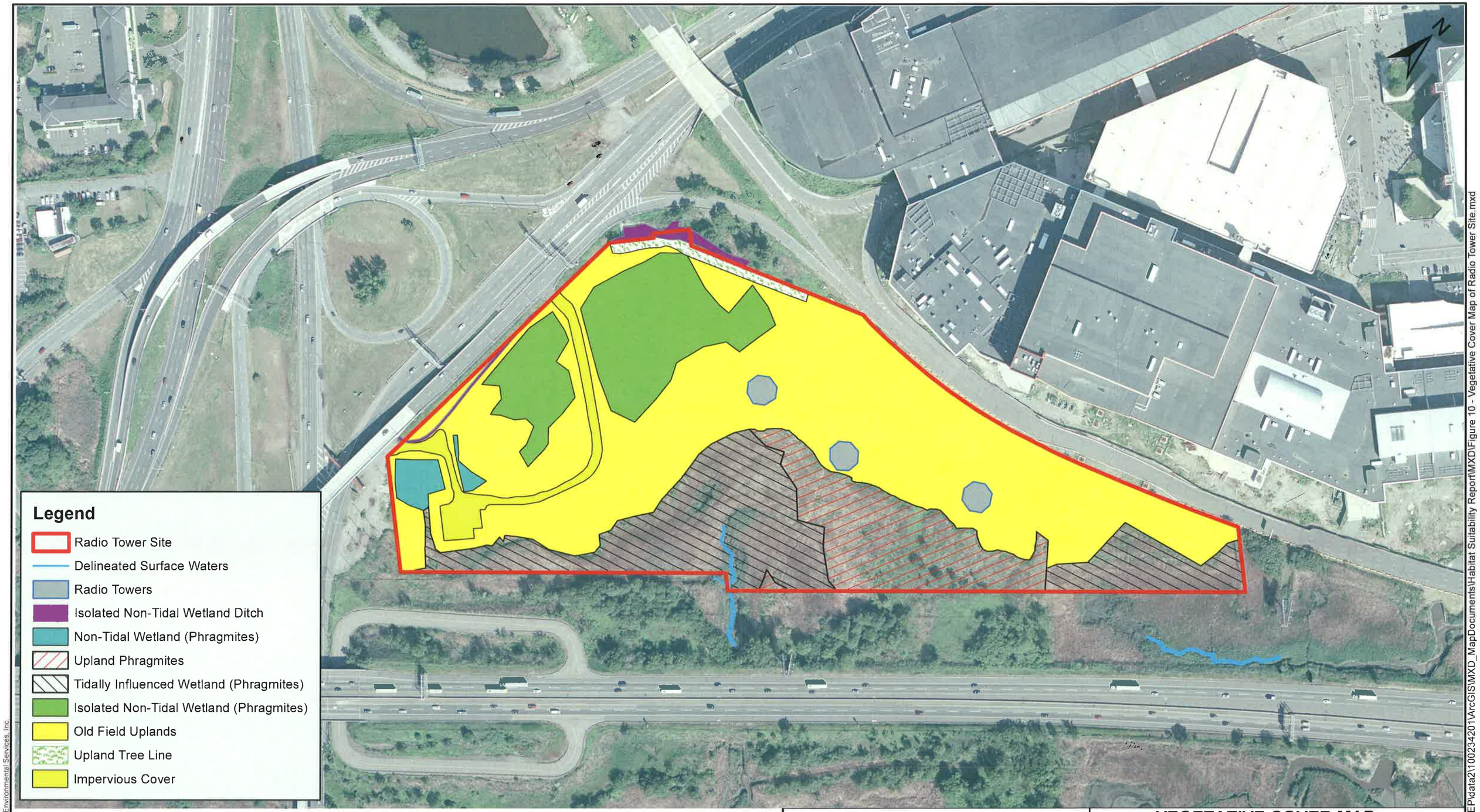
AMUSEMENT PARK AND WATER PARK
AMERICAN DREAM MEADOWLANDS
BLOCK 107.02, LOT 3

EAST RUTHERFORD **NEW JERSEY**

Project No.	Date	Scale	Figure No.
100234201	9/30/11	1"= 500'	9

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\\langan.com\data\EP\data2\100234201\ArcG\SMXD_MapDocuments\Habitat Suitability Report\MXD\Figure 9 - Soil Survey Map.mxd



Map Reference: Promaps Inc., Moorestown, NJ - Flyover Aerial Photography (6-2011);
Langan Engineering & Environmental Services - Wetland Delineation Plan (8-31-2011);
Langan Engineering & Environmental Services - NJDEP Division of Land Use Regulation Jurisdictional Area Map (9-8-2011)

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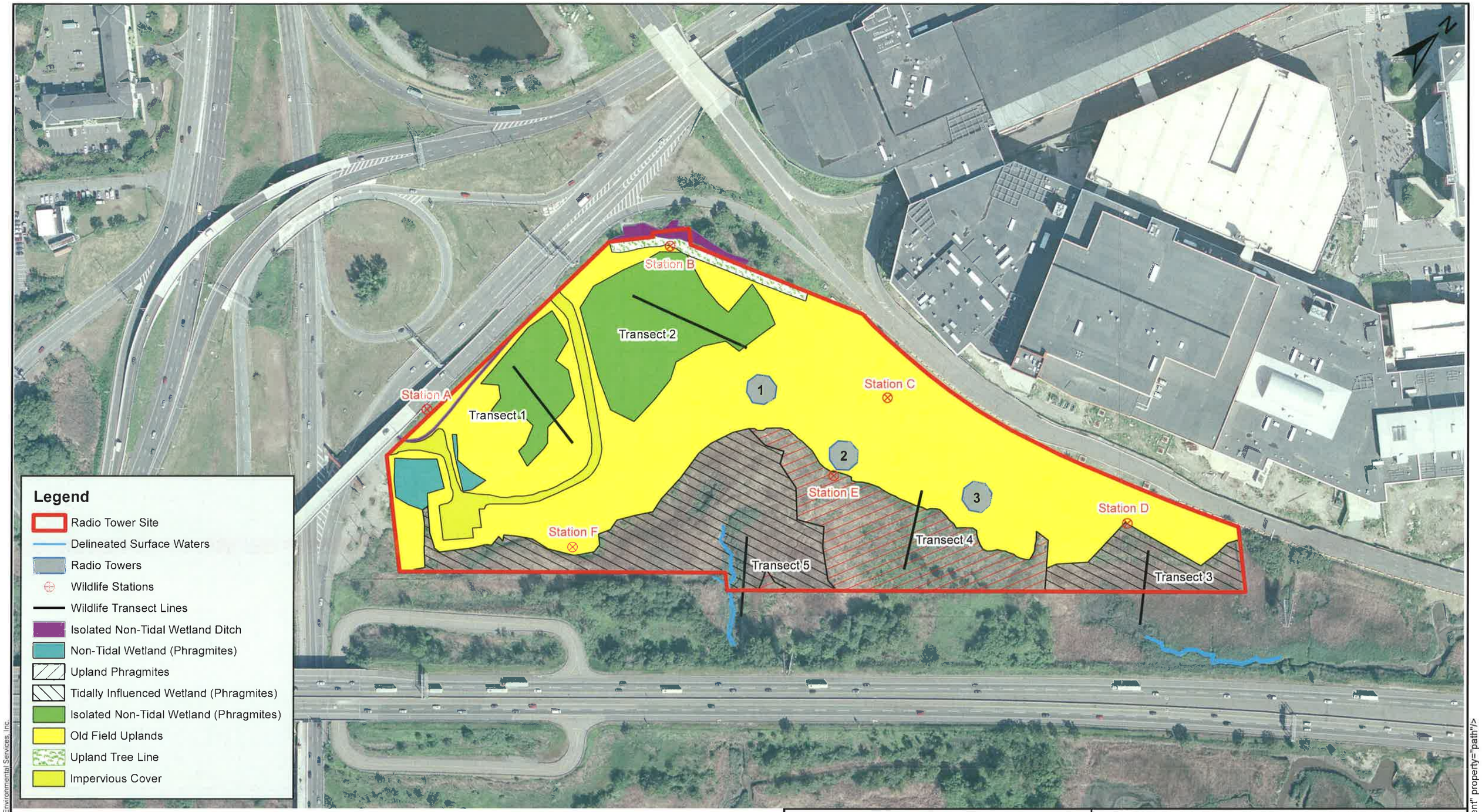
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VEGETATIVE COVER MAP
AMUSEMENT PARK AND WATER PARK
AMERICAN DREAM MEADOWLANDS
BLOCK 107.02, LOT 3

EAST RUTHERFORD NEW JERSEY

Project No.	Date	Scale	Figure No.
100234201	9/30/11	1"= 200'	10

Path: \\langan.com\data\EP\data2\100234201\ArcGIS\MXD_MapDocuments\Habitat Suitability Report\MXD\Figure 10 - Vegetative Cover Map of Radio Tower Site.mxd



200 100 0 200

Scale In Feet

Map Reference: Promaps Inc., Moorestown, NJ - Flyover Aerial Photography (6-2011);
Langan Engineering & Environmental Services - Wetland Delineation Plan (8-31-2011);
Langan Engineering & Environmental Services - NJDEP Division of Land Use Regulation Jurisdictional Area Map (9-8-2011)

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WILDLIFE HABITAT SURVEY PLAN
AMUSEMENT PARK AND WATER PARK
AMERICAN DREAM MEADOWLANDS
BLOCK 107.02, LOT 3

EAST RUTHERFORD NEW JERSEY

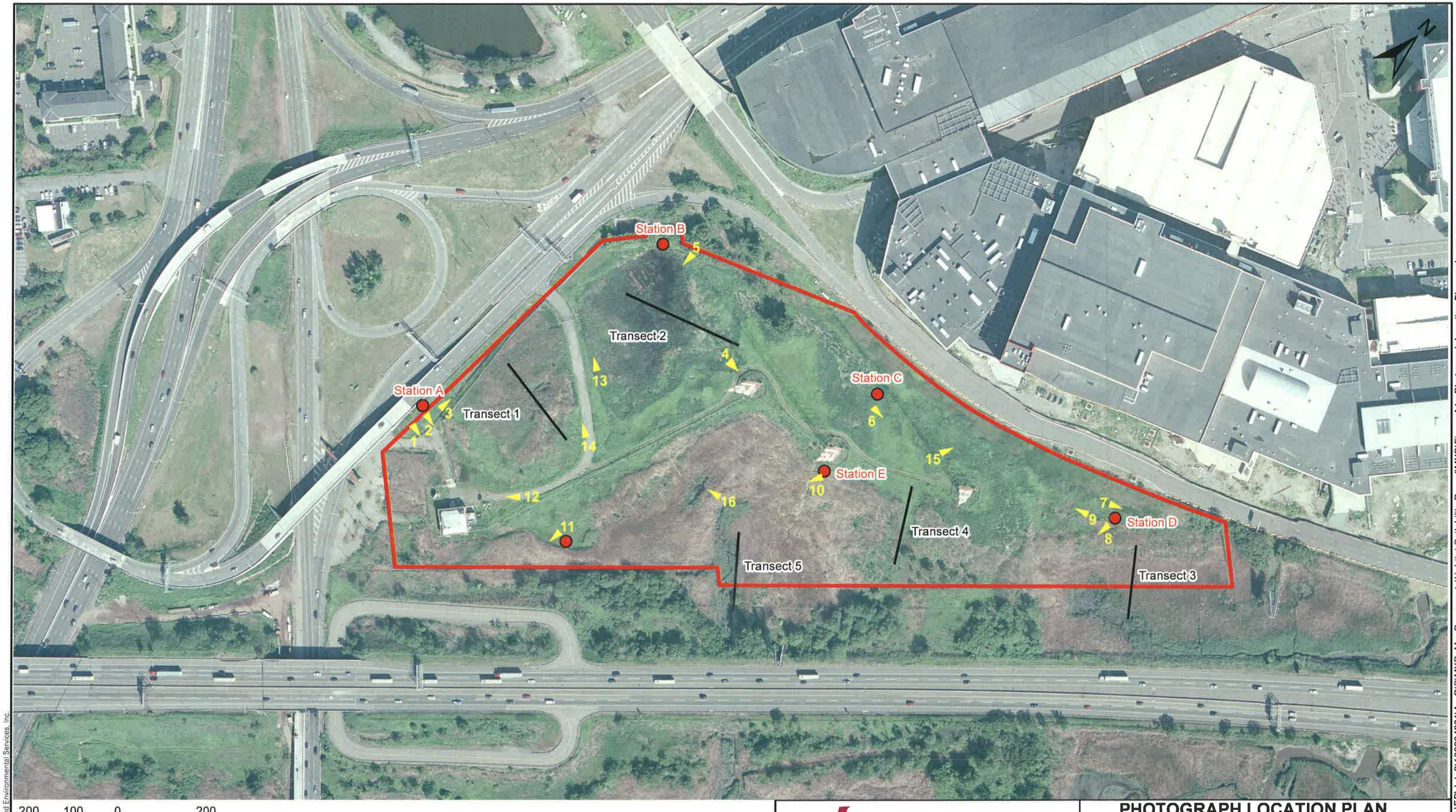
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APPENDIX A

PHOTOGRAPH LOG AND PHOTOGRAPH LOCATION PLAN



200 100 0 200

Scale in Feet

Map Reference: Promaps Inc., Moorestown, NJ - Flyover Aerial Photography (6-2011)

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PHOTOGRAPH LOCATION PLAN
AMUSEMENT PARK AND WATER PARK
AMERICAN DREAM MEADOWLANDS
BLOCK 107.02, LOT 3

EAST RUTHERFORD NEW JERSEY

Project No.	Date	Scale	Figure No.
100234201	9/30/11	1"= 200'	A1

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Path: \\langan.com\data\EPI\data2\100234201\ArcGIS\MXD_MapDocuments\Habitat Suitability Report\MXD\Figure A1 - Photograph Location Plan.mxd



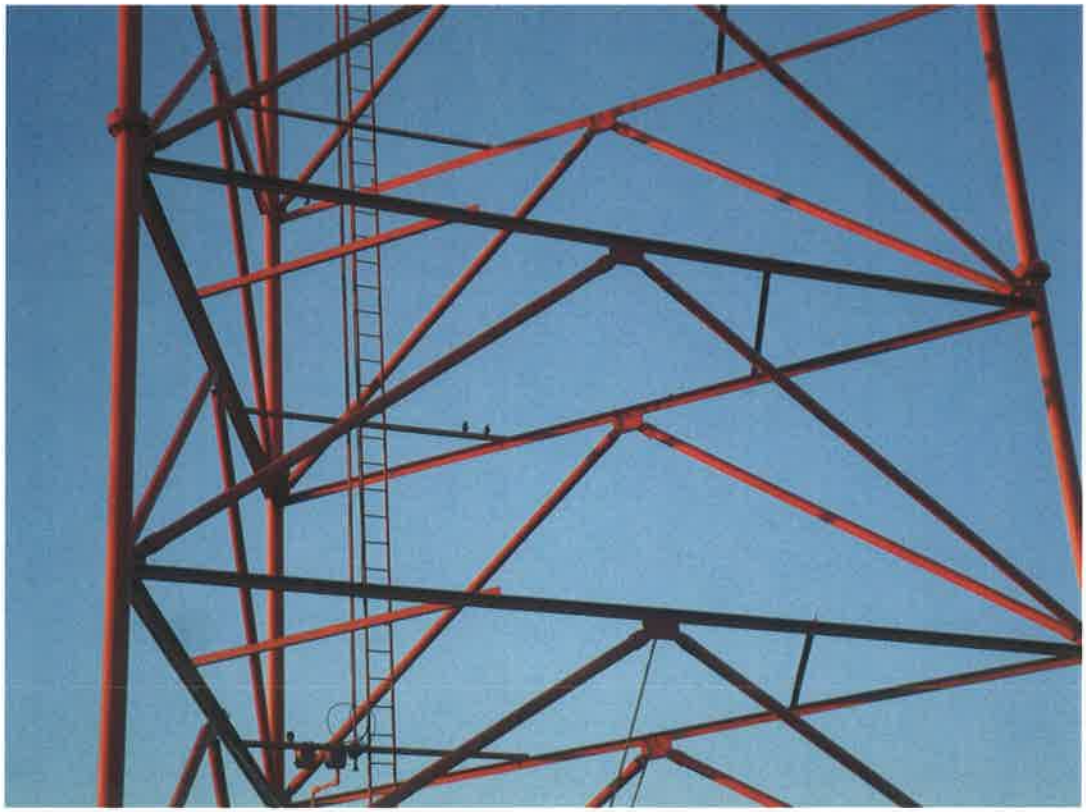
Photograph 1: View from Observation Station A facing southeast overlooking access road and non-tidal Wetland D towards Radio Transmission Building.



Photograph 2: View from Station A facing east overlooking non-tidal Wetland E.



Photograph 3: View from Station A facing northeast looking at isolated non-tidal wetland ditch (Ditch 2) and isolated non-tidal Wetland X.



Photograph 4: View of the western radio tower occupied by several European starling (*Sturnus vulgaris*).



Photograph 5: View from Station B looking southwest at old field uplands towards isolated Wetland Y.



Photograph 6: View from Station C facing east looking at *Phragmites* uplands towards Radio Tower Three.



Photograph 7: View from Station D facing northeast looking at old field uplands and tidally influenced Wetland B to the right.



Photograph 8: View from Station D facing south overlooking tidally influenced Wetland B.



Photograph 9: View from Station D looking southeast at old field uplands/*Phragmites* uplands towards the Radio Towers.



Photograph 10: View from Station E facing south overlooking tidally influenced Wetland A.



Photograph 11: View from Station F facing south overlooking old field uplands at tidally influenced Wetland A.



Photograph 12: View southwest of Station F from adjacent access road looking towards Radio Transmission Building.



Photograph 13: Raccoon (*Procyon lotor*) tracks found adjacent to the access road between isolated non-tidal Wetlands X and Y.



Photograph 14: American kestrel (*Falco sparverius*) on power lines above access road between isolated non-tidal Wetlands X and Y.



Photograph 15: Groundhog (*Marmota* monax) burrow found in old field uplands between Stations C and D.

APPENDIX B

NJDEP CORRESPONDENCE

State of New Jersey

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

DEPARTMENT OF ENVIRONMENTAL PROTECTION
Division of Parks and Forestry
Mail Code 501-04
ONLM -Natural Heritage Program
P.O. Box 420
Trenton, NJ 08625-0420
Tel. #609-984-1339
Fax. #609-984-1427

BOB MARTIN
Commissioner

August 29, 2011

David Charette
Langan Engineering and Environmental Services, Inc.
River Drive Center 1
Elmwood Park, NJ 07407

Re: American Dream Meadowlands (Block 107.02, Lot 3)

Dear Mr. Charette:

Thank you for your data request regarding rare species information for the above referenced project site in East Rutherford Borough, Bergen County.

Searches of the Natural Heritage Database and the Landscape Project (Version 3 for the highlands region, Version 2.1 elsewhere) are based on a representation of the boundaries of your project site in our Geographic Information System (GIS). We make every effort to accurately transfer your project bounds from the topographic map(s) submitted with the Request for Data into our Geographic Information System. We do not typically verify that your project bounds are accurate, or check them against other sources.

We have checked the Natural Heritage Database and the Landscape Project habitat mapping for occurrences of any rare wildlife species or wildlife habitat on the referenced site. Please see Table 1 for species list and conservation status.

Table 1 (on referenced site).

Common Name	Scientific Name	Federal Status	State Status	Grank	Srank
glossy ibis	*Plegadis falcinellus*		SC/S	G5	S3B,S4N
northern harrier	*Circus cyaneus*		E/SC	G5	S1B,S3N
snowy egret	*Egretta thula*		SC/S	G5	S3B,S4N
yellow-crowned night-heron	*Nyctanassa violacea*		T/T	G5	S2B,S2N

Neither the Natural Heritage Database nor the Landscape Project has records for any additional rare wildlife species or wildlife habitat within 1/4 mile of the referenced site.

We have also checked the Natural Heritage Database for occurrences of rare plant species or ecological communities. The Natural Heritage Database does not have any records for rare plants or ecological communities on or within 1/4 mile of the site.

A list of rare plant species and ecological communities that have been documented from Bergen County can be downloaded from http://www.state.nj.us/dep/parksandforests/natural/heritage/countylist.html. If suitable habitat is present at the project site, the species in that list have potential to be present.

Status and rank codes used in the tables and lists are defined in EXPLANATION OF CODES USED IN NATURAL HERITAGE REPORTS, which can be downloaded from http://www.state.nj.us/dep/parksandforests/natural/heritage/nhpcodes_2008.pdf.

If you have questions concerning the wildlife records or wildlife species mentioned in this response, we recommend that you visit the interactive I-Map-NJ website at the following URL, http://www.state.nj.us/dep/gis/depsplash.htm or contact the Division of Fish and Wildlife, Endangered and Nongame Species Program at (609) 292 9400.

PLEASE SEE 'CAUTIONS AND RESTRICTIONS ON NHP DATA', which can be downloaded from http://www.state.nj.us/dep/parksandforests/natural/heritage/newcaution2008.pdf.

Thank you for consulting the Natural Heritage Program. The attached invoice details the payment due for processing this data request. Feel free to contact us again regarding any future data requests.

Sincerely,

Robert J. Cartica
Administrator

c: NHP File No. 11-4007471-7989

Kelly McCormick

Subject: American Dream Permit Readiness Checklist - Program Comments

From: Megan Brunatti [mailto:Megan.Brunatti@dep.state.nj.us]
Sent: Monday, July 25, 2011 3:20 PM
To: Dave Charette
Cc: Ruth Foster; Scott Brubaker
Subject: American Dream Permit Readiness Checklist - Program Comments

Dave,

The Office of Permit Coordination and Environmental Review received your Permit Readiness Checklist along with detailed narrative and maps. We forwarded your documentation to the appropriate DEP programs for review and comments. You will find a summary of comments provided by several DEP program representatives below. The DEP program name, contact person and contact information has been provided for your convenience.

Office of Land Use Planning- Meghan Gosselink (609)777-0586
As proposed, this project is Consistent with the current BCUA Wastewater Management Plan.

The Division of Fish & Wildlife (DFW)- Kelly Davis (908)236-2118
The following comments address the Amusement and Water Park aspects of this project. The DFW would not expect any further issues where construction has already occurred.

Fisheries Concerns:
All or parts of the water bodies contained within this project area are considered to be within an **anadromous species migration corridor**.
In order to protect the **anadromous species** spawning run in this area, a timing restriction from **March 15 through June 30** is needed on any activities which would generate sediment or sediment plumes in these water bodies.

Landscape Mapping:
Species Occurrence Area mapping indicates **threatened / endangered (T / E)** and *species of concern* in the area.

Yellow-crown Night-heron
Great Blue Heron
Glossy Ibis
Snowy Egret

Landscape Mapping includes habitat patches of emergent wetland valued for Yellow-crown Night-heron and forested wetland patches. Loss of these habitats may require mitigation.

Safe Drinking Water Permitting- Steven Pudney (609) 984-6831
In reviewing the information associated with the Xanadu development. A water main extension permit WCP040002 was issued June 25th 2004 for this development in particular for "300 L.F. of 12 & 16-inch

CLDIP off-site water main extension and 9,670 L.F. of 12 & 16-inch on-site distribution mains to serve Meadowlands Xanadu".

Due to the two Permit Extension Acts this permit does not expire until 6/26/2013 and a Construction Completion Certificate that would record the construction of and placing into service of the water mains has not yet been received. Therefore any installation of the water mains permitted under WCP040002 that have not yet been constructed can still be installed up to the 2013 expiry date.

The water demand associated with the permit WCP040002 1.954MGD has been carried forward as a previously allocated demand when evaluating subsequent permits and whether United Water has the capacity to supply.

An "additional water main permit" would be required if the additional water main construction, service connections or demands exceeds:

- A minimum of more than 30 Realty Improvements or;
- Generates a new non residential average demand of more than 12,000 gpd or;
- 3,000 ft of water main construction or;
- Includes an interconnection with another public community water system.

United Water has a Master Permit therefore any additional "water main extension permit" that would be needed would need to be included as demands in the Master Permit application that United Water needs to submit before the permit expires on **August 1st, 2011**. Separate water main extension permits are not issued to systems that have Master Permits.

According to the Deficit / Surplus table data United Water has 38.632MGD spare firm capacity, 395 MGM and 1592MGY spare allocation.

Site Remediation Program - Chris Kanakis (609) 633-1460

Regarding the ERC parcel, the RAWP was approved by NJDEP on October 22, 2004. The soil portion of the remedy essentially deals with historic fill with the exception of some confirmed non-historic fill AOCs. These areas were discovered during construction related activities and consisted of PCB impacted areas, TPH and free product, underground storage tanks, drum remnants, and groundwater contamination. All of the non-historic fill AOCs located within the unsaturated zone have been remediated. The remaining non-historic fill AOCs located within the saturated zone will be addressed via a groundwater remedy. The 25 acre MAC Cali portion of the Xanadu site also exhibits historic fill contamination and PCB contaminated soils. The PCB impacted areas within the MAC Cali portion have also been remediated.

If new non-historic fill AOCs are identified during the renewed redevelopment activities, the approved RAWP would be utilized to address these previously unidentified areas. Of course, this would not apply to areas proximate to the original Xanadu Project site but not within the project limits. **Areas outside of the original Xanadu Project site would require the appropriate initial investigation, including a PA/SI and the development of an RAWP.**

I hope you find these comments helpful. Additional program representatives will attend the pre-application meeting tomorrow to discuss their comments and provide recommendations which are applicable to their programs. I look forward to seeing you and the team tomorrow.

Megan L. Brunatti
New Jersey Department of Environmental Protection

Office of Permit Coordination & Environmental Review
401 East State Street, 7th Fl
PO Box 420
Mail Code: 401-07J
Trenton, NJ 08625
Phone: (609) 292-3600
Fax: (609) 777-1330

APPENDIX C

HABITAT ASSESSMENT CHECKLISTS

Block 107.02, Lot 3
American Dream Meadowlands
Habitat Assessment - Threatened and Endangered Species Checklist

Location: East Rutherford, NJ
Species: Yellow-crowned Night-Heron (*Nycantassa violacea*)
Assessment Date: August 23, 2011
Investigators: Linda Kenney, Joe Buckley

Indicator	Present Onsite	Comments
Islands, mangroves, barrier beaches	No	
Wooded swamps, scrub-shrub thickets,	No	
Forested uplands	Yes	Minimal tree line present at the northwetern portion of the site
Lakes, rivers	No	
Residential areas	No	
Tidal marshes with tide pools	Yes	Tidal marshes, no tide pools; Open water areas onsite are limited. One small tidal creek is located in the eastcentral portion of the site and is surrounded by dense Phragmites
Crustaceans (crabs, crayfish, etc.)	No	
Insects, fish, snails, earthworms, marine worms, leeches, eels, frogs, mussels, tadpoles, snails, small snakes, lizards	Yes	
Forest canopy with open understory	No	
Trees 8-26 feet tall	Yes	Trees in this height range at margins of the site, only one within the site
Cherry trees (*Prunus spp.)* at least 8ft in height	No	
Brackish marshes dominated by salt marsh cordgrass (*Spartina alterniflora*)	No	

Block 107.02, Lot 3
American Dream Meadowlands
Habitat Assessment - Threatened and Endangered Species Checklist

Location: East Rutherford, NJ
Species: Snowy Egret (*Egretta thula*)
Assessment Date: August 23, 2011
Investigators: Linda Kenney, Joe Buckley

Indicator	Present Onsite	Comments
Marshes, swamps	Yes	Southern portion of the site contains tidally influenced Phragmites marshes
Shorelines and shallow coastal areas, mudflats	No	
Ponds	No	
PSS wetlands	No	
Urbanized/residential areas	Yes	Urbanized, not residential
Dry fields	Yes	Dry fields spanning across the northcentral portion of the site
Aquatic vegetation	Yes	Aquatic vegetation present in the tidal and non-tidal wetland areas
Minnows, shrimp, small crustaceans, young frogs, small fish, frogs, terrestrial insects, small lizards	Yes	Terrestrial insects

Block 107.02, Lot 3
American Dream Meadowlands
Habitat Assessment - Threatened and Endangered Species Checklist

Location: East Rutherford, NJ
Species: Northern Harrier (*Circus cyaneus*)
Assessment Date: August 31, 2011
Investigators: Linda Kenney, Joe Buckley

Indicator	Present Onsite	Comments
Emergent wetlands	Yes	Emergent wetlands are located at the southcentral portion of the site
Tidal marshes (saline or brackish)	Yes	Tidal marsh area in the southcentral and southeastern portions of the site
Fallow fields, grasslands, meadows, airports, agricultural areas	Yes	Open grassland in the central and northeastern portions of the site
Salt hay (*Spartina patens*)	No	
Marsh elder (*Iva frutescens*)	No	
Reed grass (*Phragmites communis*)	Yes	Phragmites communities across the southern portion of the site
Sedges (*Carex spp.*)	Yes	Present throughout portions of the site. Sedges are not the dominant species.
Marshes, fields, bushes and edges that contain low vegetation (3 to 6 ft. high)	Yes	The tidal and non-tidal wetland areas have low vegetation in this height range consisting primarily of Phragmites
Small mammals, birds, reptiles, frogs	Yes	Evidence of small mammals

Block 107.02, Lot 3
American Dream Meadowlands
Habitat Assessment - Threatened and Endangered Species Checklist

Location: East Rutherford, NJ
Species: Glossy Ibis (*Plegadis falcinellus*)
Assessment Date: August 23, 2011
Investigators: Linda Kenney, Joe Buckley

Indicator	Present Onsite	Comments
Wooded wetlands	No	
Moist to submerged marshes, lagoons, and mudflats	Yes	Marsh at the southern portion of the site. No mudflats or lagoons present within site
Flooded and dry fields	Yes	Dry field conditions at the central and northeastern portions of the site
Sewage ponds	No	
Estuaries	No	
Water beetles, dragonflies, flies, earth and marine worms, leeches, mussels, clams, frogs, small snakes, small fish, various seeds	Yes	Dragonflies present during site investigation

Block 107.02, Lot 3
Amusement Park and Water Park
American Dream Meadowlands
Habitat Assessment - Threatened and Endangered Species Checklist

Location: East Rutherford, NJ
Species: Great Blue Heron (*Ardea herodias)*
Assessment Date: August 23, 2011
Investigators: Linda Kenney, Joe Buckley

Indicator	Present Onsite	Comments
Calm fresh, salt, or brackish water	Yes	Open water areas onsite are limited. One small tidal creek is located in the eastcentral portion of the site and is surrounded by dense Phragmites
Seacoasts	No	
Trees adjacent to water	Yes	Trees adjacent to the ditch at the northwestern portion of the site and trees off-site adjacent to the wetlands at the southern portion of the site.
Shallow Marine Habitat	Yes	Shallow emergent waters at the southcentral portion of the site
Sheltered bays, inlets, sloughs, marshes, wet meadows, lake and river shorelines.	Yes	Marsh conditions at the southern and eastern portions of the site. Open water areas onsite are limited. One small tidal creek is located in the eastcentral portion of the site and is surrounded by dense Phragmites
Fish, invertebrates, amphibians, reptiles, birds, small mammals.	Yes	Birds and evidence of small mammals

APPENDIX D

WILDLIFE OBSERVATION CHECKLISTS

AMUSEMENT PARK AND WATER PARK
AMERICAN DREAM MEADOWLANDS
WILDLIFE OBSERVATION CHECKLIST
Monitoring Event No. 1
Date: 23 August 2011 **Time: 11:00 AM - 1:00 PM**
Monitors: Linda Kenny, Dave Charette, Kelly McCormick, Joe Buckley

		Station I.D.					
Common Name	**Species Name**	**A**	**B**	**C**	**D**	**E**	**F**
Avian							
Eastern Phoebe	*Sayornis phoebe*		1				
Gray Catbird	*Dumetella carolinensis*	1			1	1	
Gull (transient)			3				
Mourning Dove	*Zenaida macroura*						1
Osprey (transient)	*Pandion haliaetus*			1			
Redwing Blackbird	*Agelaius phoeniceus*			1			
Rock Pigeon	*Columba livia*					2	
Non-Avian							
Field Cricket	*Gryllus pennsylvanicus*	Mult.	Mult.	Mult.	Mult.	Mult.	Mult.
Cicada				3			
Groundhog (Burrows)	*Marmota monax*			1	1		
Meadow Vole	*Microtus pennsylvanicus*		1	1	1		

AMERICAN DREAM MEADOWLANDS
WILDLIFE OBSERVATION CHECKLIST
Monitoring Event No. 2 **Monitors: Robert March, Craig Amundson**
Date: 30 August 2011 **Time: 5:30 PM - 7:30 PM**

		Station I.D.					
Common Name	**Species Name**	**A**	**B**	**C**	**D**	**E**	**F**
Avian							
Gray Catbird	*Dumetella carolinensis*	1				3	
Gull (transient)			5	36	4		27
Osprey (transient)	*Pandion haliaetus*	1					
Redwing Blackbird	*Agelaius phoeniceus*	1	3	2		6	3
Non-Avian							
Groundhog	*Marmota monax*			1			

AMERICAN DREAM MEADOWLANDS
WILDLIFE OBSERVATION CHECKLIST
Monitoring Event No. 3 **Monitors: Linda Kenney, Joe Buckley**
Date: 31 August 2011 **Time: 6:00 AM - 8:00 AM**

		Station I.D.					
Common Name	**Species Name**	**A**	**B**	**C**	**D**	**E**	**F**
Avian							
American Crow	*Corvus brachyrhynchos*	1					
American Kestrel	*Falco sparverius*	1					
American Robin	*Turdus migratorius*		2				3
Blue-winged Warbler	*Vermivora pinus*						1
European Starling	*Sturnus vulgaris*	6		2	5	5	2
Gray Catbird	*Dumetella carolinensis*			1	1	1	2
Gull (transient)		12		6			
Mourning Dove	*Zenaida macroura*	3			1	3	

AMERICNA DREAM MEADOWLANE
WILDLIFE OBSERVATION CHECKLI
Monitoring Event No. 4 **Monitors: Robert March, Craig**
Date: 31 August 2011 **Tim** **10 PM - 7:10 PM**

Common Name	Species Name		Station I.D. A	B	C	E	D
Avian							
American Kestrel	*Falc*	2					
European Starling	*Stu*	*vulgaris*	15	4	13		
Field Sparrow	*Spi*	*pusilla*				1	
Flycatcher							
Gull (transient)			10	3	2	9	8
Mourning Dove	*Zena*	*a*					1
Redwing Blackbird	*Agel*	*eus*				5	
Song Sparrow	*Melo*	*ia*				3	2

AMERICAN DREAM MEADOWLANDS
WILDLIFE OBSERVATION CHECKLIST
Monitoring Event No. 5
Monitors: Robert March, Mike Nevins
Date: 2 September 2011 **Time: 6:30 AM - 8:30 AM**

		Station I.D.					
Common Name	**Species Name**	**A**	**B**	**C**	**D**	**E**	**F**
Avian							
American Robin	*Turdus migratorius*		1				1
European Starling	*Sturnus vulgaris*	4		5			2
Field Sparrow	*Spizella pusilla*			2			
Flycatcher						1	
Grey Catbird	*Dumetella carolinensis*			3	1		2
Gull (transient)		3					
House Sparrow	*Passer domesticus*				1		
Mourning Dove	*Zenaida macroura*			2	1		1
Redwing Blackbird	*Agalaius phoeniceus*			3		15	
Rock Pigeon	*Columba livia*			5			
Yellowthroat	*Geothlypis trichas*		2				
Non-Avian							
Groundhog	*Marmota monax*		1				
Raccoon (tracks)	*Pryocyon lotor*	1					

APPENDIX E

QUALIFICATIONS OF PREPARERS

DAVID J. CHARETTE, PWS, LEED-AP
Senior Associate
Director of Natural and Cultural Resources

Wetland Ecology
Wetland Delineations and Mitigation
Environmental Permitting
Environmental Assessments and Impact Statements

EDUCATION

The State University of New Jersey: MS Ecology, 1984
University of Connecticut: BS Biological Sciences, 1981

REGISTRATIONS/CERTIFICATIONS

Professional Wetland Scientist
LEED Accredited Professional

YEARS OF EXPERIENCE 22

SUMMARY QUALIFICATIONS

Mr. Charette has over 22 years of experience, both in private and public sector work, in project management of environmental and engineering consulting services for projects with significant wetland and natural resource related issues. Specific consulting services completed include proposals; environmental assessments; wetland delineations and jurisdictional determinations; preparation of environmental impact statements; preparation of Federal, State, County and local permit applications; responding to public comments and regulatory requests for additional information and studies; compliance with approvals and permit conditions; providing expert testimony and environmental issue resolution; due diligence evaluations; wetland mitigation project and environmental restoration services; project design guidance; preparation of construction plans and specifications; and preparation and presentation of environmental workshops and seminars.

RELEVANT EXPERIENCE

New Meadowlands Stadium, East Rutherford, New Jersey – Senior Project Manager responsible for the project management and oversight of land use development services for the Meadowlands Stadium Project on the Meadowlands Sports Complex. Manager of permits and approval processes including State environmental regulatory permits and NJSEA Consultation Process.

Rockefeller Group Foreign Trade Zone/Meadowlands, Jersey City, New Jersey – Natural resource project manager for land use permitting associated with the a proposed warehouse development on a 40 acre site and an associated 3,000± linear foot sewer main extension along County Road. Permits obtained included a USACE Pre-Construction Notification for Nationwide Permits, NJDEP Multi-Permit for a Stream Encroachment Permit, Coastal Zone Management Consistency Determination, and Section 401 Water Quality Certification. A Project Impact Assessment (PIA) report was also prepared and approved by the New Jersey Meadowlands Commission (NJMC).

Meadowlands Xanadu, East Rutherford, New Jersey – Environmental Project Manager responsible for the management and oversight of various environmental assessments, due diligence, Federal and State environmental regulatory permits, alternatives analysis and wetlands mitigation for the redevelopment of the 104-acre Continental Airlines Arena site on the Meadowlands Sports Complex with a mixed-use project including sports and entertainment facilities, as well offsite roadway and infrastructure improvements.

Confidential Site Property Inventory, Assessment and Mapping Report, Central NJ – Lead project manager for site assessment and master planning process for this approximately 2,500 acre site in central New Jersey. Initial investigations resulted in preparing a set of constraints maps and a summary report to assist with the master planning process. The report defined general natural and infrastructure site constraints and analyzed permitting requirements for proposed development activities.

Meadowland Mills Project, Carlstadt, New Jersey – Lead Senior Project Manager for a 600-acre mixed-use development and wetland mitigation project. Mr. Charette was responsible for the management of engineering and environmental consulting services for the design and permitting of the project. The consulting services included coordination with the client, Counsel and Project Team Members (i.e., traffic engineer, architects, economist, appraiser) to prepare permit applications for Federal and State agency review, attendance and presentations at public hearings, prepared specific wetland water budget and water quality studies for mitigation determination, prepared wetland mitigation designs for a 421-acre area, and responding to questions and comments during the permit review processes. Duties also included providing quality assurance review of all documents and plans for consistency and completeness.

Confidential Site Master Plan Infrastructure Review and Regulatory Analysis Report, Central, NJ – Natural resource project manager for master plan infrastructure review and regulatory analysis for an approximately 2,700 acre site in central New Jersey. The analysis resulted in the development of a set of constraints maps to assist with the master planning process. The report defined general site constraints, assessed permitting requirements for proposed development activities, and explored the potential use of various sustainable design practices

New Jersey Turnpike Authority, Secaucus Interchange Project, Secaucus, New Jersey – Project Manager responsible for oversight of environmental and planner staff to address various environmental permitting requirements for the Secaucus Interchange Project, which is a roadway improvement project on the Eastern Spur of the New Jersey Turnpike that provides a new interchange for the Secaucus Transfer Station / Allied Junction development project. Environmental tasks included the preparation of an Executive Order 215 EIS, addressing alternatives analysis requirements and Section 404 compliance for a pending USACE Section 404/10 permit application, and preparation and submission of a NJDEP Stream Encroachment permit, and preparation of the Penhorn Creek Wetland Mitigation Plan that included a wetland functional assessment, to compensate for project related wetland impacts.

New Jersey Turnpike Authority, Route 92, Middlesex County, New Jersey – Member of Project Team assembled by New Jersey Turnpike Authority (NJTA) to provide guidance on project-related environmental issues, comments on project designs, and provide peer review of Environmental Consultants draft permit applications including an Executive Order 215 EIS and NJDEP Individual Freshwater Wetlands / Stream permit application. Also provided guidance on potential wetland mitigation projects associated with projected wetland impacts.

New Jersey Turnpike Authority, Piles Creek East Wetland Mitigation Project, Linden, New Jersey - Responsible for oversight and management of environmental, planning and engineering staff to design and permit a wetlands mitigation project suitable to compensate for roadway impacts from the Interchange 11 to 14E Widening project. The wetland mitigation project encompassed a 250-acre site that included 90-acres of tidal wetlands creation and 160-acres of tidal wetland/upland buffer preservation. Duties also included coordination with environmental

contamination consultant to evaluate potential remedial issues associated with the wetlands creation component of the project, and interaction with Counsel for property cost evaluation and real estate acquisition. During construction of the project attended job progress meetings with NJTA and contractor, and performed post-construction wetland mitigation monitoring.

Stockton Housing V Project, Galloway, NJ – Natural resource project manager for land use permitting and environmental impact assessments associated with the construction of four residential buildings and two surface parking areas on the campus of The Richard Stockton College of New Jersey, which is within the New Jersey Pinelands Preservation Area. Prepared development permit application and received approval from the New Jersey Pinelands Commission and received approval of a NJDEP Reforestation Plan associated with the deforestation of approximately 7 acres of forested area to construct the two surface parking areas. Prepared and received approval from NJDEP of an Environmental Impact Statement prepared in accordance with Executive Order No. 215.

Bronx Terminal Market, Bronx, New York – Assisted in the preparation of applications for Federal, and State natural resource approvals including US Army Corps of Engineers (USACE) and NYS Dept. of Environmental Conservation (NYSDEC) Jurisdictional Determinations; USACE Section 10 and 404 permit; and NYSDEC Tidal Wetlands permit for the redevelopment of this formerly vibrant waterfront property into a retail destination and waterfront park and esplanade.

Various Projects – Provided project management and environmental consulting services for a variety of multi-disciplined projects with significant wetland-related issues for such clients as the New Jersey Turnpike Authority, New Jersey Water Supply Authority, Public Service and Gas Company, Jersey Central Power and Light Company, Prudential Insurance of America, Johnson & Johnson, and Novartis, Inc.

New Jersey Freshwater Wetlands Protection Act of 1987 - Supervised and trained staff, and performed several regulatory program functions in the New Jersey Department of Environmental Protection (NJDEP) to implement the New Jersey Freshwater Wetlands Protection Act of 1987. Drafted program regulations and policies, and interacted with local, County, State and Federal government organizations concerning the program by developing and participating in educational workshops and seminars aimed at legal, engineering, developer, and government groups concerning the Department's new wetlands program.

Mr. Charette was also a Coastal Zone Implementation Specialist in the NJDEP Coastal Resources Division of Planning and Project Review and was responsible for several public participation functions of the Division of Coastal Resources, assisted the Assistant Director with planning activities, and reviewed development projects for environmental compliance with the Wetlands Act of 1970, Waterfront Law, and the Coastal Area Facilities Review Act (CAFRA).

CERTIFICATIONS

Professional Wetland Scientist, 1994 (No. 000110)
Society of Wetland Scientists Certification Program

PROFESSIONAL AFFILIATIONS

Society of Wetland Scientists

KELLY A. McCORMICK, PWS, LEED-AP
Senior Project Manager

Natural Resource Permitting
Wetland Delineation
Mitigation

EDUCATION Muhlenberg College: B.S. Environmental Science

YEARS WITH LANGAN: 12

SUMMARY QUALIFICATIONS

Ms. McCormick's educational background includes a focus in aquatic studies involving macro-invertebrate bio-assessment of water and habitat quality in freshwater streams. She has performed numerous wetland site investigations and delineations and has prepared federal and state wetland applications and mitigation monitoring studies in New Jersey, Pennsylvania, New York, Connecticut, and Delaware. Ms. McCormick has also been involved in the coordination and preparation of environmental assessments/impact statements for State wetland and coastal permit programs and municipal zoning requirements.

RELEVANT EXPERIENCE

AT&T Headquarters, Bedminster, New Jersey – Conducted a habitat assessment and prepared a Habitat Suitability Determination Study for a portion of the 197-acre AT&T Headquarters property located in Bedminster Township, Somerset County, New Jersey. The study was conducted in accordance with the section of the New Jersey Department of Environmental Protection (NJDEP) Water Quality Management Planning Rules that lists the requirements of a Habitat Suitability Determination (N.J.A.C. 7:15-5.26). The site was assessed for the presence of Cooper's hawk (*Accipiter cooperii*) habitat and bald eagle (H*aliaeetus leucocephalus*).

Burlington Neck Warehouse Redevelopment Project, Burlington, New Jersey – Project Manager for natural resource permitting for this warehouse redevelopment project. Completed a bald eagle foraging habitat assessment in support of permitting applications. Obtained NJDEP Waterfront Development, Wetland General Permitss, and Flood Hazard Area Permits.

Vernal Pool Survey, Cranbury, New Jersey – Investigated approximately 15 vernal pools for vernal habitat and associated species.

Combe Landfill, Newton, New Jersey – Conducted a delineation of wetlands, surveyed wetland flags using GPS technology, and prepared an NJDEP LOI application for this ±102 acre site. Conducted a Phase 1 bog turtle survey within subject wetlands onsite.

Meadowlands Xanadu, East Rutherford, New Jersey (HMDC) - Prepared Environmental Impact Statement for the New Jersey Sports and Exposition's (NJSEA) Consultation Process in accordance with NJSEA enabling legislation for the construction of this entertainment/retail center. Obtained state permits to fill 7.45 acres of wetlands/waterways associated with the project, which included a Waterfront Development Permit, Stream Encroachment Permits, Water Quality Certification, and Coastal Zone Consistency Determination. Also obtained Individual U.S. Army Corps of Engineers Section 10/404 Permit. Conducted wildlife habitat survey in support of the EIS and permitting processes for the project.

Fords Industrial Warehouse Redevelopment Project, Woodbridge, New Jersey - Natural resource permitting manager for this redevelopment project. Oversaw the delineation and GPS survey of wetlands and waters onsite. Obtained NJDEP Letter of Interpretation, Wetland General Permits (GPs), Wetland Transition Area Waiver for Redevelopment and Flood Hazard Area Permit. Also obtained U.S. Army Corps of Engineers (USACE) Jurisdictional Determination (JD).

Kearny Point Redevelopment, Kearny, New Jersey – Natural resource permitting manager for permitting required for this warehouse redevelopment project. Conducted the delineation of emergent wetlands and State open waters of the Passaic River. Obtained Waterfront Development and Freshwater Wetland General Permits for the project

NAK Realty, Mansfield and Springfield Townships, Burlington County, New Jersey - Part of wetland delineation team on these tracts of land totaling 320+ acres. Obtained NJDEP Letter of Interpretation (LOI) in 2002 and LOI Reissuance in 2007.

Morristown Municipal Airport, Runway and Taxiway Improvements, Hanover Township, New Jersey – Project Manager for natural resource permitting for a large taxiway and runway improvement project at the airport. Obtained an NJDEP Freshwater Wetland Individual Permit and Flood Hazard Area Permit for proposed improvements to the runways, taxiways, and associated drainage systems.

New Jersey Turnpike and Garden State Parkway Maintenance and Repair Activities Obtained NJDEP Freshwater Wetlands GP No. 1, Waterfront Development Permit, Coastal Wetlands Permit and Water Quality Certification for the maintenance and repair of man-made stormwater management drainage ditches/swales, basins and outfalls within Parkway and Turnpike rights-of ways, interchanges and service areas. Work included preparation of an Environmental Impact Statement (EIS) for the permit application. Additional services included a GIS analysis for both the Turnpike and Parkway to assess the presence of NJDEP-mapped threatened and endangered species habitat in the vicinity of proposed maintenance areas.

Hudson River Waterfront Walkway and Public Park, Jersey City, New Jersey – Project manager for natural resource permitting for this public walkway and park project proposed by the State of New Jersey. Obtained NJDEP Land Use permits including In-water Waterfront Development Permit, Upland Waterfront Development Permit and Water Quality Certificate. Also obtained USACE Section 10/404 Letter of Permission and Nationwide Permits to construct the pile supported walkway, bulkhead construction and other slope stabilization activities.

Kuehne Chemical Company New Brine-to-Bleach Facility, Kearny, New Jersey - Project manager for natural resource permitting for this redevelopment project. Obtained NJDEP Upland Waterfront Development, Wetland Transition Area Waiver for Redevelopment and Letter of Interpretation.

Duke Farms LEED Improvements, Reuse and Renovation Project, Hillsborough Township, New Jersey – Prepared NJDEP application for a Flood Hazard Area Individual Permit, Flood Hazard Area Verification, Freshwater Wetland General Permits and a Wetland Transition Area Waiver for capital improvements to specific buildings and site areas of the Duke Farms property. Also prepared EIS in accordance with the Township municipal code requirements.

Amerada Hess, Secaucus, New Jersey - Conducted wetland mitigation monitoring twice a year from 2000 to 2003 at this tidal wetland creation and restoration site. Prepared monitoring reports which were submitted to the regulatory agencies, NJDEP and the USACE for review and approval.

Stop & Shop Supermarket, Milford, Connecticut - Conducted four years of wetland mitigation monitoring of the .53 acre wetland mitigation area that was created to compensate for .34 acres of permanent wetland impacts related to the construction of the supermarket, associated parking and loading facilities.

Shelton Business Complex, Shelton, Connecticut - Provided construction oversight for the restoration of a 2 ± acre wetland area on site. This wetland area was restored to compensate for unauthorized impacts relating to the development of the business complex. Conducted 3 years of mitigation monitoring to assess overall success of the wetland mitigation area.

PROFESSIONAL DEVELOPMENT

40 Hour Health and Safety Training Course for Hazardous Waste Operations and Emergency Response, Emilcot, February, 1999
Freshwater Wetlands, Cook College, NJ, March, 1999
Hydric Soils, Cook College, June 1999
Methodology of Delineating Wetlands, Cook College, June, 1999
Vegetation Identification for Wetland Delineation, Cook College, July, 1999
Winter Vegetation Identification for Wetland Delineation, Cook College, November 2000
National Hydric Soils Workshop, Wetlands Regulatory Workgroup, March 2001
Freshwater Wetland Construction Techniques, Cook College, May 2001
ArcView, Langan, April 2001, January 2003
Invasive Plant Species, Cook College, October 2002
Hydric Soils: An In-Depth, Three Part Short Course for Wetland Professionals, NC State University, 2003
8-Hour OSHA Refresher, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2009, 2010

PROFESSIONAL AFFILIATIONS

Society of Wetland Scientists. Member 2000 – Present.
Society of Women Environmental Professionals. Member 2004 – Present. Steering Committee member, 2009 - Present.
U.S. Green Building Council – member 2008 – Present.

CERTIFICATIONS

Leadership in Energy and Environmental Design (LEED) Accredited Professional Certification, June, 2008.
Professional Wetland Scientist Certification, License No. 1496, July 2009.

LINDA S. KENNEY; PWS, AWB, LEED-AP

Project Manager

Wetland Delineation
Threatened and Endangered Species Surveys
Aquatic Habitat Assessments
Environmental Permitting

EDUCATION Pennsylvania State University: M.E. Environmental Engineering Science, 1998
Pennsylvania State University: B.S. Wildlife and Fisheries Science, 1990
Manor Junior College: A.S. Animal Science, 1988

YEARS OF EXPERIENCE 19

SUMMARY OF QUALIFICATIONS

Ms. Kenney has over nineteen years of experience in natural resources, cultural resources, environmental impact assessment and permitting. She has conducted over 100 wetland delineations, and performed numerous threatened and endangered species habitat assessments for land development projects in the mid-Atlantic region. Ms. Kenney has prepared numerous permit applications and is well-versed in the federal Section 10 and 404 permitting process, as well as the permitting processes in Pennsylvania.

Ms. Kenney holds a Bachelor of Science degree in Wildlife and Fisheries Science from the Pennsylvania State University and a Masters Degree in Environmental Engineering Science. She has also obtained formal training in wetland identification and delineation, and plant identification. Ms. Kenney has obtained certifications as a Professional Wetland Scientist and Associate Wildlife Biologist.

SPECIES SURVEYS

Milford Lowes, Milford, CT. This 7 acre site is located in the vicinity of the Eastern Box Turtle (*Terrepene carolina*), a species of special concern. Ms. Kenney worked in conjunction with the Wildlife Division of the State of Connecticut Department of Environmental Protection (CTDEP) to perform a site investigation for potential habitat of the Eastern Box Turtle. A habitat assessment report was submitted to CTDEP and approved.

Princeton Cemetery, Princeton, NJ. Surveys using Great Horned Owl calls were performed on a 35-acre wooded property to determine if the Coopers Hawk was nesting within the project boundary. Four separate surveys were performed in the spring of 2007. Coopers Hawks were not identified through the call surveys and no nests were identified within the project boundary.

Stockton State College Housing Project, Galloway Township, NJ. Conducted a threatened and endangered species habitat evaluation for a 20 acre residential development as part of a site-wide environmental impact statement. Ms. Kenney developed habitat assessment protocols and characterized site conditions to determine if suitable habitats were present for the Pine Barrens Tree Frog, Barred Owl, Coopers Hawk, Redheaded Woodpecker and Knieskern's Beaked-Rush.

Camp Laughing Waters, New Hanover, PA. Performed a botanical field survey on a 473-acre campground for a utility improvement project. The survey was performed to identify potential impacts to three species of special concern (*Juncus biflorus, Carex haydenii,* and *Phlox pilosa*). PA Department of Conservation and Natural Resources (DCNR) guidelines were used to conduct the surveys. None of the species were identified within the project area. The project received approval from the DCNR.

The Giving Pond Recreational Area, Tinicum Township, PA. The Giving Pond Recreational Area is a 150-acre property formerly used as a sand and gravel quarry. The property is owned by the Pennsylvania Department of Conservation and Natural Resources and is intended to be developed as a State Park. Ms. Kenney volunteered her time to assist in a Phase I Baseline Natural Resource Inventory. Ms. Kenney assisted in various natural resource surveys.

Lower Makefield Township Herptile Survey, PA. Ms. Kenney volunteers her time to assist the "Friends of Five Mile Woods" and the Lower Makefield Township Advisory Council. The volunteer group was formed to survey the occurrence of frog and salamander species in and around Lower Makefield Township. Ms. Kenney surveys various habitats within Lower Makefield Township and records her data electronically on a shared website.

PHASE I BOG TURTLE SURVEYS

Miklosovic Tract, Upper Hanover, PA. Ms. Kenney was responsible for completing wetland delineations and waterway assessments for this residential development. Ms. Kenney coordinated the bog turtle survey within the project boundary. Although bog turtle were not identified during the investigation dates, a bog turtle was observed and marked by an independent herpetologist not associated with the survey effort. Ms. Kenney was instrumental in coordinating subsequent meetings with the US Fish and Wildlife Service and PA Fish and Boat Commission to redesign the project's impacts to best protect the species and allow for project construction.

Haverford Hills, Haverford, PA. Haverford Hills is an existing decommissioned state hospital site on 250± acres of land. The site contained 8 wetlands areas with portions of the Darby Creek and North and South Brook flowing from east to west. Ms. Kenney assisted in the phase I bog turtle habitat assessment and report compilation. The majority of the site did not contain potential bog turtle habitat. Wetlands on the west side of Route 476 contained potential habitat. The project was proposing an age-restricted community in the footprint of the existing buildings. The report included plans depicting all proposed construction more than 300 feet away from the potential habitat.

Walnut Grove, Lower Southampton Township, PA. Ms. Kenney led the phase I bog turtle habitat survey for this proposed commercial project. The site consisted of approximately 23 acres of land located on a former driving range. The area is a mixture of commercial and residential properties. The majority of the site contained impervious surface. The open area consisted of 10% steep slopes and grass area. A tributary to the Poquessing Creek flowed from west to east. Small wetland pockets were identified within the project boundaries. None of the wetland areas were determined to be potential bog turtle habitat.

Wolfe Tract, Pocono, PA. Performed wetland delineation on an approximate 87 acre tract of land. The site contained a perennial watercourse and adjacent wetlands. A bog turtle phase I survey was performed and the results submitted to the US Fish & Wildlife Service and PA Fish & Boat Commission. Both agencies concurred with the report findings of no potential habitat on or near the site. Also assisted a biologist from Amy S. Greene Environmental Services in performing an Indiana bat and timber rattlesnake survey.

Mine Brook Road Development, Somerset, NJ. Performed a bog turtle phase I and Indiana bat habitat survey for proposed site impacts. No bog turtle habitat existed on or adjacent to the site. Potential Indiana bat roosting habitat existed on the site. Met with a US Fish & Wildlife Service biologist to review survey results, who confirmed the survey findings and placed a timing restriction due to potential roosting habitat.

Township Line Road Realignment, Upper Providence, PA. Performed a bog turtle phase I bog turtle survey. Marginal habitat existed within a wetland within 300 feet of the proposed roadway realignment. Contacted a US Fish & Wildlife Service biologist to review survey results. The wetland was not considered potential habitat.

PHASE II BOG TURTLE SURVEYS

Shawnee Land Development, Bushkill, PA. As part of this 1000-acre project, Ms. Kenney identified and delineated over 10 wetlands in the project's study area, as well as numerous regulated waterways. She also provided technical expertise for phase 1 bog turtle habitat assessments in each wetland. She also assisted Amy S. Greene Environmental Consultants, Inc. in performing the phase 2 bog turtle habitat assessment. Bog turtles were identified and marked. Ms. Kenney coordinated the meetings with the US Fish and Wildlife Service and PA Fish and Boat Commission in order to best design the development around the habitat. Ms Kenney also assisted in the performance of a bog turtle habitat monitoring survey on the site. The survey was performed in conjunction with Amy S. Greene Environmental Consultants, Inc. to aid in the preparation of a habitat management plan for submission to the USFWS. One of the twelve bog turtles known to exist on the site was found during the survey. She also coordinated the jurisdictional determination with the regulatory agencies and submitted the joint permit application. In addition, Ms. Kenney performed a plant survey in search of *Carex tetanica* and *Opuntia humifusa* which was approved by the Pennsylvania Department of Conservation and Natural Resources.

WETLAND DELINEATIONS AND PERMITTING

Lucent Technologies, Hopewell, NJ – Designed restoration plan for a 5,000 square foot freshwater wetland that was disturbed for soil remediation activities. Provided oversight of backfill soil selection, grading, seeding, and stabilization during the restoration activities and provided recommendations during critical stages of the project. Performed annual mitigation monitoring on the site for assessment of vegetation survival, invasive plant colonization, and wildlife utilization. Prepared wetland restoration completion report and mitigation monitoring reports for submission to the NJDEP. The restoration area achieved 85% vegetative cover by native wetland plant species and wildlife (birds and amphibians) have returned to site.

Lucent Technologies, Holmdel, NJ – Prepared NJDEP joint permit application for a Freshwater Wetland General Permit and Minor Stream Encroachment permit for proposed soil remediation activities conducted in accordance with the Industrial Site Recovery Act. Performed wetland delineation on the 26 acre site for permitting purposes. Also designed a wetland restoration plan for a 2,000 square foot wetland restoration that was disturbed for soil remediation activities. Provided oversight of backfill soil selection, grading, seeding, and stabilization during the restoration activities and provided recommendations during critical stages of the project. Performed annual mitigation and monitoring of the restoration area for assessment of vegetation survival, invasive plant colonization, and wildlife utilization.

Walnut Ridge Wetland Mitigation, Lower Southampton Township, PA –Conducting an ongoing wetland mitigation monitoring program to evaluate the success of a 0.5 acre mitigation (creation) project. Monitoring includes assessment of vegetation survival, invasive plant colonization, and wildlife utilization.

Mannington Mills, Salem, NJ – Prepared NJDEP multi-permit application for an Individual Coastal Wetland permit and Freshwater Wetland General permit related with remedial activities within and adjacent to a tidal waterbody. Approximately 5 acres of coastal and freshwater wetlands were

proposed to be disturbed. Designed a wetland restoration and creation plan to compensate for the proposed impacts which is under review by NJDEP.

New York Jets Training Facility, Florham Park, New Jersey – Prepared an Environmental Impact Statement to satisfy the requirements of New Jersey Executive Order No. 215 of 1989 (EO 215) for the construction of a of a new football training facility.

New Meadowlands Stadium, East Rutherford, NJ – Completed an NJDEP multi-permit application for Stream Encroachment and a Coastal Zone Management Consistency Determination for the redevelopment of a 270 acre sports complex. The redevelopment plans included the construction of a new football stadium, football training facility, and ancillary commercial buildings.

The Shoppes at Hamilton, Hamilton, NJ – Completed NJDEP Freshwater Wetland General Permits for the filling of non-tributary wetlands and the construction of a storm water outfall in a wetland transition area for a 25-acre retail development. Also completed a NJDEP Transition Area Averaging Plan Waiver for the project.

Walnut Ridge Wetland Mitigation, Lower Southampton Township, PA –Conducting an ongoing wetland mitigation monitoring program to evaluate the success of a 0.5 acre mitigation (creation) project. Monitoring includes assessment of vegetation survival, invasive plant colonization, and wildlife utilization.

CERTIFICATIONS

LEED Certification; 2008
Associate Wildlife Biologist; 2007
Professional Wetland Scientist; 2006 (No. 1698)
40 Hour Army Corps of Engineers Wetland Delineation & Management Training Program; 2003 (No. 2638)
Occupational Safety and Health Association; 1993
Pennsylvania Sewage Enforcement Officer; 1992 (No. 2497)

PROFESSIONAL DEVELOPMENT

Occupational Safety and Health Association Recertification
Stream Restoration; Rutgers, Cook College; June 2006
Training Program – Planning and Promoting Ecological Reuse of Remediated Sites; 2006
Lecture – National Audubon Society World of Raptors; 2006
Advanced Soils; Delaware Valley College and PA Department of Environmental Protection; August 2005
Institute for Wetland & Environmental Education & Research – Plant Identification Course; June 2003

PROFESSIONAL SOCIETIES

Pennsylvania Association of Environmental Professionals, member
Society of Wetland Scientists, member
The Wildlife Society, member
Society of Women Environmental Professionals, member
Home Builders Association of Bucks/Montgomery County, Industry Action Committee

MICHAEL NEVINS, P.W.S.

Project Manager
Senior Wetland Scientist

Permitting
Delineations
Mitigation

EDUCATION Montclair State University: MA Environmental Management 2001
William Paterson College: BA Environmental Science/Biology, 1983

YEARS WITH LANGAN: 21

SUMMARY QUALIFICATIONS

Mr. Nevins has performed hundreds of wetland delineations and soil studies throughout the Northeast. Mr. Nevins is experienced in mitigation design, plan preparation and mitigation monitoring. He also has extensive experience in the State and Federal regulatory and permitting processes in New Jersey including the Freshwater Wetland Protection Act Rules, Wetlands Act of 1970, Flood Hazard Area Control Act Rules, Rules on Coastal Zone Management, Coastal Permit Program Rules, Stormwater Management Rules, tidelands conveyances and the Federal, US Army Corps of Engineers Section 10 & 404 permit program. Mr. Nevins has been involved in the coordination and preparation of numerous environmental assessments and environmental impact statements for State wetland and coastal permit programs and municipal zoning requirements.

RELEVANT EXPERIENCE

Amerada Hess Corporation, Secaucus, New Jersey - Wetland delineation, preparation of application materials and procurement of Individual Section 10 and 404 Permit Application from the Army Corps of Engineers for the redevelopment of this fuel storage facility (to comply with New Jersey's Industrial Site Remediation Act (ISRA)) into a 400,000 sq ft 18-story office tower. Included with application was a mitigation plan involving tidal wetland creation and enhancement. Also obtain NJDEP Waterfront Development and Stream Encroachment Permits. Wetland mitigation construction oversight and long term monitoring in accordance with permit conditions.

Marsh Resources, Inc. – Wetland Mitigation Bank, Carlstadt, New Jersey – Marsh Resources, Inc. contacted Langan to evaluate an existing proposal to restore a 208± acre marsh to be used as a wetland mitigation bank. The evaluation resulted in our recommendation to modify the proposal to become more cost-effective and environmentally acceptable. A plan was prepared by Langan based on these recommendations. Tasks also included a boundary and topographic survey of the proposed bank site as well as geotechnical borings and test pits to evaluate the on-site soil strength.

Darling International, Inc., Newark, New Jersey - Prepared permit applications for dredging in Newark Bay. Included preparation of applications for NJDEP Waterfront Development Permit, NJDEP Tidelands License, and an Army Corps of Engineers (ACOE) Section 10/404 Permit. Included working with NJDEP to develop a sediment sampling plan. Dredged spoils will be decontaminated and reused at an upland brownfields site, through Darling's participation in NJ Maritime Resources Dredging Decontamination Demonstration Program.

Dredging Projects in Newark Bay, New Jersey - Prepared Essential Fish Habitat Assessment for three clients that propose to dredge at their sites in Newark Bay. The EFH Assessment was requested by the National Marine Fisheries Service in response to the public notice issued by ACOE for these projects. The assessment evaluated the potential impacts to designated life stages of certain species.

Wal-Mart Stores, Inc., Cape May, New Jersey - Wetland Delineation and inventory on this 56-acre site. Performed seasonal high water evaluation for project's stormwater management system in accordance with New Jersey Department of Environmental Protection (NJDEP) CAFRA regulations. Obtained authorization from NJDEP for Letter of Interpretation and Statewide General Permit. Preparation of CAFRA permit on this project which involves the development of a retail shopping center adjacent to wetlands and in the vicinity of State endangered species.

Maryrest Cemetery, Mahwah, Bergen County New Jersey - Seasonal high ground water investigation for proposed stormwater management system associated with cemetery expansion project. SHGW investigation was performed in accordance with methodology outlined in NJDEP's Stormwater Management Regulations (NJAC 7:8).

Klockner Road Wetland Restoration, Hamilton Township, Mercer County, New Jersey – Obtain NJDEP Freshwater Wetland Permit to remediate contaminated soil and groundwater in an adjacent existing wetland area. Designed wetland restoration plan, prepared construction specifications and oversee construction of restoration project. Supervised the monitoring of mitigation project.

Willowbrook Park Wetland & Stream Restoration, Staten Island, New York – Design of a 3.5-acre wetland restoration project in New York City-owned parkland. Prepared construction specifications and supervised earthwork and planting. Managed the field crew undertaking the monitoring program in accordance with State and Federal permits.

Tidal Marsh Mitigation Bank Feasibility Study, New Brunswick, New Jersey – Conduct Feasibility study to evaluate the potential of constructing a tidal wetland restoration project for purposes of establishing a wetland mitigation bank. Study included topographic survey, collection of field biological/ecological data (including wetland delineation, biological benchmarks, vegetative inventory and tidal fluctuations), developing a preliminary wetland design, project cost estimate and preliminary market analysis.

New Jersey Transit, Cedar Creek Marsh Restoration, Kearny, New Jersey - Conduct ongoing wetland mitigation monitoring program to evaluate the success of a 32 acre freshwater marsh mitigation (restoration) project. Successful mitigation is a condition of an Individual Section 404 Permit issued to NJ Transit by ACOE for associated rail improvements in the Hackensack Meadowlands wetlands ecosystem.

New Jersey Transit, Secaucus Transfer, Ridgefield Mitigation Project, Ridgefield, New Jersey Design and prepare construction specifications for this 54 acre tidal wetland mitigation project. Mitigation was required as a condition of Federal Section 404 permit issued for the construction of the Secaucus Rail Transfer Station, Northeast Corridor Modifications, Main Line Improvements and the Bergen County Line Platform.

Prentiss Properties Business Park, Woolwich and Logan Townships, Gloucester County, New Jersey - Procured NJDEPE, Stream Encroachment, Waterfront Development and NJPDES permits, NJDEPE Freshwater Wetlands Exemption (LOE) and prepared a full Environmental Impact Statement for a proposed 380+ acre subdivision for a commercial, light industrial complex.

Carquest Distribution Center, North Castle, New York - Preparation of mitigation plan to compensate for impacts to forested floodplain wetlands associated with a regional distribution center. The mitigation plan is for the design and creation of 3.0 acres of freshwater wetlands and

enhancement of 1.4 acres of existing wetlands. Tasks also include construction document preparation, construction and planting oversight and long-term monitoring of the mitigation project in accordance with State and Federal criteria.

Retail Shopping Center, South Strabane Township, Washington County, Pennsylvania - Wetland delineation and inventory on this 200+ acre agricultural/former surface mine site. Obtain USACOE Jurisdictional Determination and Federal and State wetland fill permits as well as receive approval for a comprehensive wetland mitigation plan to offset wetland impacts.

GSA/FBI Headquarters, Newark, NJ - Prepare New Jersey Department of Environmental Protection Waterfront Development Permit Application for this high-rise office tower to be used by the Federal Bureau of Investigation as their Regional Headquarters. The project is located on the Passaic River Waterfront and involved close coordination with City, State and Federal agencies in order to expedite the project.

Perth Amboy High Speed Ferry, Perth Amboy, New Jersey - Obtain NJDEP Individual Wetland and Waterfront Development Permit for the construction of a new ferry terminal, parking lots and waterfront walkway. Obtain U.S. Army Corps of Engineers Individual Section 10/404 Permit for fill and construction of ferry pier. Also obtain NJDEP & Army Corps approval of onsite tidal wetland mitigation project.

CERTIFICATIONS

Professional Wetland Scientist - Society of Wetland Scientists
Habitat Evaluation Procedure (HEP) - Colorado State University

PROFESSIONAL DEVELOPMENT

Rutgers University
Coastal Project Review
Wetland Law and Regulations
Stream Encroachment Permit Seminar
Wetland Systems of the Northeast
Understanding Soil Conditions of Wetlands
Freshwater Wetlands Transition Area Seminar
The Hydrology of New Jersey
Vegetation Identification for Freshwater Wetlands Delineation
Bioengineering for Streambank and Erosion Control
Landscape Restoration

Professional Affiliations
Society of Wetland Scientist

Emilcott Associates
OSHA 40 Hour
OSHA 8 Hour Supervisor

ROBERT R. MARCH

Wetland Scientist

Wetland Delineation
Environmental Permitting
Mitigation Monitoring
Threatened and Endangered Species Surveys

EDUCATION

State University of New York at Cobleskill:
B.T. Wildlife Management

State University of New York at Cobleskill:
A.A.S. Fish and Wildlife Technology

YEARS OF EXPERIENCE: 7

SUMMARY QUALIFICATIONS

Mr. March's educational background includes extensive studies in wildlife biology as well as in-depth analyses of wetland functions and values. Mr. March has performed dozens of wetland site investigations and delineations and has prepared numerous wetland and coastal permit applications. Additional experience includes using GPS survey equipment to survey wetland delineations. Mr. March has also conducted wetland mitigation monitoring studies to meet the conditions of State and Federal wetland permits.

RELEVANT EXPERIENCE

River Park Senior Residences, Hopatcong, New Jersey – Performed wetland delineation on a ±27 acre property. Prepared a Letter of Interpretation application for line verification and submitted to NJDEP. Conducted a presence/absence vocalization survey for barred owl and red-shouldered hawk on site.

Liberty Business Park, Liberty, New York – Performed a delineation and GPS survey of wetlands on this ±109 acre site. Aided in a Phase II bog turtle survey performed within bog turtle habitat onsite as part of a submission to the U.S. Fish and Wildlife Service.

Combe Landfill, Newton, New Jersey – Conducted a delineation of wetlands, surveyed wetland flags using GPS technology, and prepared an NJDEP LOI application for this ±102 acre site. Conducted a Phase 1 bog turtle survey within subject wetlands onsite.

New York Jets Training Facility, Florham Park, New Jersey – Prepared an NJDEP multi-permit application for approval of a professional football training facility on a ±27 acre parcel. The permit application included a Freshwater Wetland Transition Area Waiver, General Permit No. 1, and Stream Encroachment Permit.

Girl Scout Camp Laughing Waters, Gilbertsville, Pennsylvania – Aided in the delineation of wetlands and waters on this ±533 acre site. Performed a Phase 1 Bog Turtle Habitat Survey and prepared report for submission to US Fish and Wildlife Service.

Cranbury Brick Yard, LLC, Cranbury, New Jersey – Prepared a Freshwater Wetland General Permit No. 4 and Stream Encroachment application for approval of a security fence around the perimeter of a ±395 acre site. Submission of applications included preparation of a wetland restoration plan for impacts to wetlands and wetland transition areas, and a vernal pool survey.

Maryrest Cemetery, Mahwah, New Jersey – Performed a delineation and GPS survey of wetlands and waters on this ± 17 acre site. Obtained a Letter of Interpretation – Line Verification and multiple Freshwater Wetland Permits from NJDEP for the expansion of a cemetery and construction of associated buildings. Conducted a seasonal high water table inspection within several test pits onsite.

Industrial Development International, Inc., South Brunswick, New Jersey – Conducted a delineation of wetlands and prepared a NJDEP Letter of Interpretation application for this ±35 acre site. Prepared a Municipal Environmental Impact Statement for development of a 481,730 square foot warehouse onsite.

Matrix Development Group, Hamilton, New Jersey - Performed a delineation and GPS survey of wetlands and waters on this ± 32 acre site. Prepared applications for acquisition of a Letter of Interpretation – Line Verification, multiple Freshwater Wetland General Permits, and a Freshwater Wetland Transition Area Waiver from the NJDEP. Completed a tree survey in accordance with the town ordinance as part of a Site Plan submission for the proposed development.

SB 535, South Brunswick, New Jersey – Conducted a delineation of wetlands and prepared a NJDEP Letter of Interpretation application and Jurisdictional Determination for Stream Encroachment for this ±77 acre site. Prepared a Municipal Environmental Impact Statement for development of a 535,376 square foot warehouse onsite.

New Jersey September 11th Memorial, Jersey City, New Jersey – Prepared an NJDEP Coastal General Permit application for the construction of a memorial dedicated to the victims of the terrorist attacks on September 11, 2001.

Exchange Place, Jersey City, New Jersey – Conducted a wetland site investigation and prepared a NJDEP Coastal General Permit application for the replacement of an existing bulkhead.

NRS, Jersey City, New Jersey - Prepared an NJDEP application for a Major Stream Encroachment Permit and Water Quality Certification for the construction of a truck terminal on an approximately 50 acre site.

PSE&G Wetland Mitigation Project, Hamilton, New Jersey - Established a mitigation monitoring plan and conduct ongoing field monitoring/data collection at this freshwater wetland creation site.

NYC School Construction Authority, Public School 58, Wetland Mitigation Project, Staten Island, New York - Provided construction oversight for a +3.5 acre wetland mitigation project. Established a mitigation monitoring plan and conduct ongoing field monitoring/data collection at this freshwater wetland creation site. Prepare wetland mitigation monitoring report for submission to USACOE and NYDEC.

Gateway Estates Wetland Mitigation Project, Brooklyn, New York - Conducted field monitoring/data collection at this freshwater and tidal wetland creation site. Prepared wetland mitigation monitoring reports for submission to USACOE and NYDEC.

ROBERT R. MARCH

NYC School Construction Authority, Public School No. 6, Wetland Mitigation Project, Staten Island, New York – Conducted field monitoring/data collection at this freshwater wetland creation and restoration site. Prepared wetland mitigation monitoring reports for submission to USACOE and NYDEC.

Big V Shopping Center Wetland Mitigation Project, Vailsgate, New York - Conducted field monitoring/data collection at this freshwater wetland creation site. Prepared wetland mitigation monitoring reports for submission to USACOE.

The Goldenberg Group, West Pottsgrove, Pennsylvania – Conducted a delineation of wetlands and surveyed wetland flags using GPS technology on a ±61 acre site

Girl Scout Camp Hidden Falls, Lehman Township, Pennsylvania – Aided in the delineation and GPS survey of wetlands and waters on this ± 900 acre site.

Villages at Rocky Creek, Jones County, Mississippi – Aided in the delineation and GPS survey of wetlands and waters on this ±3,000 acre parcel for submission of a Jurisdictional Determination application to the ACOE.

PROFESSIONAL DEVELOPMENT

Rutgers University
Freshwater Wetlands
Coastal Project Review
Freshwater Wetlands Construction

Emilcott Associates
OSHA 40 Hour

Professional Affiliations
Society of Wetland Scientists

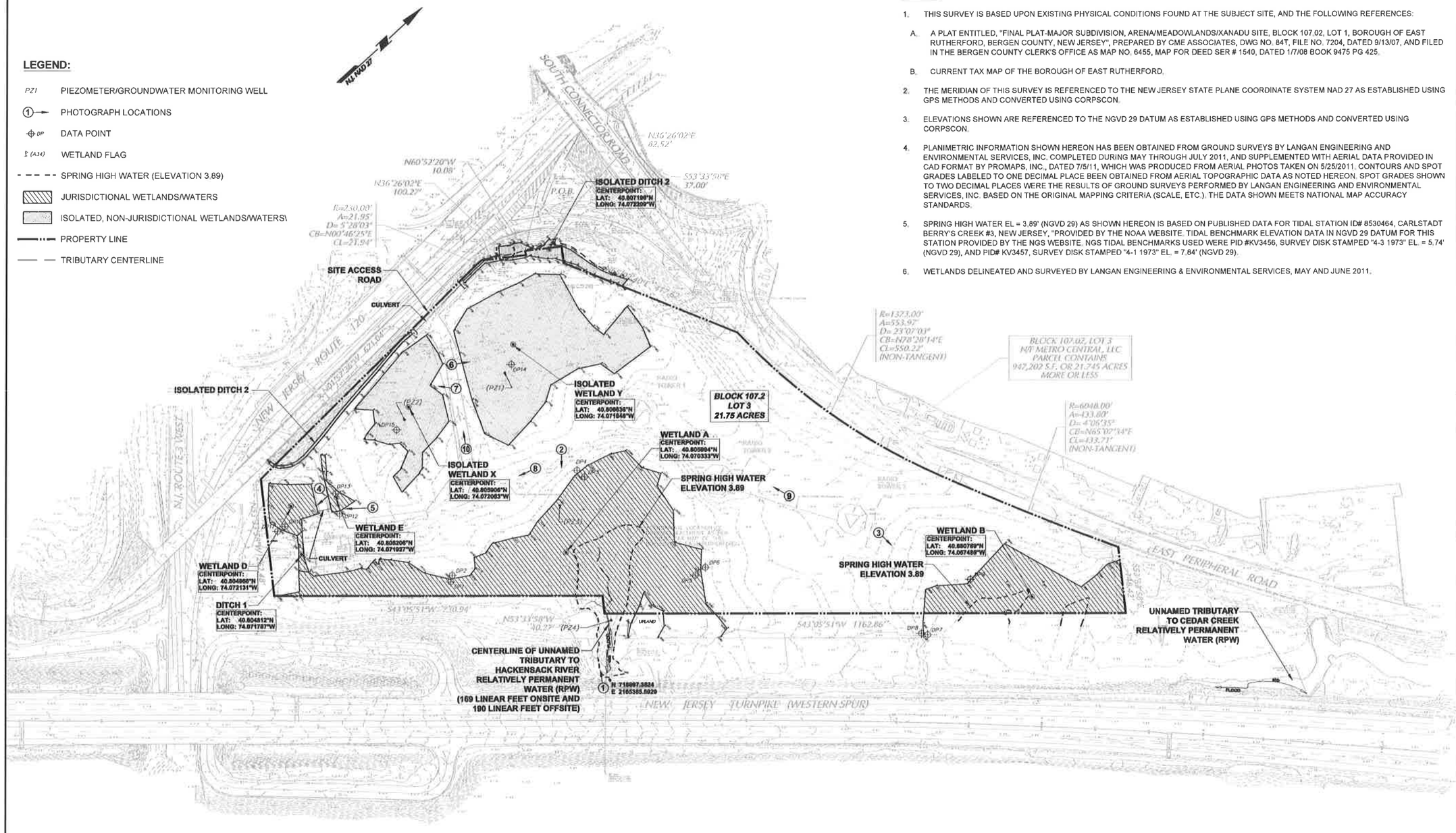
DRAWINGS

LEGEND:

- PZ1 — PIEZOMETER/GROUNDWATER MONITORING WELL
- ① → — PHOTOGRAPH LOCATIONS
- DP — DATA POINT
- (A34) — WETLAND FLAG
- SPRING HIGH WATER (ELEVATION 3.89)
- JURISDICTIONAL WETLANDS/WATERS
- ISOLATED, NON-JURISDICTIONAL WETLANDS/WATERS\
- PROPERTY LINE
- TRIBUTARY CENTERLINE

NOTES:

1. THIS SURVEY IS BASED UPON EXISTING PHYSICAL CONDITIONS FOUND AT THE SUBJECT SITE, AND THE FOLLOWING REFERENCES:
   - A. A PLAT ENTITLED, "FINAL PLAT-MAJOR SUBDIVISION, ARENA/MEADOWLANDS/XANADU SITE, BLOCK 107.02, LOT 1, BOROUGH OF EAST RUTHERFORD, BERGEN COUNTY, NEW JERSEY", PREPARED BY CME ASSOCIATES, DWG NO. 84T, FILE NO. 7204, DATED 9/13/07, AND FILED IN THE BERGEN COUNTY CLERK'S OFFICE AS MAP NO. 6455, MAP FOR DEED SER # 1540, DATED 1/7/08 BOOK 9475 PG 425.
   - B. CURRENT TAX MAP OF THE BOROUGH OF EAST RUTHERFORD.
2. THE MERIDIAN OF THIS SURVEY IS REFERENCED TO THE NEW JERSEY STATE PLANE COORDINATE SYSTEM NAD 27 AS ESTABLISHED USING GPS METHODS AND CONVERTED USING CORPSCON.
3. ELEVATIONS SHOWN ARE REFERENCED TO THE NGVD 29 DATUM AS ESTABLISHED USING GPS METHODS AND CONVERTED USING CORPSCON.
4. PLANIMETRIC INFORMATION SHOWN HEREON HAS BEEN OBTAINED FROM GROUND SURVEYS BY LANGAN ENGINEERING AND ENVIRONMENTAL SERVICES, INC. COMPLETED DURING MAY THROUGH JULY 2011, AND SUPPLEMENTED WITH AERIAL DATA PROVIDED IN CAD FORMAT BY PROMAPS, INC., DATED 7/5/11, WHICH WAS PRODUCED FROM AERIAL PHOTOS TAKEN ON 5/25/2011. CONTOURS AND SPOT GRADES LABELED TO ONE DECIMAL PLACE BEEN OBTAINED FROM AERIAL TOPOGRAPHIC DATA AS NOTED HEREON. SPOT GRADES SHOWN TO TWO DECIMAL PLACES WERE THE RESULTS OF GROUND SURVEYS PERFORMED BY LANGAN ENGINEERING AND ENVIRONMENTAL SERVICES, INC. BASED ON THE ORIGINAL MAPPING CRITERIA (SCALE, ETC.). THE DATA SHOWN MEETS NATIONAL MAP ACCURACY STANDARDS.
5. SPRING HIGH WATER EL = 3.89' (NGVD 29) AS SHOWN HEREON IS BASED ON PUBLISHED DATA FOR TIDAL STATION ID# 8530464, CARLSTADT BERRY'S CREEK #3, NEW JERSEY, "PROVIDED BY THE NOAA WEBSITE. TIDAL BENCHMARK ELEVATION DATA IN NGVD 29 DATUM FOR THIS STATION PROVIDED BY THE NGS WEBSITE. NGS TIDAL BENCHMARKS USED WERE PID #KV3456, SURVEY DISK STAMPED "4-3 1973" EL. = 5.74' (NGVD 29), AND PID# KV3457, SURVEY DISK STAMPED "4-1 1973" EL. = 7.84' (NGVD 29).
6. WETLANDS DELINEATED AND SURVEYED BY LANGAN ENGINEERING & ENVIRONMENTAL SERVICES, MAY AND JUNE 2011.



Identified Feature	Wetland Type (Cowardin Classification)	Coordinates (Centerpoint)	Waters of U.S. Classification	USACE Jurisdictional Wetlands?	Area (Acres)
Wetland A	E2EM5P6d	40.805994° N, 74.070333° W	Wetland directly abutting a RPW	Yes	3.1
Wetland B	E2EM5P6d	40.880789° N, 74.067489° W	Wetland directly abutting a RPW	Yes	0.97
Wetland D	PEM5A0d	40.804968° N, 74.072131° W	Wetland directly abutting a RPW	Yes	0.22
Wetland E	PEM5A0d	40.805206° N, 74.071927° W	Wetland directly abutting a RPW	Yes	0.06
Ditch 1	PEM5J0d	40.804812° N, 74.071787° W	Wetland directly abutting a RPW	Yes	0.03
Wetland X	PEM5A0d	40.805906° N, 74.072063° W	Isolated Wetland	No	0.81
Wetland Y	PEM5C0d	40.806651° N, 74.071176° W	Isolated Wetland	No	1.99
Ditch 2	POW	40.807198° N, 74.072209° W	Isolated Waters (Ditch in Uplands)	No	0.18

E2EM5P6d - Estuarine Intertidal Emergent Phragmites Irregularly Flooded Oligohaline Partly Drained/Ditched
PEM5A0d - Palustrine Emergent Phragmites Temporarily Flooded Fresh Partly Drained/Ditched
PEM5C0d - Palustrine Emergent Phragmites Seasonally Flooded Fresh Partly Drained/Ditched
PEM5J0d - Palustrine Emergent Narrow Leaved Persistent Intermittently Flooded, Fresh, Partially Drained/Ditched
POW - Paulstrine Open Water
TNW - Traditional Navigable Waters
RPW - Relatively Permanent Waters

60 0 40 80
SCALE IN FEET

Date	Description	No.
08/25/11	Revised Wetlands per USACE Site Visit	1

Revisions

DRAFT

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES
River Drive Center 1
Elmwood Park, NJ 07407
P: 201.794.6900 F: 201.794.0366
www.langan.com
NEW JERSEY PENNSYLVANIA NEW YORK CONNECTICUT
NJ Certificate of Authorization No: 24GA27996400

Project: BLOCK 107.02 LOT 3
EAST RUTHERFORD
BERGEN COUNTY NEW JERSEY

Drawing Title: WETLAND DELINEATION PLAN

Project No. 100234201
Date 07/25/2011
Scale 1" = 80'
Drn. By A.C.
Last Revised 08/25/2011

Drawing No. 61.01

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APPENDIX E

PHASE IA CULTURAL RESOURCE SURVEY

PHASE IA CULTURAL RESOURCE SURVEY FOR THE RADIO TOWER SITE, Block 107.02, Lot 3 Borough of East Rutherford Bergen County, New Jersey

Prepared For:

Triple Five Development
60 East Broadway
Bloomington, MN 55425

For Submission to:

State of New Jersey
Department of Environmental Protection
Historic Preservation Office
Mail Code 501-04B
PO Box 420
Trenton, NJ 08625-0420

Prepared By:

Michael Audin, RPA
Langan Engineering and Environmental Services, Inc.
River Drive Center 1
Elmwood Park, NJ 07407

NJ Certificate of Authorization No: 24GA27996400

October 2011
100234201

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

Phase IA Cultural Resource Survey
for the Radio Tower Site
Block 107.02, Lot 3
Borough of East Rutherford
Bergen County, New Jersey
Langan Project # 100234201

Prepared for:
Triple Five Development
60 East Broadway
Bloomington, MN 55425

For Submission to:

State of New Jersey
Department of Environmental Protection
Historic Preservation Office
Mail Code 501-04B
PO Box 420
Trenton, NJ 08625-0420

Prepared by:

Michael Audin, RPA
Langan Engineering & Environmental Services, Inc.
River Drive Center 1
Elmwood Park, New Jersey 07407-1330

October 2011

LANGAN

ABSTRACT

Langan Engineering and Environmental Services, Inc. (Langan) was retained by Triple Five Development (Triple Five) to perform a Phase IA Cultural Resource Survey of the Area of Potential Effect (APE) for the indoor Amusement Park and Water Park Project in the Borough of East Rutherford, Bergen County, New Jersey.

The APE comprises the entire project site, which is located in East Rutherford, Bergen County, New Jersey (Figure 1) in the Hackensack Meadowlands District. The property is designated as Block 107.02, Lot 3 on the East Rutherford Tax Map (Figure 2). The property is referred to as "the Radio Tower site" and is bound to the north by the "East Peripheral Road," to the east by the New Jersey Turnpike, to the south by NJ State Route 3, and to the west by NJ State Route 120. The project site is approximately 21.75 acres in size and is presently developed with three, 500+ foot high steel lattice radio transmission towers, access roads and a radio transmission building.

The Phase IA Cultural Resource Survey consisted of documentary background research and a pedestrian survey of the APE. The background research did not identify any known prehistoric or historic archaeological sites on the project site. Past cultural resources studies conducted within the vicinity of the APE (The Louis Berger Group 1995; HPI 1997; NEA 2001; Langan 2005; Schuldenrein 2009) characterized the vicinity of the APE as having little, if any, sensitivity for the possible presence of prehistoric archaeological resources. However, recent studies by Hunter Research (2009) identified the possible presence of a historic tide gate and drainage ditches associated with the drainage systems employed to drain the Hackensack Meadowlands on or adjacent to the APE. Based upon the available information the APE has been characterized as low to moderately sensitive for the possible presence of historic features associated with these above mentioned tide gate and drainage ditches.

In a recent geotechnical investigation conducted in the APE, boring B-1 encountered a 1.5-foot thick layer of gray silty sand beneath the marsh deposits. The silty sand stratum found in boring B-1 is similar to a culturally sensitive strata discovered at the Standard Chlorine Chemical Company (SCCC) site located along the Hackensack River in the Hackensack Meadowlands in Kearny, New Jersey (Stiteler 2010; Audin and Stiteler 2011). At the SCCC site the cultural bearing layer was a distinct sand layer below the marshmat and in some case silty estuarine muds. To determine if this one boring was an abnormality or not it was compared with borings conducted for the Meadowlands Xanadu Project just north of the Radio Tower site. In the comparison with the Xanadu borings, eight of the fourteen borings reviewed contained a silt layer, most with at least trace, under the marshmat and above the varved clay and silt. The thickness of the silt layer varied from one foot to four feet in thickness. However, none of the borings contained a distinct sand layer similar to those found on the SCCC site. Based on the information collected at the SCCC site we conclude that the 1.5-foot thick silty sand layer encountered in boring B-1 is most likely an estuarine mud layer and not a culture bearing sand layer.

Historic background research concluded that the radio towers currently in the APE are not the original towers constructed in 1941. These towers were constructed as a result of the construction of the New Jersey Turnpike in the location of the original towers. The current towers were constructed sometime in the 1960s or early 1970s and appear on the 1972 Aerial Photograph, making them most likely less than 50 years in age.

The station transmission building is a raised one story brick building on a concrete foundation built in 1941 with the original radio towers (now demolished). The building has been renovated several times on the inside, even as late as 2003 when Disney took over the station transmission building.

Archaeological fieldwork, consisting of a pedestrian survey, did not identify the presence of any features associated with historic drainage systems within the APE. Background research indicates that these features are most likely associated with the early twentieth-century efforts to drain the area and to control mosquito populations in New Jersey. No evidence of these type of resources, including drainage ditches and Resource No. 35 – Tide Gate mapped by Hunter Research (2009), was observed or encountered in the field.

The documentary research found no listed or eligible cultural resources in the APE. The pedestrian survey of the APE did not encounter any evidence of either the former drainage ditches or Resource No. 35 – Tide Gate. Based on the documentary research and the pedestrian survey we conclude that no prehistoric or historic archaeological resources will be affected by the proposed project. Therefore, no further archaeological survey is recommended.

The current radio towers were constructed in the late 1960s or early 1970s and are most likely not eligible for the National Register of Historic Places. The station transmission building, built in 1941, is over 50 years in age and may have been associated with significant persons or events associated with radio over its history. Some radio stations and towers have been determined eligible for the National Register of Historic Places. The proposed project will include the demolition of the building and radio towers. Therefore, we recommend that a Reconnaissance Level Architectural Survey by a qualified professional be completed on the transmission building to determine if there is justification for further investigation of National Register eligibility.

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1.0 INTRODUCTION

Langan Engineering and Environmental Services, Inc. (Langan) was retained by Triple Five Development (Triple Five) to perform a Phase IA Cultural Resource Survey of the Radio Tower Site for the indoor Amusement Park and Water Park Project in the Borough of East Rutherford, Bergen County, New Jersey.

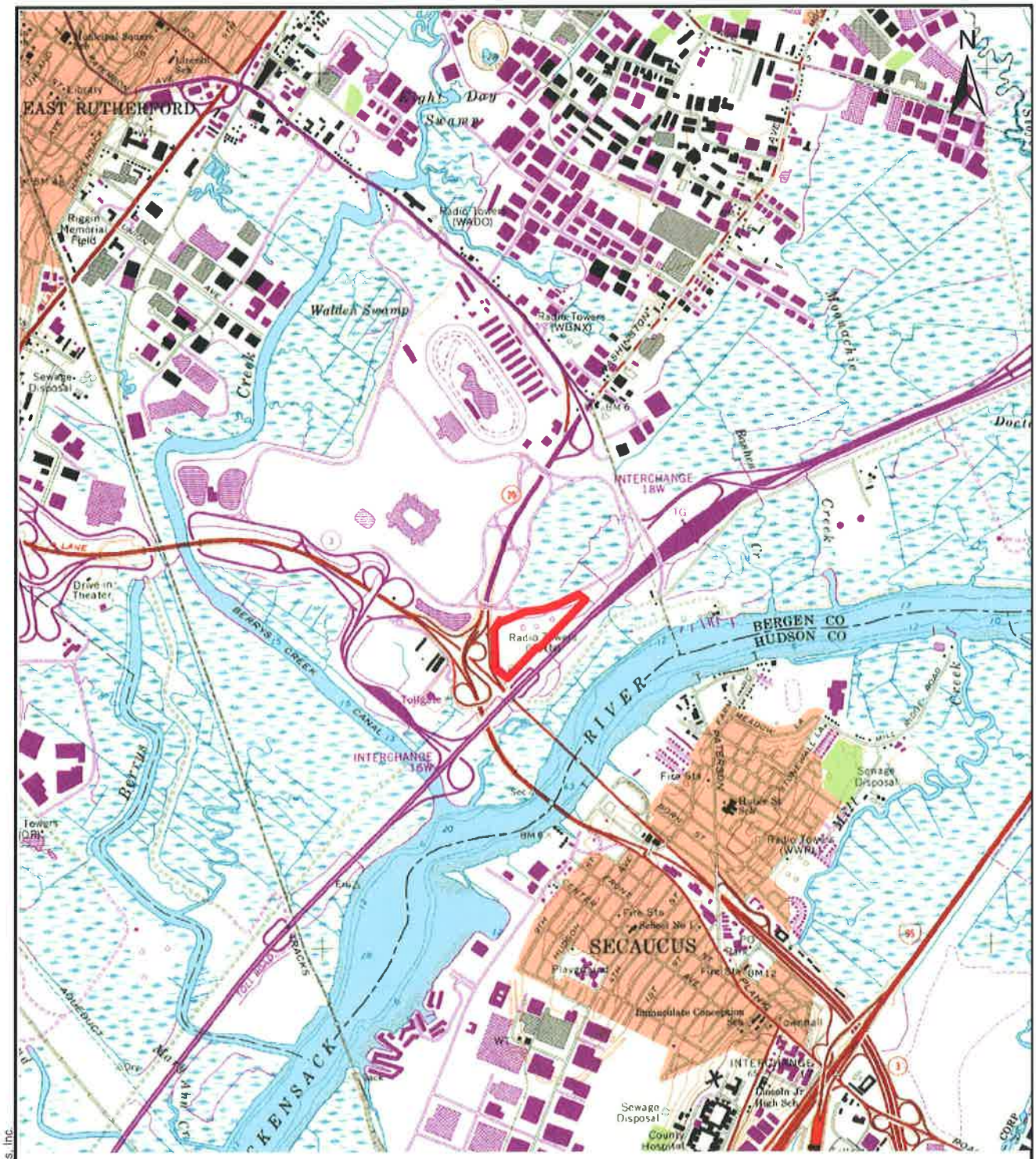
This cultural resource investigation evaluated the potential for the APE to contain resources listed on or eligible for listing on the State or National Register of Historic Places. All work for this project was carried out in accordance with the instructions and the intents set forth in Section 106(b)(4) of the National Historic Preservation Act of 1966, as amended; Sections 1(3) and 2(b) of Executive Order 11593; CFR 771 as amended October 30, 1980; the guidelines developed by the Advisory Council on Historic Preservation published November 26, 1980; the Procedures for the Protection of Historic and Cultural Properties as set forth in 36 CFR Part 800; N.J.A.C. 7:5-8.4 through 8.5; and N.J.A.C. 7:4-8.6. Inquiries concerning the availability of this report should be directed to the New Jersey State Historic Preservation Office (SHPO) in Trenton, New Jersey.

This report was prepared in accordance with the Phase I guidelines found in *Guidelines for Preparing Cultural Resource Management Archaeological Reports Submitted to the Historic Preservation Office* (July, 2000). Langan Cultural Resource Management (CRM) personnel who meet the *National Parks Service's Professional Qualifications Standards* conducted the survey and prepared the report. Resumes of the key personnel are presented in Appendix A.

1.1 Site and Project Description

The Radio Tower site is located in East Rutherford, Bergen County, New Jersey (Figure 1) in the Hackensack Meadowlands District. The property is designated as Block 107.02, Lot 3 on the East Rutherford Tax Map (Figure 2). The property is bound to the north by the East Peripheral Road, to the east by the New Jersey Turnpike, to the south by NJ State Route 3, and to the west by NJ State Route 120. The project site is approximately 21.75 acres in size is presently developed with three, 500+ foot high steel lattice radio transmission towers, access roads and a radio transmission building. The three radio towers are aligned in a southwest to northeast orientation near the central portion of the property. Each tower contains a service shed to house electronic and electrical equipment.

The radio transmission building is a one-story 6,800 square foot building which is used to house electronic equipment in support of the radio transmissions. The building, which is not currently occupied, also contains several storage rooms, an electric room, transmitter room, mechanical room, office, and bathrooms. The property has been used for radio station transmission since 1941.



Map Reference:USGS Topographic 7.5' Quadrangle, Weehawken, NJ.

Legend

Radio Tower Site

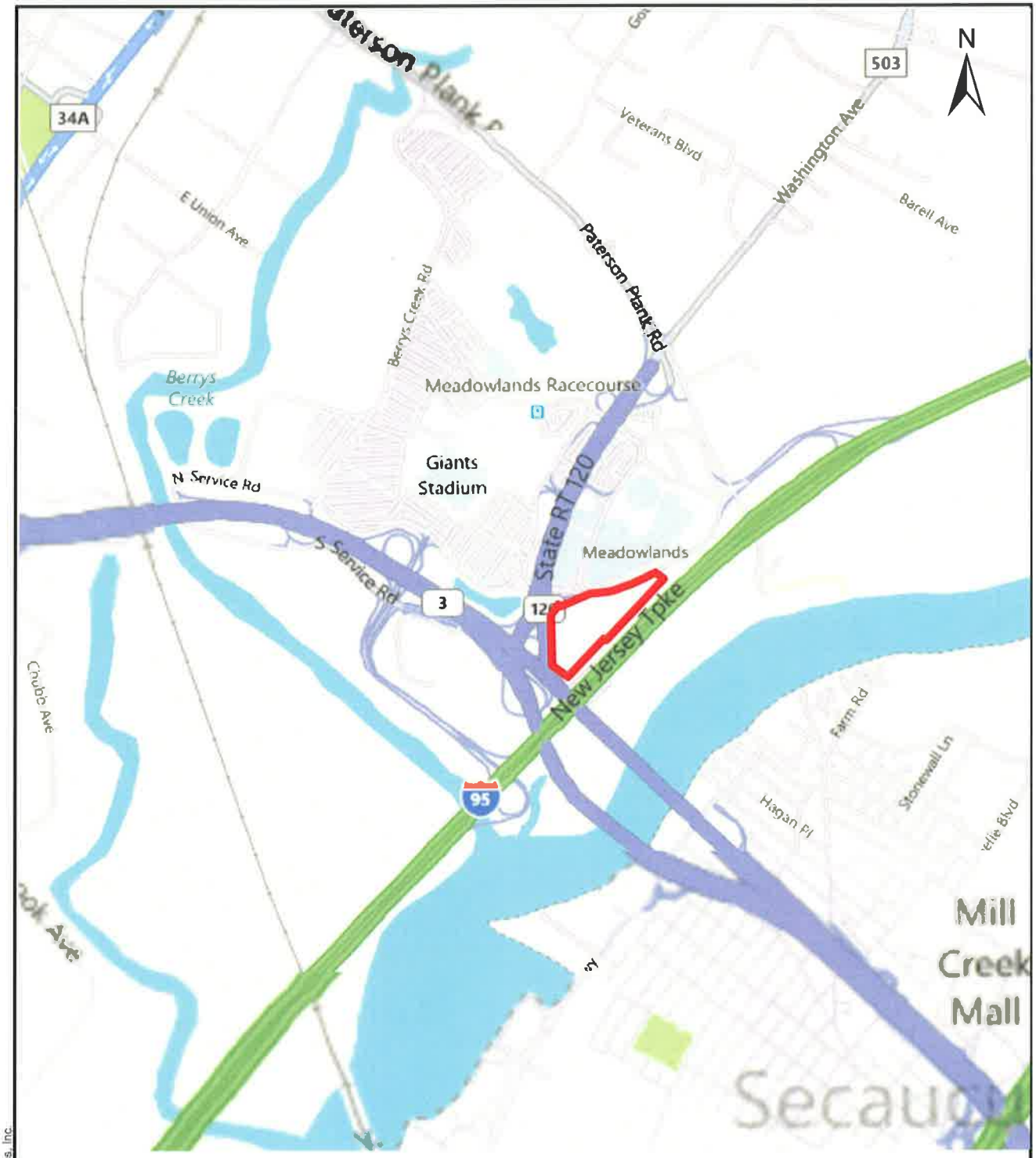
1,000 0 1,000 2,000 3,000 4,000 Feet

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SITE LOCATION MAP
AMERICAN DREAM MEADOWLANDS
EAST RUTHERFORD
BERGEN COUNTY NEW JERSEY

Project No.	Date	Scale	Figure No.
100234201	8/25/2011	See Above	1



Map Reference: 2011 Bing Roads Map.

Legend

Radio Tower Site

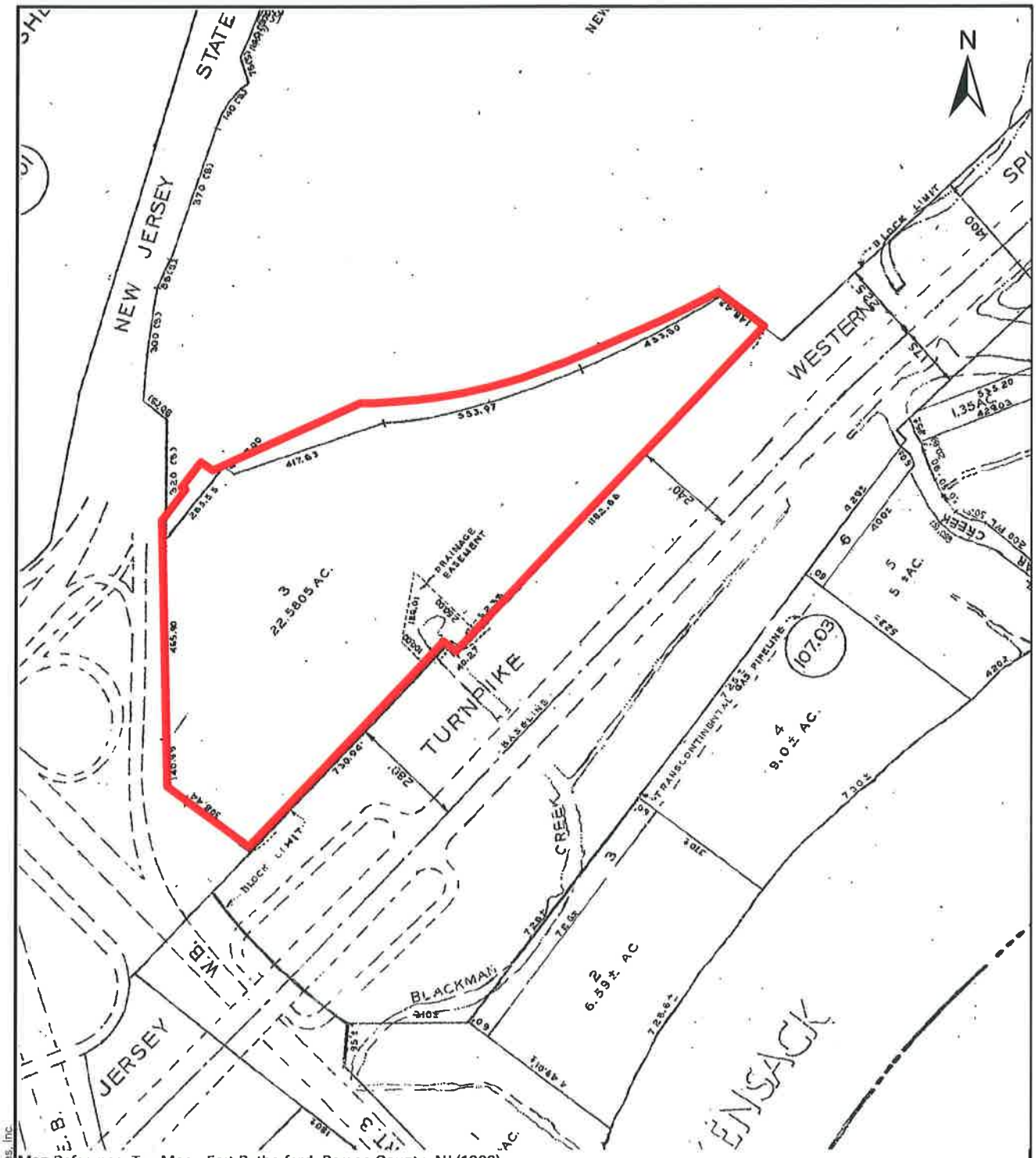
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VICINITY MAP
AMERICAN DREAM MEADOWLANDS
EAST RUTHERFORD
BERGEN COUNTY NEW JERSEY

Project No.	Date	Scale	Figure No.
100234201	8/25/2011	See Above	2



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TAX MAP
AMERICAN DREAM MEADOWLANDS
EAST RUTHERFORD
BERGEN COUNTY NEW JERSEY

Project No.	Date	Scale	Figure No.
100234201	8/25/2011	See Above	3

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The building also contains a basement and a garage. The garage is used for storage of various property maintenance equipment. A grid system of metal rods and wires, associated with each tower, has been constructed in the relatively shallow soils on the majority of the property. The transmission building, associated parking and access driveways occur in the southern and western sections of the property. The remainder of the property is undeveloped.

Triple Five Development is proposing to construct an indoor Amusement Park and Water Park on the Radio Tower site. Triple Five entered into an agreement to purchase the main component (Entertainment/Retail Component (ERC)) of the Meadowlands Xanadu Redevelopment Project at the Arena Site and intends to complete the ERC building, with minor modifications, and build a new entertainment component consisting of an integrated indoor amusement park and water park facility immediately adjacent to and connecting to the ERC on the Radio Tower site. Triple Five will transform the existing and new space into a premier tourism, entertainment and retail destination for New Jersey residents and tourists from around the world.

1.2 Area of Potential Effect

The Area of Potential Effect (APE) is defined in 36 CFR 800.16(d) as: "the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if such properties exist. The Area of Potential Effect is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking." For a Phase IA Cultural Resource survey the APE encompasses any locations where project activities have the potential to disturb soils through activities such as excavation or grading.

According to the project plans, the project will remove soils, cut and fill existing site grade and fill wetlands. As such, given the extent of the ground disturbing activities, the APE is defined as the entire property consisting of Block 107.02, Lot 3 (Figure 4).



Map Reference: NJDEP 2007 Aerial Photograph.

Legend

Radio Tower Site

150 75 0 150 300 450 600

Feet

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2007 AERIAL PHOTOGRAPH
AMERICAN DREAM MEADOWLANDS

EAST RUTHERFORD

BERGEN COUNTY NEW JERSEY

Project No.	Date	Scale	Figure No.
100234201	8/25/2011	See Above	4

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2.0 RESEARCH DESIGN

The primary goal of a Phase IA Cultural Resource Survey is to identify potentially significant cultural resources in the APE. Determinations of potential significance or significance are based on the National Register of Historic Places criteria of historic and/or archaeological significance.

2.1 National Register of Historic Places Criteria

Determinations of significance are based on the National Register of Historic Places Criteria. Properties listed on or determined eligible for listing on the National Register can be both architectural and archaeological resources. Significant historic properties include districts, structures, objects or sites that are at least 50 years in age and which meet at least one of the National Register criterion. Criteria used in the evaluation process are specified in 36 CFR Part 63. To be eligible for inclusion in the National Register of Historic Places, a historic property(s) must possess:

> "the quality of significance in American history, architecture, archaeology, engineering, and culture [that] is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and:
>
> (A) that are associated with events that have made a significant contribution to the broad patterns of our history, or
>
> (B) that are associated with the lives of persons significant in our past, or
>
> (C) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components lack individual distinction, or
>
> (D) that have yielded, or may be likely to yield, information important in prehistory or history. (36 CFR 60.4)"

There are several criteria considerations. Ordinarily, cemeteries, birthplaces, or graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, properties primarily commemorative in nature, and properties that have achieved significance within the past 50 years shall not be considered eligible for the National Register. However, such properties will qualify if they are integral parts of districts that do meet the criteria or if they fall within the following categories:

(A) a religious property deriving primary significance from architectural or artistic distinction or historical importance, or

(B) a building or structure, removed from its original location but which is

significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event, or

(C) a birthplace or grave of a historical figure of outstanding importance if there is no other appropriate site or building directly associated with his/her productive life, or

(D) a cemetery which derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events, or

(E) a reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived, or

(F) a property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own historic significance, or

(G) a property achieving significance within the past 50 years if it is of exceptional importance. (36 CFR 60.4)

The physical characteristics and historic significance of the overall property are examined when conducting National Register evaluations. While a property in its entirety may be considered eligible based on Criteria A, B, C, and/or D, specific data is also required for individual components therein based on date, function, history, physical characteristics, and other information. Resources that do not relate in a significant way to the overall property may contribute if they independently meet the National Register criteria.

A contributing building, site, structure, or object adds to the historic architectural qualities, historic associations, or archeological values for which a property is significant because a) it was present during the period of significance, and possesses historic integrity reflecting its character at that time or is capable of yielding important information about the period, or b) it independently meets the National Register criteria. A noncontributing building, site, structure, or object does not add to the historic architectural qualities, historic associations, or archeological values for which a property is significant because a) it was not present during the period of significance, b) due to alterations, disturbances, additions, or other changes, it no longer possesses historic integrity reflecting its character at that time or is incapable of yielding important information about the period, or c) it does not independently meet the National Register criteria.

2.2 Criteria of Adverse Effect

Whenever a historic property may be affected by a proposed undertaking, Federal agency officials must assess whether the project constitutes an adverse effect on the historic property by applying the criteria of adverse effect. According to the Advisory Council on Historic Preservation, the criteria of adverse effect (36 CFR 800.5), is as follows:

(1) An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that would qualify it for inclusion in the National Register, in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation for the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or cumulative.

(2) Adverse effects on historic properties include, but are not limited to (36 CFR 800.5(a)(2)):

(i) Physical destruction of or damage to all or part of the property;

(ii) Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation and provision of handicapped access, that is not consistent with the Secretary's Standards for the Treatment of Historic Properties (36 CFR part 68) and applicable guidelines;

(iii) Removal of the property from its historic location;

(iv) Change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance;

(v) Introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features;

(vi) Neglect of a property which causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to an Indian tribe or Native Hawaiian organization; and

(vii) Transfer, lease, or sale of property out of Federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance.

A finding of adverse effect or no adverse effect could occur based on the extent of alteration to a historic property, and the proposed treatment measures to mitigate the effects of a proposed undertaking. According to 36 CFR 800.5(3)(b):

The agency official, in consultation with the State Historic Preservation Office (SHPO) and/or Tribal Historic Preservation Office (THPO), may propose a finding of no adverse effect when the undertaking's effects do not meet the criteria of § 800.5(a)(1) or the undertaking is modified or conditions are imposed, such as the subsequent review of plans for rehabilitation by the

SHPO/THPO to ensure consistency with the Secretary's Standards for the Treatment of Historic Properties (36 CFR part 68) and applicable guidelines, to avoid adverse effects.

2.3 Archaeology

The main goal of the Phase IA Cultural Resource Survey is to identify the presence of potentially significant prehistoric and/or historic resources within the APE and, if present, determine if such resources would be affected or encroached upon by the project.

The research methods for the Phase IA included background research and visual inspection of existing conditions within the APE. The background research was conducted prior to the field investigation to determine whether any cultural resources had been documented within the APE and to assess the potential of the APE to contain undocumented significant prehistoric or historic cultural resources. This assessment was used to devise a field inspection strategy to locate documented and/or undocumented potentially significant archaeological resources within the APE.

Fieldwork for the archaeological survey was conducted in order to determine the presence or absence of intact archaeological deposits and to determine if such deposits (if present) constitute an archaeological site. According to the New Jersey State Museum (NJSM), an archaeological site is defined as the presence of historic or prehistoric cultural material recovered from intact contexts. More specifically, historic archaeological sites can consist of artifact scatters, features or ruins, or historic earthworks/fill deposits. Locations of archaeological sensitivity and any identified structural remains were plotted on project plans. The field inspection consisted of a pedestrian reconnaissance of the APE for evidence of the remains of the above mentioned tide gate. A subsurface archaeological survey was not conducted at this time.

3.0 ENVIRONMENTAL SETTINGS

This chapter briefly describes the ecological characteristics of the project site including physiography, geology, soils, and flora and fauna of the area. The project is located in Bergen County, in northeastern New Jersey. The total land area within Bergen County is approximately 233 square miles (603.528 Square-kilometers) or 149,135 acres (60,352.793 hectares) not including rivers, lakes and reservoirs over 40 acres in size (Soil Survey 1980). The county is bounded by New York State to the north, Passaic County to the west, Essex and Hudson Counties to the south, and the Hudson River to the east. There are 70 municipalities within the county; the project is located in the Borough of East Rutherford, within the Hackensack Meadowlands District.

3.1 Physiography and Geology

The project site is located in the Piedmont Physiographic Province, also referred to as the Newark Basin. The Piedmont occupies approximately one-fifth of New Jersey's geography and consists of a low rolling plain generally divided by higher ridges. It serves as a transition from the loftier Highlands Physiographic Province located to the north and the relatively flat Coastal Plain Province located to the south. The Province is characterized by Late Triassic interbedded folded and faulted sedimentary rocks (sandstone, shale, siltstone, and conglomerate) as well as Jurassic age Igneous Rocks (230 to 140 million years old). These sedimentary rocks were formed through the erosion of adjacent uplands and deposited as sediment along river and lakebeds. The property is generally underlain by reddish-brown to brownish-purple siltstone and shale, identified as part of the Passaic Formation.

The Piedmont Province is also characterized by several basaltic and diabasic (igneous rock types) ridges formed through volcanic activity. The three prominent basalt ridges are known as the First, Second, and Third Watchung Ridges. The largest diabase ridge, located along the western banks of the Hudson River, is known as the Palisades.

Glacial activity which occurred approximately 20,000 years ago modified the landscapes and surficial features of northern New Jersey, including the general site area. The glaciation scoured upland areas and deposited up to several hundred feet of till (an unsorted mixture of sand, clay and boulders) in the lowlands and valleys located within the Province.

3.2 Topography

The topography of the APE is generally level, but slopes towards the Hackensack River. According to the Weehawken, NJ topographic map, the elevation on the property is approximately 7 feet above mean sea level.

3.3 Soils

According to the 2004 Historic Fill of the Weehawken Quadrangle Map produced by the NJDEP Land Use Management New Jersey Geological Survey, the subject property is identified as historic fill material (Figure 21). This material is defined by NJDEP as "non-indigenous material placed on a site in order to raise the topographic elevation of the site." The map also indicates that no representation is made as to the composition of the fill or presence of contamination in the fill.

According to the Soil Conservation Survey Map (Figure 5), the subject property contains soils designated as Udorthents, organic substratum-Urban land complex, 0 to 8 percent slopes (UdouB) and Urban Land (UR). The Udorthents organic substratum is located throughout the majority of the APE and the urban land is located in the southwest of the APE. The soils currently occupying the APE are primarily filled soils over natural deposits. Neither of the soils within the study area is considered prime farmland soils (NRCS Web Soil Survey, 2008).

3.4 Climate

The climate of Bergen County is moderate. The average annual temperature is 53 degrees Fahrenheit. Winters are typically short and not very snowy with average temperature of about 28 degrees Fahrenheit. Summers are sunny and warm with the summer average temperature about 82 degrees Fahrenheit. The sun shines 60% in the summer and about 50% in the winter. The total annual precipitation is 45 inches, and most of the rainy season is from April until September. The average snowfall is about 27 inches. There are about 15 snowy days with one inch or more of snow. Winds are mostly from the southwest. The climate is not very humid, averaging 50% during the daytime and 70% at night.

3.5 Floral and Faunal

Floral and faunal conditions contribute to the soil formation and its quality and impact the overall ecological conditions of the area. Ecological conditions, on the other hand, stimulate human activities. Vegetation also influences erosion by limiting the runoff rate and increasing the available water capacity.

Various animal species existed in this area during prehistoric and historic times and were included into subsistence patterns, providing a variety of biologically and economically significant items such as meat, furs, hide, marrow, bones, antler, etc. for human inhabitants. In this context, the types and distribution of the region's fauna are important to interpretations of the archaeological record. Historically, the most typical species for the region included ducks, geese, rails, herons, shore birds, muskrats and fish.



MUSYM	Soil Description	Hydric
UdouB	Udorthents, organic substratum-Urban land complex, 0 to 8 percent slopes	No
UR	Urban Land	No

Map Reference: NRCS Bergen County Soil Survey 2008 & 2007 NJDEP Aerial Photograph

Legend

Radio Tower Site

Soil Boundaries

15075 0 150 300 450 600

Feet

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NRCS SOIL SURVEY MAP
AMERICAN DREAM MEADOWLANDS
EAST RUTHERFORD

BERGEN COUNTY NEW JERSEY

Project No.	Date	Scale	Figure No.
100234201	8/25/2011	See Above	5

3.6 Land Use

Historically the property was used for the farming of salt hay, as was common in the Hackensack Meadowlands. In the 1940s the property began to be used as a radio tower transmission site. Based on a review of historic aerial photographs, the property and adjacent lands began to be filled in the 1960s as part of the development of Route 120 and to create usable land. With the construction of the New Jersey Turnpike and the Meadowlands Sports Complex in the 1960's and 1970's, further fill and isolation of this property from the Hackensack River occurred.

4.0 BACKGROUND RESEARCH

Background research was conducted to locate previously identified cultural resources and to evaluate previously unidentified cultural resources within an appropriate historic context. Research was conducted at the SHPO to identify known architectural and archaeological resources within the APE that are listed on or eligible for listing on the State or National Register of Historic Places. A review of previously conducted cultural resource surveys and city surveys was also conducted. The site files at the New Jersey State Museum (NJSM) were also examined to identify the location of known archaeological sites. Primary and secondary research, including maps and local county histories, was conducted at the New Jersey State Library; the New Jersey State Archives and the New Jersey Meadowlands Commission. Boring logs from a geotechnical investigation conducted in the APE were also used to evaluate archaeological potential.

4.1 Archaeology

Registered Archaeological Sites

Examination of the NJSM and SHPO site files and other standard references indicate that there are no known prehistoric archaeological sites located within one mile of the archaeological APE (Skinner and Schrabisch 1913; Cross 1941).

Cultural Resource Surveys in or adjacent to the APE

In 1995 Louis Berger & Associates, Inc. (Louis Berger 1995) conducted a Stage IA Cultural Resource Investigation (BER F233) for the Route 120 Relocation. Part of the study area is adjacent to the north of the Radio Tower site. The report concluded that the only potential archaeological sites in the study area were around the Paterson Plank Road and the Half Way Hotel, to the north of the project site. No historic or archaeological resources were thought to be in the area adjacent to the current project site. In addition, the report stated that "there are no practical methods for testing for the presence of prehistoric sites that would be buried below deep landfill and meadow mat" (Berger 1995). Berger recommended no further cultural resource investigations for the APE.

In 2005, Langan Engineering and Environmental Services, Inc. (Langan 2005) submitted a letter report for the Meadowlands Xanadu Project (BER C598) adjacent to the north of the project site. Langan relied upon the past cultural resource investigations conducted for the Meadowlands Sports Complex (McCormick & Associates 1972), the Meadowland Arena (McCormick & Associates 1978), Route 120 Relocation (Berger 1995) and the Special Area Management Plan for the Hackensack Meadowlands District. The studies indicated that the APE had been previously disturbed through construction and landscape modification. Langan recommended no further cultural resource investigations for the APE.

In 2009, Hunter Research developed a historic context for the drainage system and features associated with the draining and mosquito control of the Hackensack Meadowlands for the

Army Corps of Engineers (Hunter Research, Inc. 2009). The drainage features illustrate constant attempt to create usable land in close proximity to New York City. The mosquito control ditches were an important reaction to the knowledge that these insects carried some infectious diseases and that mosquitos infected with these diseases could infect human populations. The study was based upon the results of previous work conducted for nearby properties in 2006 (see below). The research presented in the study identified the potential presence of a historic tide gate adjacent to the APE. The tide gate was identified as: No. 35, a pre-1941 gate. Hunter Research did not visit the location of resource No. 35; the location was identified from cartographic resources (Hunter Research, Inc. 2009). Other features identified by research included historic ditches in the APE. As part of the historic context, Hunter Research also provided a framework for the assessment of various types of potential and adverse effects as well as guidance for cultural resource recommendations and for documenting identified resources (Hunter Research, Inc. 2009).

Past Cultural Resource Surveys in the Vicinity of the APE

The first survey is an undated letter report (HUD E106) by Professor Willard Sloshberg, of Mercer County Community College written prior to the installation of proposed sewer lines in the Town of Secaucus, Hudson County, New Jersey. The report did not identify any potential cultural resources within the APE. The report did identify the past presence of several historic farms and resources located on the east side of the Hackensack River. Sloshberg stressed that the resources likely to be encountered within the meadows would likely be historic rather than prehistoric in nature (Sloshberg n.d.).

In 1997 Historical Perspectives, Inc. (HPI) conducted a cultural resources investigation of the Empire Tract (BER A132), a series of properties slated for redevelopment as wetland mitigation sites. One of the Empire Tract properties, identified as Tract 2, is located approximately 1,500 feet to the east of the APE on the opposite side of Paterson Plank Road. The investigation identified the presence of two structures within Tract 2 including a derelict barge and a wooden wildlife observation tower. According to the report there were no impacts slated for the derelict barge, and the observation tower was modern. In addition, no prehistoric archaeological deposits were encountered within this tract. Historic-period artifacts encountered were found in association with dredged soils deposited near the mouth of Bashes Creek and with the earthen dike located along the southern boundary of the property. These artifacts were interpreted as twentieth-century construction debris and trash used as landfill. No further cultural resource investigations were recommended for this tract (Historical Perspectives, Inc. 1997).

In 2001 Northern Ecological Associates (NEA) conducted a Phase IA Cultural Resources Survey and Archaeological Inventory (BER R76) associated with the Transcontinental Gas Pipeline Corporation's 0.59-mile Ridgefield Loop project located approximately 2,500 feet to the northeast of the APE. The study cited past cultural resource investigations conducted by Grossman and Associates, Inc. (1992, 1994) which suggested that much of the proposed project location contained no archaeological sensitivity. Furthermore, NEA's archaeologist

identified areas of past ground disturbance and landscape modifications within the project's APE. No further cultural resource investigations were recommended.

In 2006, Hunter Research conducted a cultural resources investigation of ten proposed wetland mitigation sites within the Hackensack Meadowlands (MULT A240a). The study focused on one property in the vicinity of the APE, the Oritani Marsh (Area 24) located approximately 2,000 feet southwest of the APE. The report concluded that the measures historically employed in draining the Hackensack Meadowlands were potentially significant. Hunter Research recommended that a historical context be developed in order to assess the potential for resources associated with the Hackensack drainage system regarding their eligibility for listing on the New Jersey State and National Registers of Historic Places (Hunter Research, Inc. 2006).

In 2009, Geoarcheology Research Associates (GRA) conducted a geoarchaeological assessment (BER Z179) of portions of the Hackensack Meadowlands associated with proposed improvements associated with the widening of New Jersey Turnpike interchange 18W. The study is located approximately 2,700 feet northeast of the APE and concluded that there was little evidence of prehistoric ground surfaces within the project's APE. Borings and cores extracted as part of this study identified long-standing wetland conditions that predate human occupation in the area, and a lack of buried upland soil contexts (Geoarcheology Research Associates 2009).

Known Historic Resources

Research conducted at the SHPO revealed that there were no National Register listed or eligible historic properties within or adjacent to the APE.

4.2 Prehistoric Context

The prehistoric context or cultural history for New Jersey is constantly changing whenever new evidence is discovered. In general the cultural history of pre-contact period Native Americans in New Jersey is divided into three broad time periods and a period of European Contact: Paleo-Indian 9,500 – 7,000 B.C., Archaic 7,000 – 1,000 B.C., Woodland 1,000 B.C. – A.D. 1,600, and the Contact A.D. 1,600 – 1750 (Chesler 1982; Kraft 1986; Mounier 2003). The Archaic and Woodland periods are further divided into three sub-periods: Early, Middle and Late. These time periods have been described in several publications (Chesler 1982; Kraft 1986, 2001; Grossman-Bailey 2001) and do not need to be repeated in detail. A brief prehistoric background for southern New Jersey is summarized in Table I below.

Table I: Overview of Southern New Jersey Prehistory

Time Frame	Period	Characteristics
9,500 B.C. to 8,000 B.C.	Paleo-Indian	Highly mobile Band level society Large game hunting and generalized foraging Fluted projectile points; usually jasper or chert Environment: cold, wet, mosaic of mixed grasslands with rapid sea level rise.
8,000 B.C. to 6,500 B.C.	Early Archaic	Highly mobile Band Level society Possible exploitation of more diverse food resources Corner notched and stemmed points More types of stone tools Spear-thrower technology Environment: cold drier than present, rapid sea level rise
6,500 B.C. to 3,000 B.C.	Middle Archaic	Band level society Large and small camps, stratified riverine settlement system Hunter-gathers with intensification of resource use Use of shell fish documented in the region Bifurcate points and stemmed points Use of more varied lithic materials and tool categories Environment: warm and wet
3,000 B.C. to 1,000 B.C.	Late Archaic	Social differentiations Increased sedentism Intensive use of local materials Broadspear, narrow-stemmed, fishtail points Extensive trade network for exotic raw materials Change in vessel technology – soapstone bowels Mortuary ceremonialism Environment: warmer, dryer than present, sea level rise
1,000 B.C. to A.D. 0	Early Woodland	Band level society with first evidence of community identity Shellfish exploitation Extensive trade network for exotic raw materials Experimentation and early use of ceramics Mortuary ceremonialism Environment: cool and wet
A.D. 0 to A.D. 900	Middle Woodland	Hunter-gatherers, seasonal fusion/fission of social groups Large and small camps Increase in type and kinds of ceramics Large scale exploitation of seasonal resources Mortuary ceremonialism
A.D. 900 to A.D. 1,600	Late Woodland	Territories of the Proto-Lenape/Unami, Algonkian ideology Foraging, limited agriculture in portions of southern NJ

		Unfortified hamlets, camps and smaller territories Triangular projectile points – bow and arrow Use of cobble cherts and jasper Cord decorated and incised ceramics Environment: modern-sea level rise remains factor
A.D. 1,600 to A.D. 1,750	Contact	Continue aspects of Algonkian ideology European Contact and initial colonization

4.3 Historic Context

Since the mid seventeenth century, ownership of the majority of the marshland lining the banks of the Passaic and Hackensack Rivers was in the hands of a relatively few men. During the 1660's and 1670's, vast swaths of upland and marsh had been allocated by the Dutch government of New Amsterdam and, later, the English government of New York to a small group of wealthy, well-connected individuals. Principal among these were Nicholas Varlet, Nicholas Bayard, William Pinhorne, Isaac and Nathaniel Kingsland, William Sandford and John Berry (Wright1988; Hunter Research, Inc. 2009). The APE falls within the bounds of the great tract granted in 1669 to John Berry (1635-1690). The lands of the initial patent were quickly supplemented by other allocations and purchases. Berry's huge estate occupied the middle and northern parts of the prong of land between the lower reaches of the Passaic and Hackensack Rivers. Known as "New Barbadoes Neck," the peninsula was named after the Caribbean Island, which had formerly been the home of John Berry and several of the region's other prominent landowners. Berry's holdings included the real estate on which the present day communities of Carlstadt, Hasbrouck Heights, Lodi, Little Ferry, Moonachie, Teterboro, Wallington, Woodridge and South Hackensack as well as large portions of the City of Hackensack, Rutherford and East Rutherford (Wright 1988).

Many of the early Meadowlands landowners established plantations on their holdings; however, most of their real estate was held for speculative purposes. By the end of the seventeenth century many landholders began to sell off smaller properties of several hundred acres that were carved out of their larger estates. Berry, himself, occupied a "great plantation" in the vicinity of the modern day City of Hackensack but sold substantial parcels to dozens of individuals (Wright 1988). The marsh lands near the mouths of Bashe's and Berry's Creek appear to have remained undeveloped and were hardly utilized throughout the seventeenth- and eighteenth-centuries. Salt hay was most likely harvested from the marshes within the APE, as was the practice in most of the Meadowlands. There is no evidence that these marshes were improved during this period.

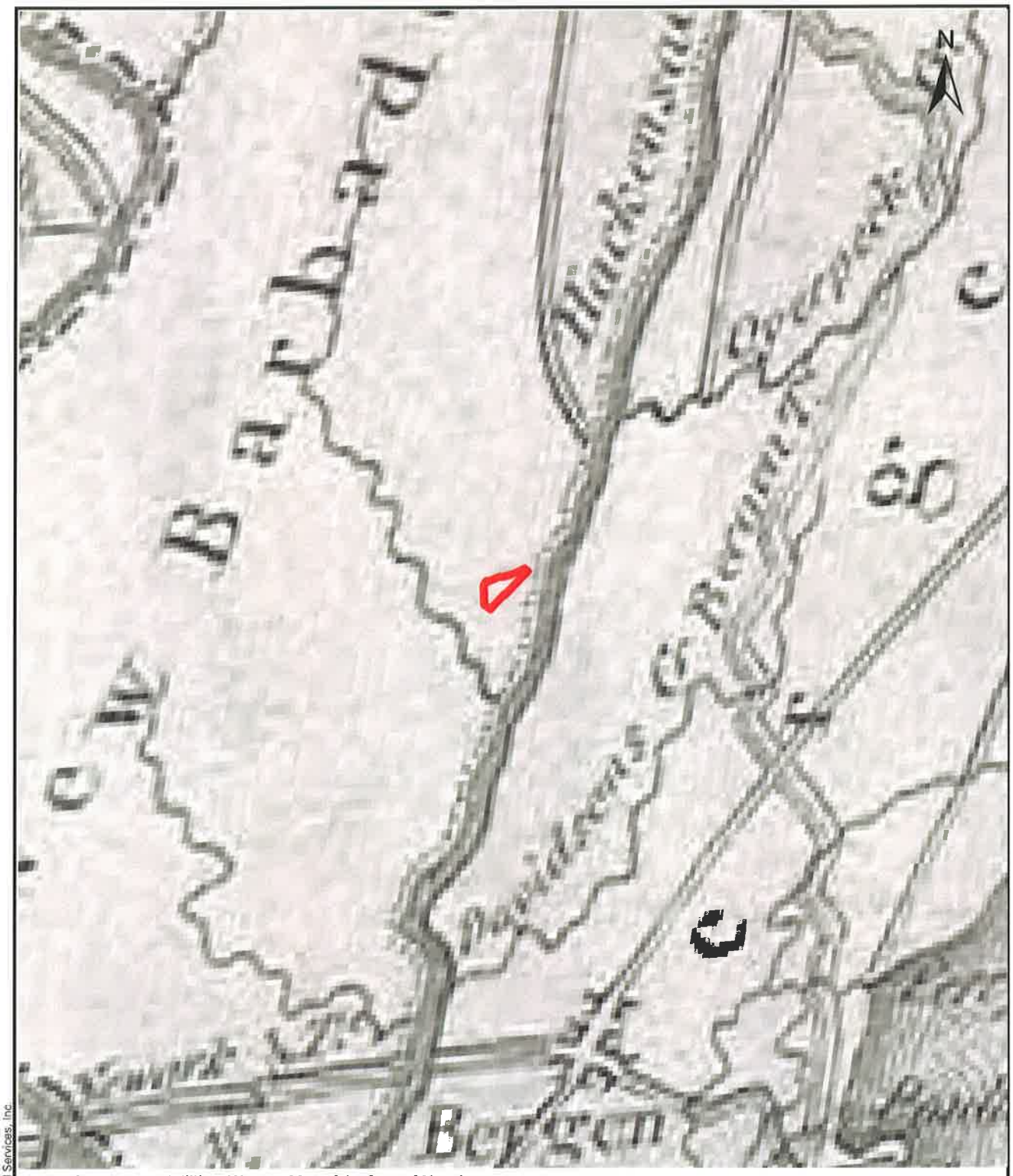
By the end of the eighteenth-century, individuals began to ditch and bank small tracts of meadows along the Passaic and the Hackensack Rivers in order to drain the marshes and exclude the saltwater tides. These improvements permitted the cultivation of timothy, red and white clover and other crops that could be cultivated on freshwater meadows, but not on saltwater marshes. Although much of the Meadowlands were naturally a freshwater

environment, the marshes along the southern reaches of the rivers were more prone than in other areas to brackish tides. Marshes further upstream, like those in the vicinity of the APE, were less likely to be embanked.

The Watson map of New Jersey of 1812 (Figure 6) shows no settlements or improvements on New Barbadoes Neck anywhere in the immediate vicinity of the APE. The first changes to the wider APE region came in the wake of the chartering of the Paterson-Hamburg Turnpike by the New Jersey State Legislature in 1806. The new toll road crossed the Hackensack River over a bridge that was located approximately 1,000 feet to the north and east of the APE. Both Thomas Gordon's map of New Jersey of 1833 (Figure 7) and a United States Coast Survey map surveyed in 1839 (Figure 8) show the turnpike crossing through the wide expanses of marshlands to the east of the APE. By 1839 the U.S. Coast Survey map depicted a new road that was laid out along an east/west oriented strip of fast land about a half of a mile north of the APE. This new road, known as Washington Avenue and connected the settlement at Moonachie with the Paterson-Hamburg Turnpike. The map shows that a string of residences had already been erected along its length by that date. Closer to the APE, the map depicts a single building standing on the north bank of the Hackensack River on the eastern edge of Paterson-Hamburg Turnpike. Although unidentified, this may well represent the toll house for the bridge crossing.

The H. F. Walling map of 1863 (Figure 9) continues to depict no evidence of improvements or development within the APE but it does show the "Half Way House," a tavern standing at the intersection of Washington Avenue and the old track of the Paterson-Hamburg Turnpike which, since 1851, had been incorporated into the improved and reworked alignment of another toll road entity, the Paterson and New York Plank Road. The "Halfway House" stood at the western end of the linear community along Washington Avenue which, by 1876 A. H. walker Atlas (Figure 10), had become known as "Washington Grove."

Over the course of the nineteenth-century, land reclamation efforts in the meadowlands intensified as an increasingly large number of property owners began to ditch and drain their meadows. The most extensive of these were the marsh drainage efforts undertaken by the Swartwout family in the years between 1813 and 1850 and then in the late 1860's, by the Iron Dike and Land Reclamation Company. These projects attempted to drain thousands of acres of Hudson County meadows south of Saw Mill Creek (Wright 1988 and Hunter Research, Inc. 2009). Most nineteenth century Meadowlands land reclamation projects involved smaller marsh holdings more ambitious plans were again being considered by the 1890's. The 1884 CC Vermeule Map of the Counties of Bergen, Hudson and Essex with portions of Passaic and Union (Figure 11) continues to depict the APE as salt marsh lands with little development in the area.



Map Reference:1812 William Watson, Map of the State of New Jersey

Legend

Radio Tower Site

3,750 1,875 0 3,750 7,500 11,250 15,000 Feet

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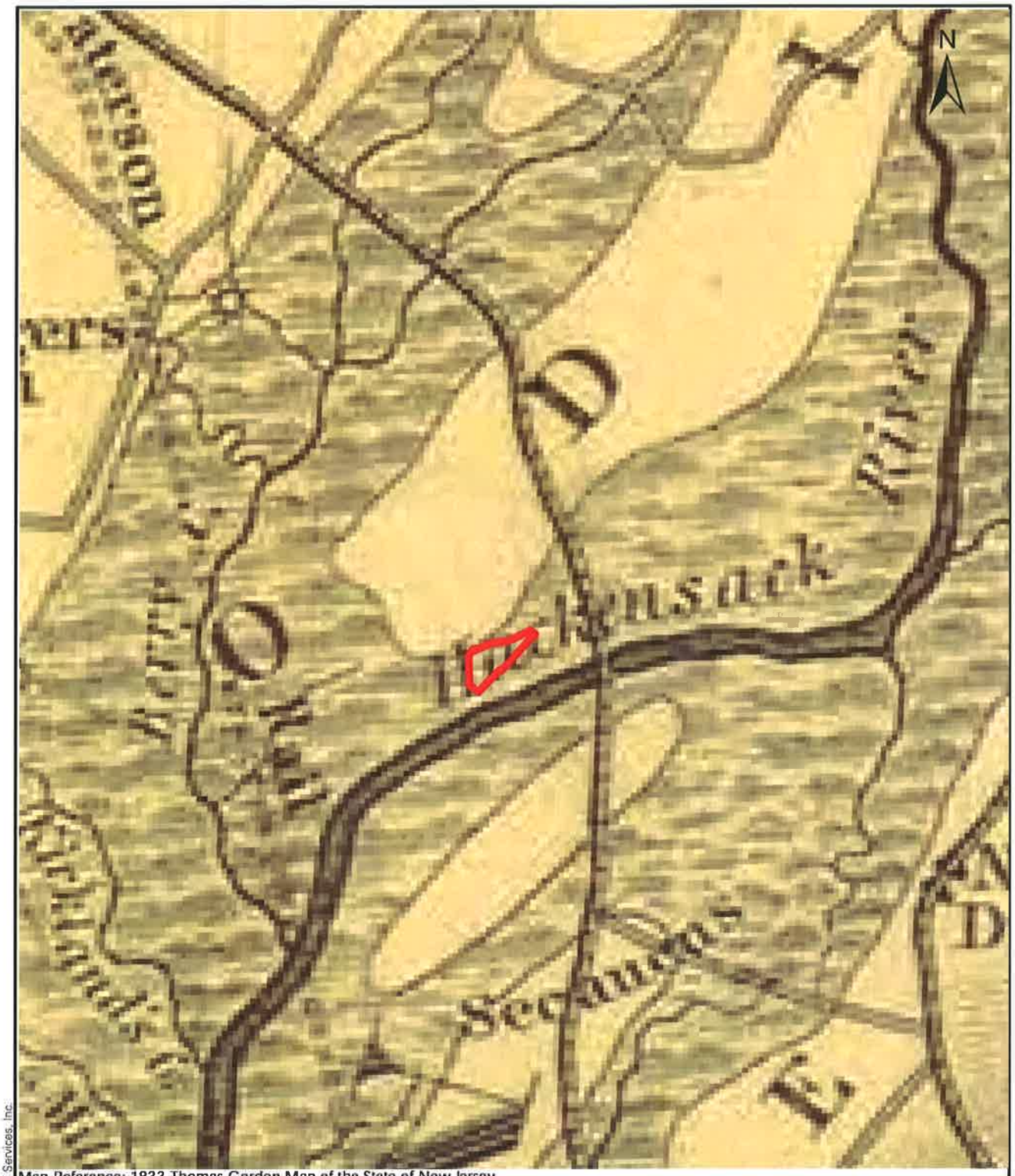
1812 WATSON MAP
AMERICAN DREAM MEADOWLANDS

EAST RUTHERFORD

BERGEN COUNTY NEW JERSEY

Project No.	Date	Scale	Figure No.
100234201	8/25/2011	See Above	6

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Map Reference: 1833 Thomas Gordon Map of the State of New Jersey.

Legend

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1,250 0 1,250 2,500 3,750 5,000

Feet

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1833 THOMAS GORDON MAP
AMERICAN DREAM MEADOWLANDS

EAST RUTHERFORD

BERGEN COUNTY NEW JERSEY

Project No.	Date	Scale	Figure No.
100234201	8/25/2011	See Above	7



Map Reference:1839 United States Coast Survey, Hackensack to Newark and Elizabethtown.

Legend

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Feet

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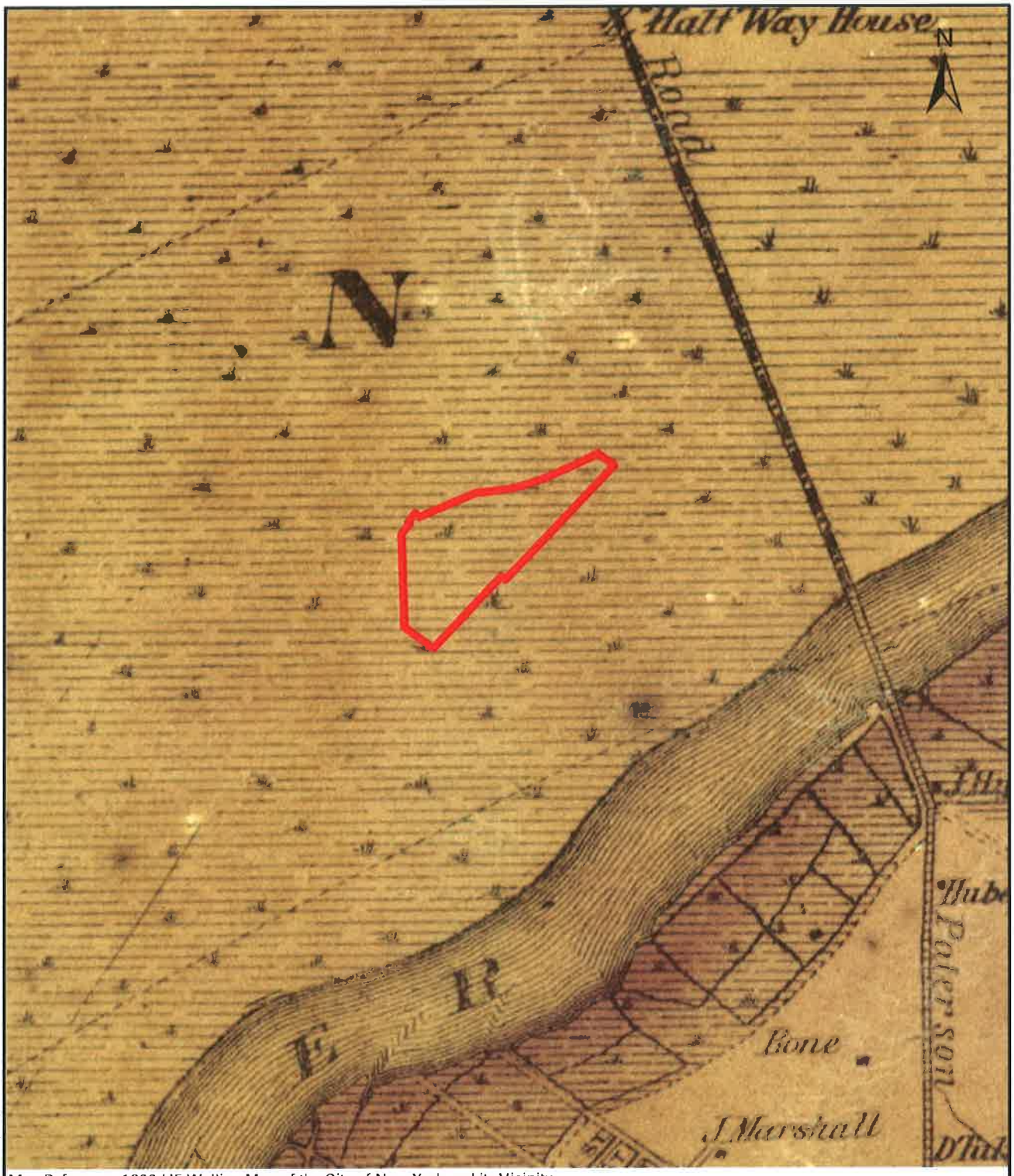
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1839 US COAST SURVEY MAP
AMERICAN DREAM MEADOWLANDS

EAST RUTHERFORD

BERGEN COUNTY NEW JERSEY

Project No.	Date	Scale	Figure No.
100234201	8/25/2011	See Above	8



Map Reference: 1863 HF Walling Map of the City of New York and its Vicinity

Legend

Radio Tower Site

500250 0 500 1,000 1,500 2,000

Feet

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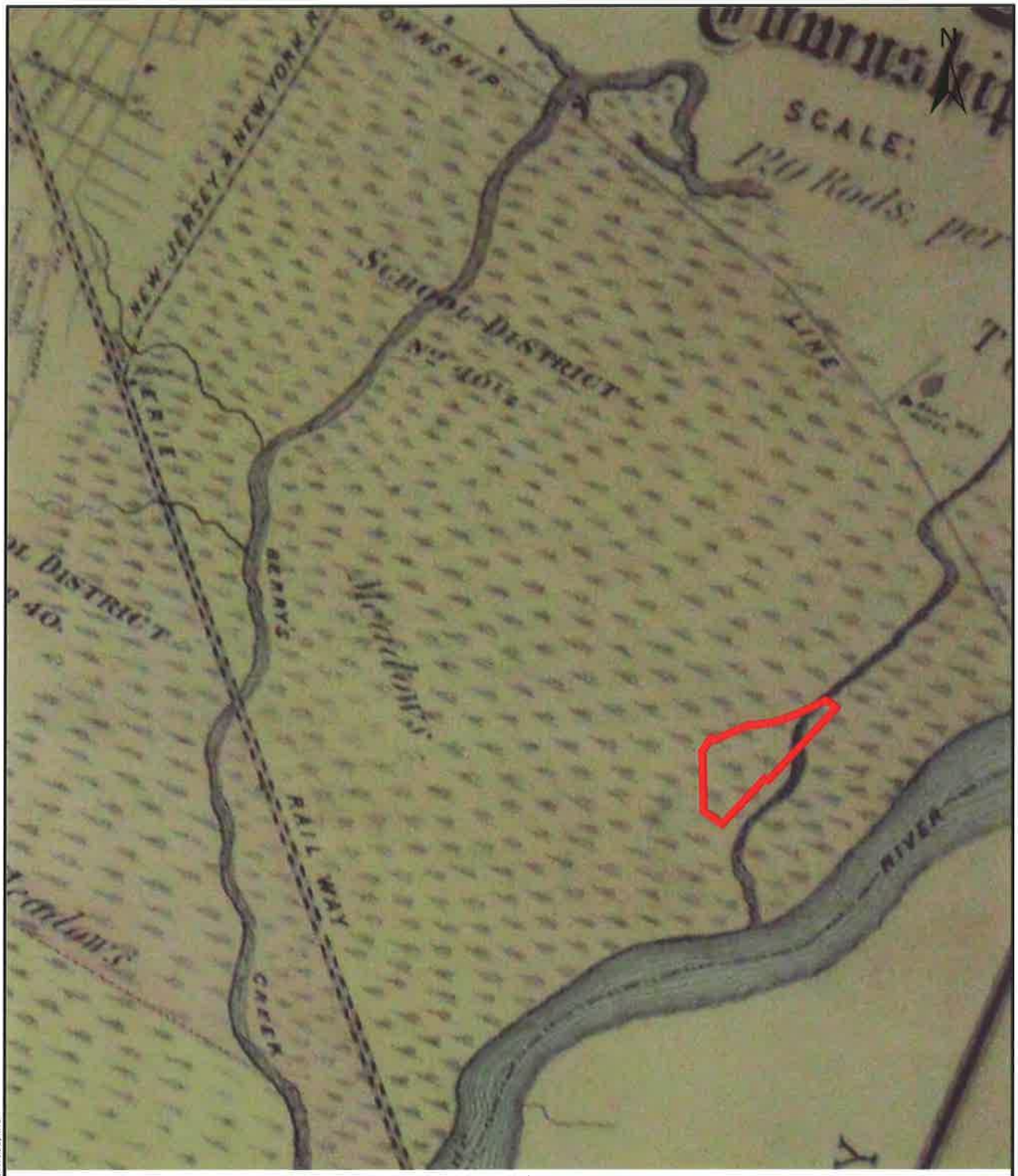
1863 HF WALLING MAP
AMERICAN DREAM MEADOWLANDS

EAST RUTHERFORD

BERGEN COUNTY NEW JERSEY

Project No.	Date	Scale	Figure No.
100234201	8/25/2011	See Above	9

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Map Reference: 1876 AH Walker Atlas of Bergen Couonty New Jersey, Union Township.

Legend

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1,000 500 0 1,000 2,000 3,000 4,000 Feet

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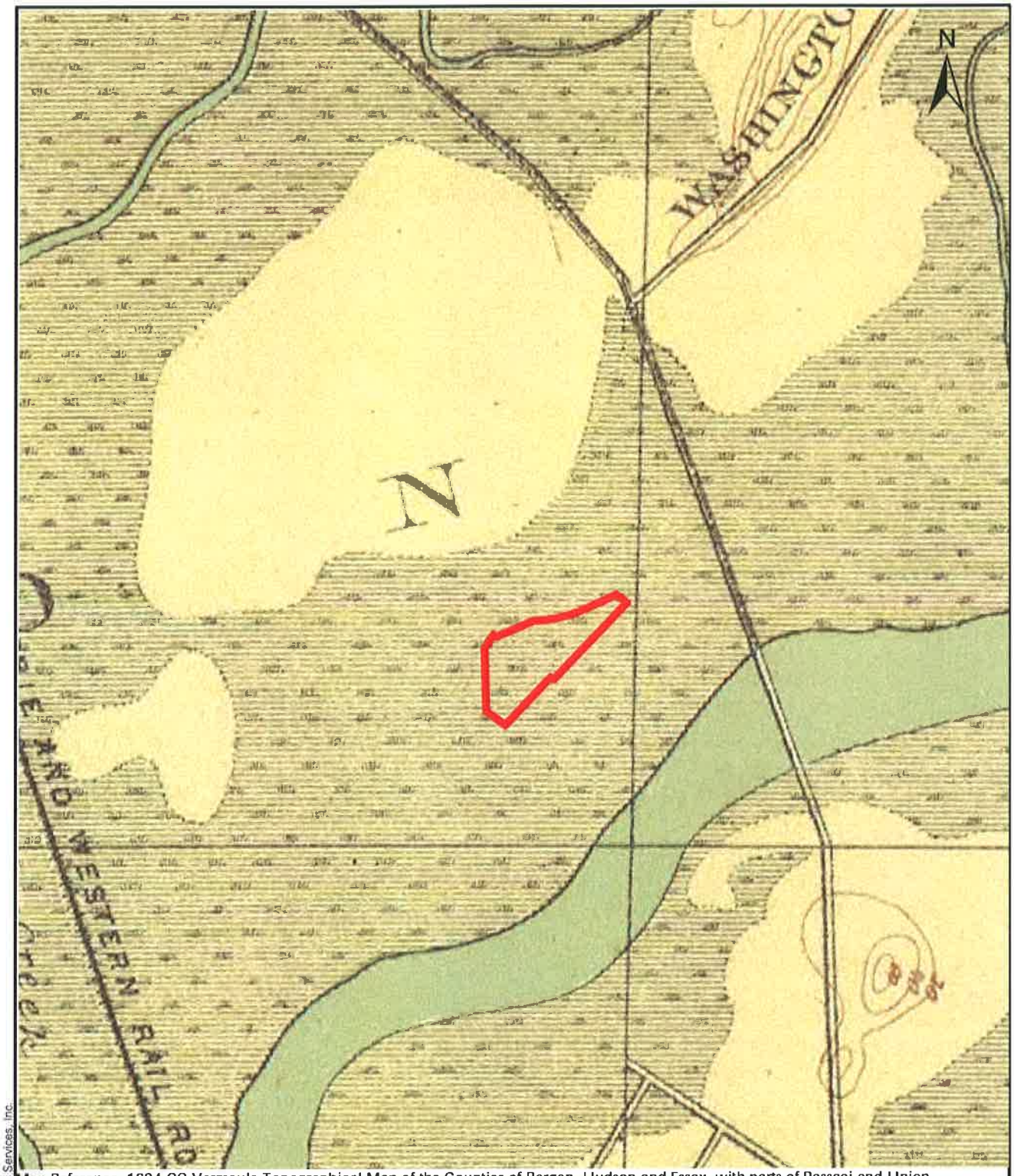
1876 WALKER ATLAS
AMERICAN DREAM MEADOWLANDS

EAST RUTHERFORD

BERGEN COUNTY NEW JERSEY

Project No.	Date	Scale	Figure No.
100234201	8/25/2011	See Above	10

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Map Reference: 1884 CC Vermeule Topographical Map of the Counties of Bergen, Hudson and Essex, with parts of Passaci and Union.

Legend

Radio Tower Site

750375 0 750 1,500 2,250 3,000 Feet

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1884 CC VERMULE MAP
AMERICAN DREAM MEADOWLANDS

EAST RUTHERFORD

BERGEN COUNTY NEW JERSEY

Project No.	Date	Scale	Figure No.
100234201	8/25/2011	See Above	11

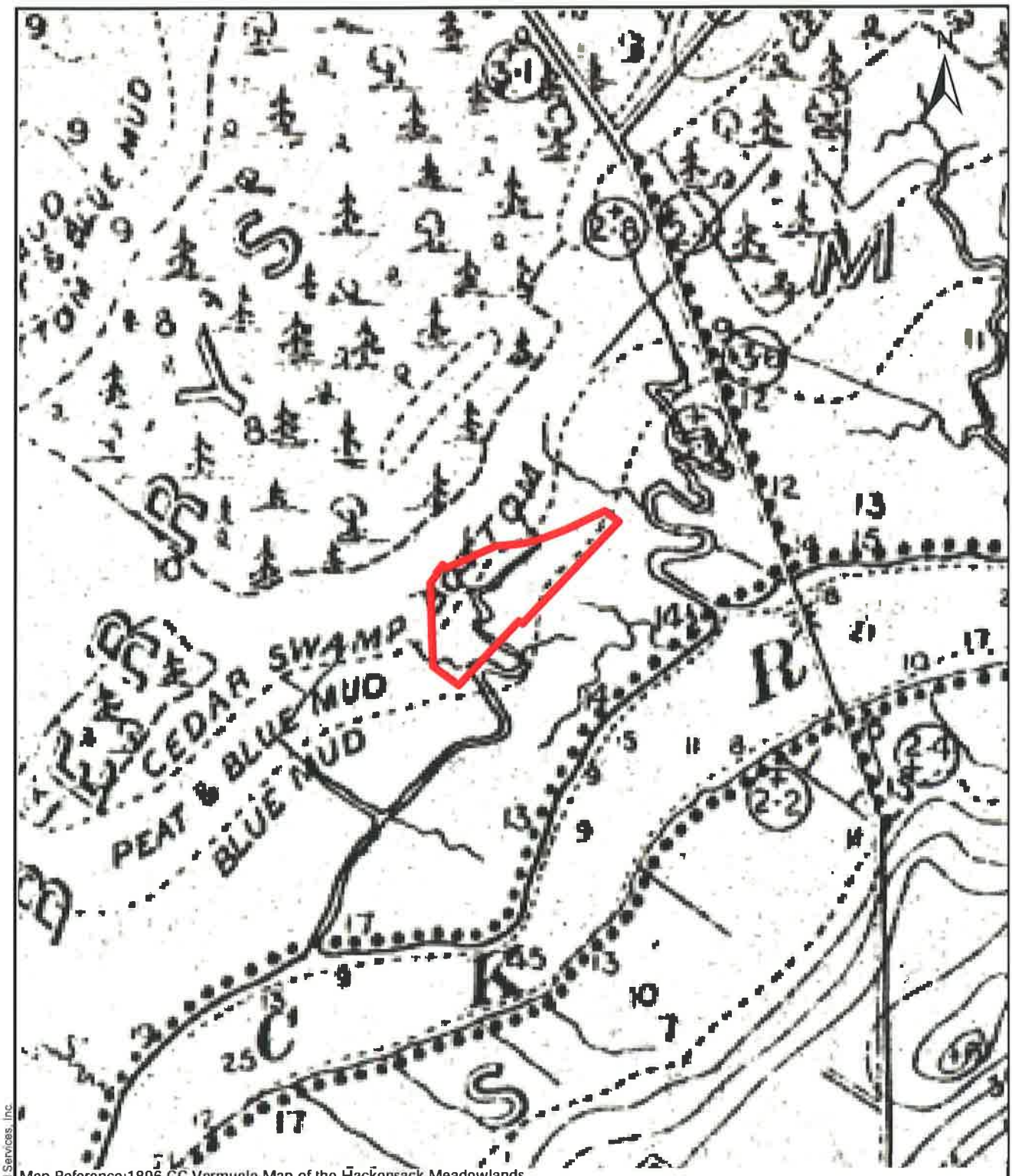
In the Annual Report of the State Geologist for 1896, Cornelius C. Vermeule of the New Jersey State Geologic Survey outlined a comprehensive system for the drainage of the entire Hackensack Meadowlands. Vermeule believed that the undertaking was beyond the ability of private companies to finance and implement and recommended the establishment of a pubic commission to oversee the work. Although Vermeule's plan would not be implemented, it represented one of the most significant turning points in the history of the Meadowlands as, for the first time, large scale Meadowlands drainage efforts were recommended not for the creation of new agricultural lands but rather for the development of new industrial tracts and, for the eradication of mosquitoes (Vermuele 1896).

Vermeule's plan predicted that the economic future of the marshes lay in their advantages to industry. If they could be drained, the marshes offered vast expanses of readily developable lands that were situated along existing railroads, highways and navigable waterways. These lands were located in close proximity to major east coast population centers, but were isolated enough to allow factories to be developed without adversely impacting existing residential communities and commercial centers. Years before the eventual creation of New Jersey's county mosquito commissions and the Civilian Conservation Corps (CCC), Vermeule also astutely predicted that truly comprehensive drainage activities could only be successfully implemented by government and not by private concerns (Vermuele 1896).

A large scale topographic map (Figure 12) that documented existing conditions throughout the Meadowlands accompanied the report. This map described the soils within the APE as being "Peat & Blue Mud" approximately 10 feet deep and cedar swamp bottom approximately 9 feet deep. Vermeule recommended that a "dyke", represented on the map by a series of dots plotted along the Hackensack River, be raised along the northwest bank of the Hackensack River crossing the mouth of the unnamed creek shown in the APE. He further recommends a "dyke" on the Banks of Berry's Creek to the south. His map shows that no "dykes" or tide gates or other significant drainage structures existed in the APE at that time.

Vermeule's drainage proposals were never implemented and the area in the vicinity of the unnamed creek remained undiked and opened to the tides throughout the closing years of the nineteenth century. The APE's marshlands appear on the Paterson U.S.G.S. Map Quadrangle of 1900 (Figure 13) and does not depict any evidence of any improvements within the APE.

Mosquito control in New Jersey began in earnest in 1906 when the New Jersey Legislature enacted a law empowering the New Jersey Agricultural Experiment Station to identify and drain mosquito infested marshes. The first public mosquito extermination efforts in the Meadowlands vicinity began later that year. The governments of Jersey City and Hudson County both initiated early programs aimed at draining the worst mosquito breeding grounds. However, these efforts were largely unsuccessful due to their limited nature and the lack of coordination with surrounding counties and municipalities. In 1912, The New Jersey State Legislature passed the "Mitchell Act" which enabled the formation of County Mosquito Commissions, laying the groundwork for a comprehensive and coordinated mosquito control



Map Reference:1896 CC Vermuele Map of the Hackensack Meadowlands.

Legend

Radio Tower Site

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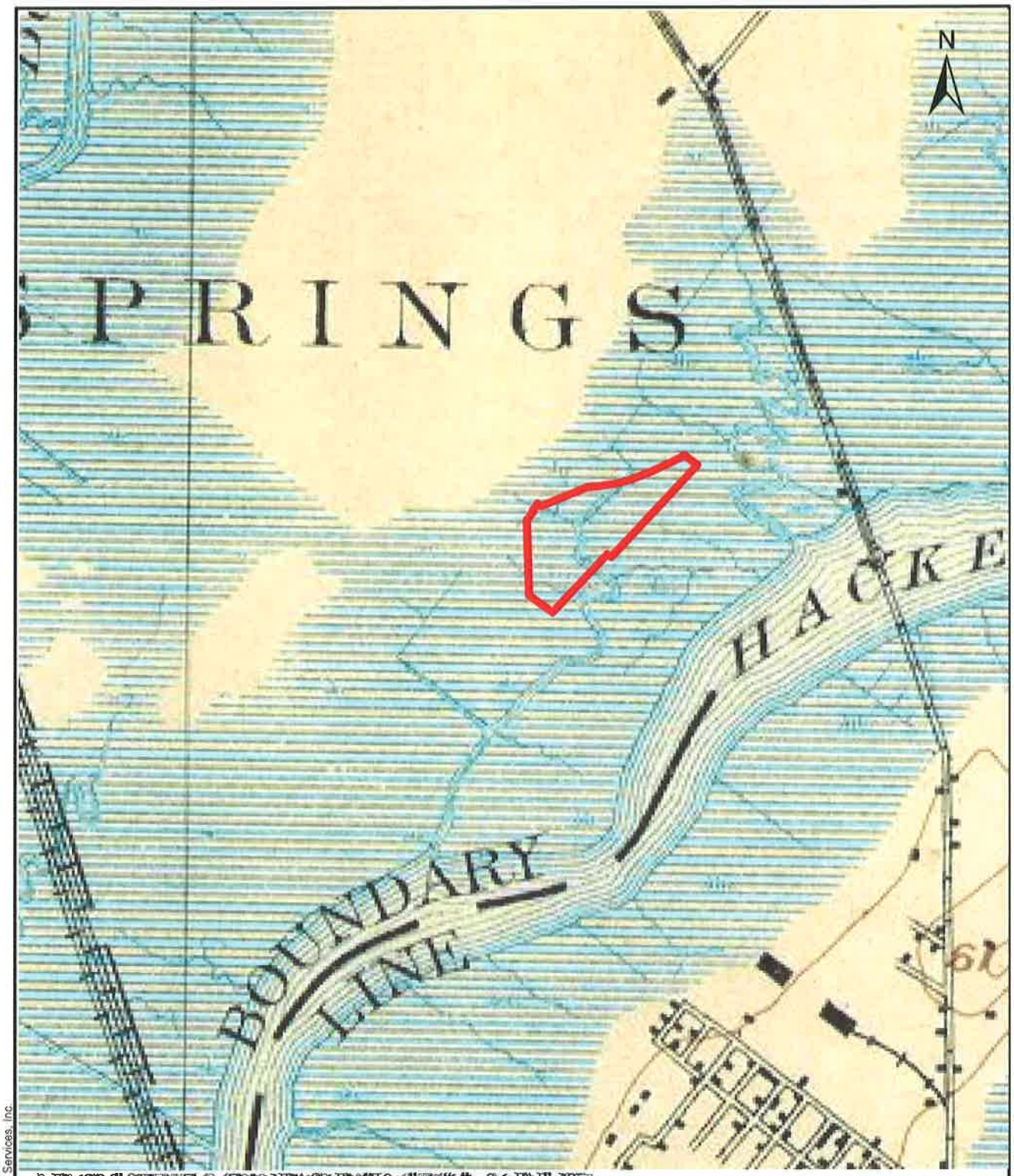
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1896 CC VERMEULE MAP
AMERICAN DREAM MEADOWLANDS
EAST RUTHERFORD
BERGEN COUNTY NEW JERSEY

Project No.	Date	Scale	Figure No.
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Legend

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500 250 0 500 1,000 1,500 2,000

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1900 USGS TOPOGRAPHIC MAP
AMERICAN DREAM MEADOWLANDS

EAST RUTHERFORD

BERGEN COUNTY NEW JERSEY

Project No.	Date	Scale	Figure No.
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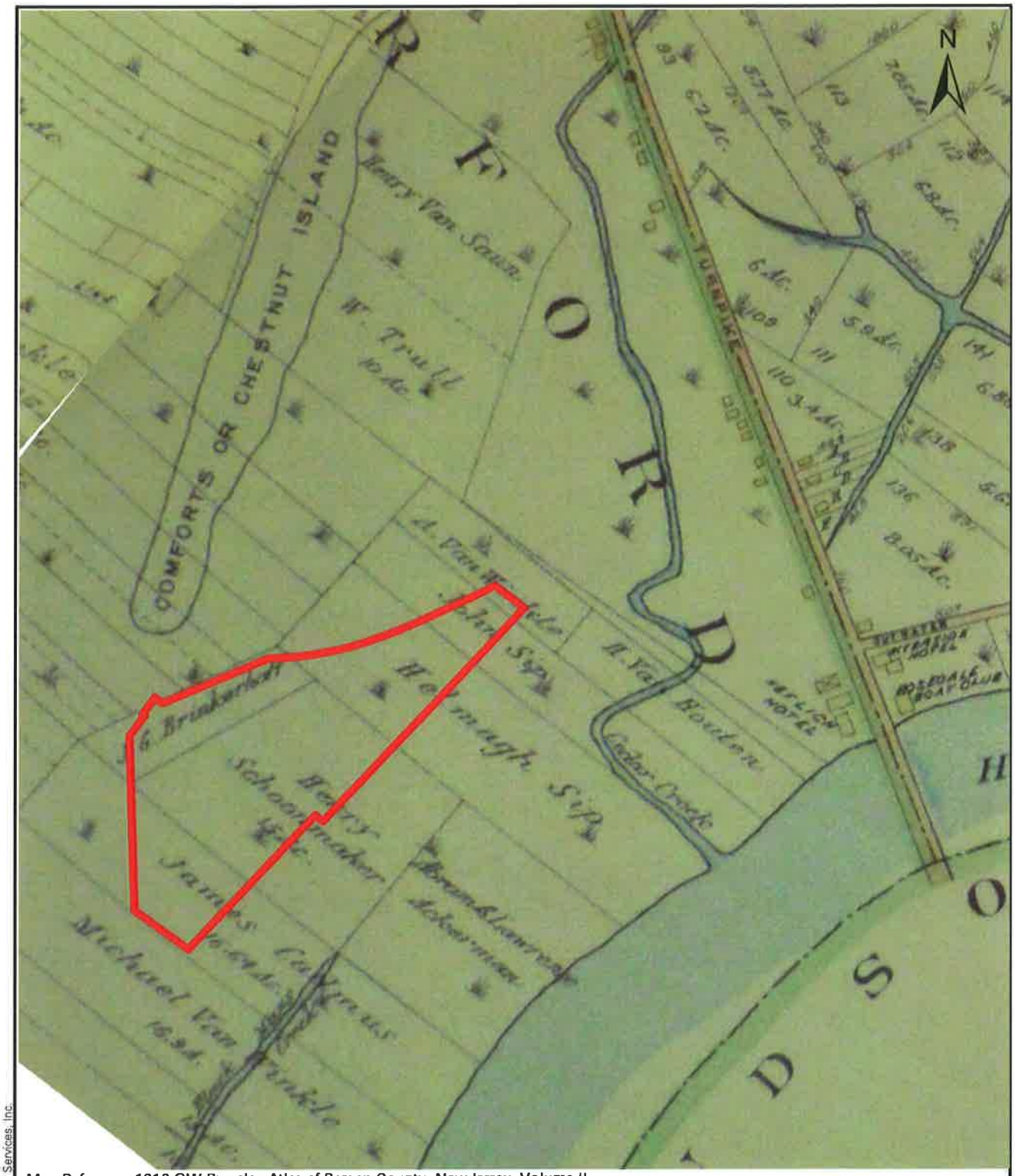
effort that would extend across the entire state. Bergen County's Mosquito Control Commission was established in 1913 (Hunter Research, Inc. 2009).

The Bromley Atlas of Bergen County of 1913 (Figure 14) depicts the APE as it appeared immediately after the passage of the "Mitchell Act" and just before the commencement of the ditching, diking and drainage work of the Bergen County Mosquito Commission. The Bergen County Mosquito Commission did not begin field activities until 1915 (Wieczorek and Tvaryanas 2011).

The 1913 Bromley Atlas map (Figure 15) indicates that the APE had been divided into numerous small tracts of marshland ranging in size from between four and sixteen acres. To the west of the APE, the map shows the development of a small node of river front activity on the east and west sides of Paterson Plank Road, near its crossing of the Hackensack River. In addition to the earlier hotels focused on the Hackensack River Bridge, the waterfront activity included the construction of a truncated access road called Outwater Place and the Rosedale Boat Club. A string of small residences had also begun to develop, extending northward along both sides of Paterson Plank Road.

The work of the Bergen County Mosquito Commission progressed relatively slowly. The earliest Mosquito Commission era tide gates were erected on Stump Creek (1918), Saw Mill Creek (1919), Eckels Creek (1919) and Craig Creek (1920) (New Jersey Mosquito Extermination Association 1919 and 1920). By 1925, the Bergen County Mosquito Extermination Commission had constructed 7 major tide-gates, each with overall bulkheads 100 foot or more in length, 9 smaller ones and 19,600 feet of dike (Wieczorek and Tvaryanas 2011).

Along the largest of Bergen County's creeks, many generations of tide gates were constructed side by side with the alignment of the creek being shifted slightly after the construction of each new piece of infrastructure. This pattern of tide gates was especially prominent in Bergen County where wooden tide gates were relied on more than in other locations. Jesse B. Leslie, the Superintendant of the Bergen County Mosquito Extermination Commission noted in an essay on the use of tide gates written in 1925 that "in mosquito control operations, the limited amount of money available precludes the use of any elaborate concrete seawalls or heavy dams. Improvements must be low cost "(New Jersey Mosquito Extermination Association 1925) and recommended "the closed type" of sluice for installations on a large stream or close to a river as they weighed more and were stronger and thus would stand up better under the great wear and tear of heavy tides and with less maintenance than any other. "Open type" sluices were preferred for smaller drainages in protected areas as they were more economical to construct (Wieczorek and Tvaryanas 2011).



Map Reference:1913 GW Bromley Atlas of Bergen County, New Jersey, Volume II.

Legend

Radio Tower Site

250125 0 250 500 750 1,000

Feet

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1913 GW BROMLEY ATLAS
AMERICAN DREAM MEADOWLANDS

EAST RUTHERFORD

BERGEN COUNTY NEW JERSEY

Project No.	Date	Scale	Figure No.
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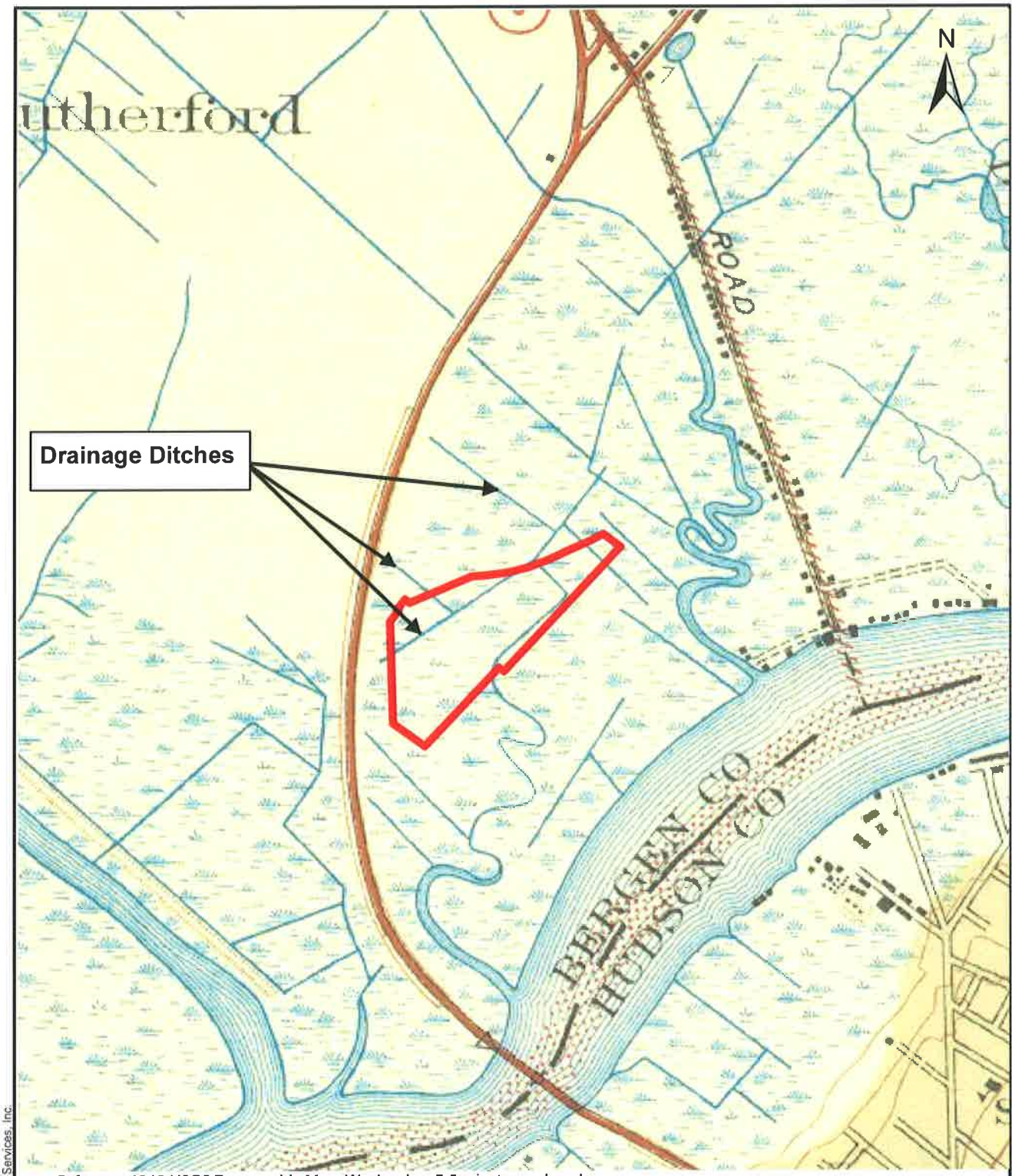
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The tide gate designs developed by Bergen County seem to have become something of the industry standard for wooden tide gates in New Jersey and the surrounding areas. Tide gates were referred to as Bergen gates or "Bergen-Built Tide Gates." By 1927, however, Hudson County had already begun installing "Calco" (California Corrugated Culvert Company) gates which were metal pipe culverts fitted with simple flapper valves. Bergen County continued, however, to rely extensively on wooden gates well into the 1950's (Wieczorek and Tvaryanas 2011).

The U.S.G.S. Map of 1940 (Figure 15) depicts the straight ditching in the APE used to control mosquitos in the Bergen County area. No dikes or gate locations are depicted on the map. Route 3 is depicted on the map to the west and north of the APE. An aerial photograph taken in 1951 (Figure 16) from the New Jersey Department of Environmental Protection, Tidelands shows the drainage features constructed in the APE. Route 3 has been rerouted to the south and Route 120 is now the road adjacent to the west and north of the APE. For the first time development is seen in the APE. The radio transmitter building is now evident on the aerial photograph in the south western corner of the APE. Two radio towers are seen to the east and of the transmitter building. The transmitter building and radio towers were reportedly constructed in 1941 (Fybush 2011). A creek is observed on the photo as crossing between the two towers. An unpaved roadway goes to the towers and is most likely a service road. At this time the radio station was owned by MGM Movie Studios.

The 1961 Aerial Photograph (Figure 17) is similar to the 1951 Aerial Photograph but evidence of filling the area of the APE can be seen on this aerial. Some of the drainage ditches in the APE have been covered over or rerouted. Some, mostly in the north and east, have been increased in size to most likely compensate for the loss of some of the mosquito ditches. No tide gates can be seen on the aerial.

The 1967 Historic Fill Map (Figure 18) shows that the majority of the APE was filled in for the construction of Route 120 East. The exception is the east end which is labeled Turnpike Marsh. The 1972 Aerial Photograph (Figure 19) depicts the filling of the salt marsh within the APE. In addition, the New Jersey Turnpike has been constructed and now runs to the south and east of the APE. The original two radio towers are no longer visible, but three new radio towers can be seen to the north of the original towers. A new unpaved road is seen extending from the transmitter building to the new radio towers. What is left of the old unpaved road to the original radio towers is still visible. More access roads have been created for Routes 3 and 120. The location of Resource No. 35 – tide gate (Hunter Research 2009) is most likely in the vicinity of the southwestern boundary of the APE, as marked area on the aerial photograph.



Map Reference:1940 USGS Topographic Map, Weehawken 7.5 minute quadrangle.

Legend

Radio Tower Site

500 250 0 500 1,000 1,500 2,000

Feet

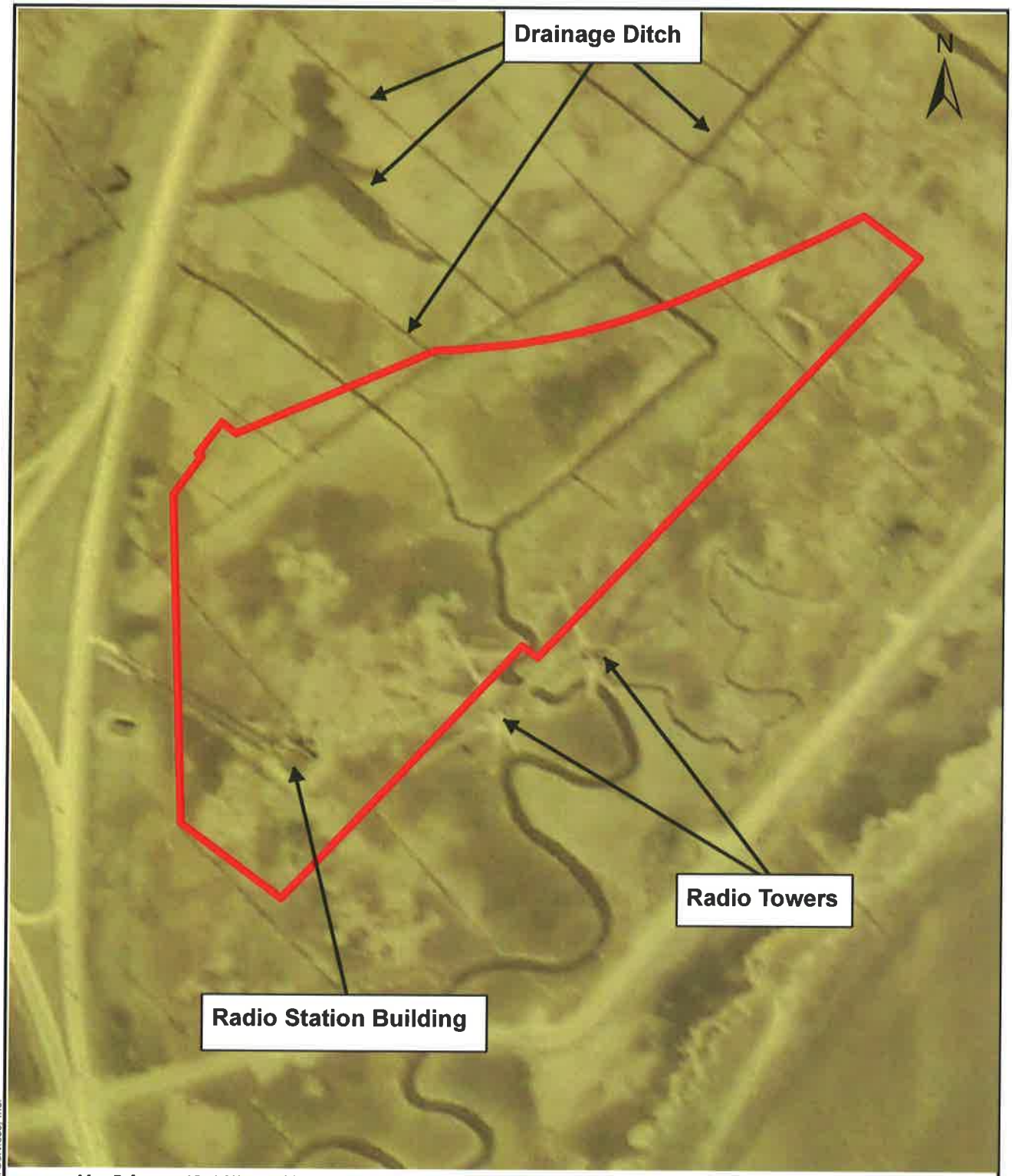
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1940 USGS MAP
AMERICAN DREAM MEADOWLANDS
EAST RUTHERFORD

BERGEN COUNTY NEW JERSEY

Project No.	Date	Scale	Figure No.
100234201	8/25/2011	See Above	15



Map Reference:1951 NJDEP Tidelands Aerial Photograph.

Legend

Radio Tower Site

150 75 0 150 300 450 600

Feet

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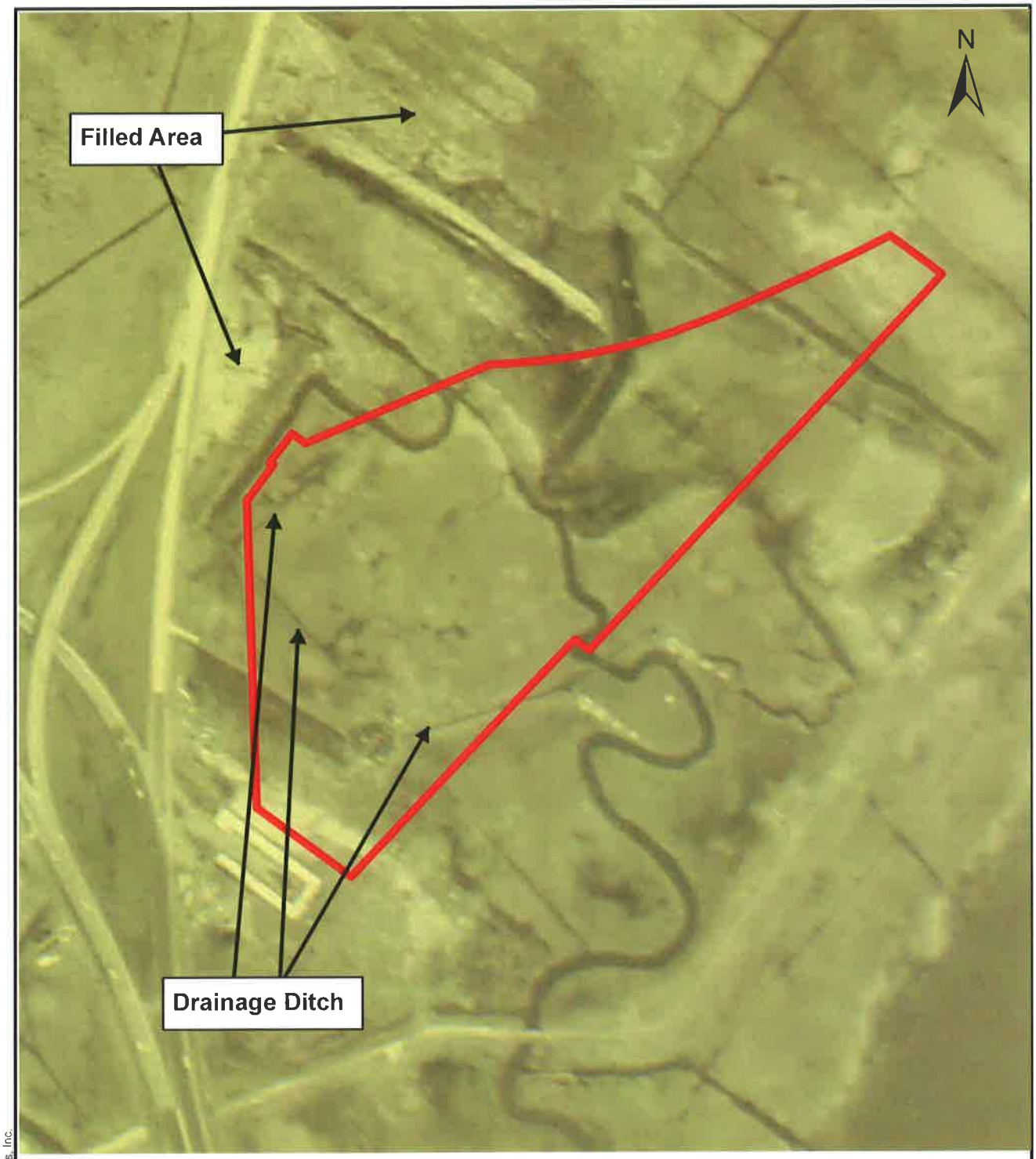
1951 AERIAL PHOTOGRAPH
AMERICAN DREAM MEADOWLANDS

EAST RUTHERFORD

BERGEN COUNTY NEW JERSEY

Project No.	Date	Scale	Figure No.
100234201	8/25/2011	See Above	16

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Map Reference: 1961 NJDEP Tidelands Aerial Photograph.

Legend

Radio Tower Site

150 75 0 150 300 450 600 Feet

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1961 AERIAL PHOTOGRAPH
AMERICAN DREAM MEADOWLANDS

EAST RUTHERFORD
BERGEN COUNTY NEW JERSEY

Project No.	Date	Scale	Figure No.
100234	8/25/2011	See Above	17

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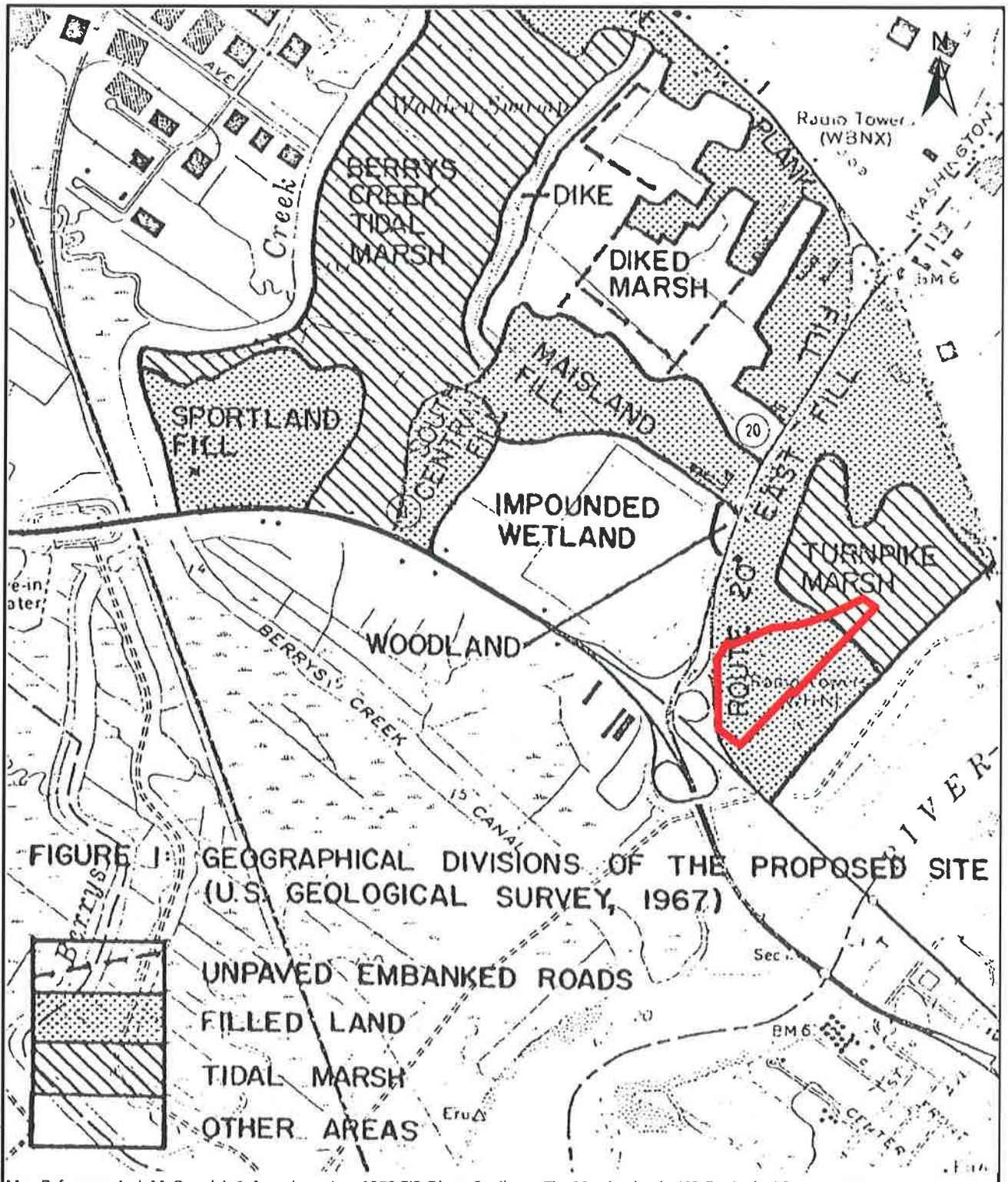


FIGURE 1: GEOGRAPHICAL DIVISIONS OF THE PROPOSED SITE (U.S. GEOLOGICAL SURVEY, 1967)

Map Reference: Jack McCormick & Associates, Inc. 1972 EIS Giants Stadium - The Meadowlands, US Geological Survey 1967.

Legend

Radio Tower Site

750 375 0 750 1,500 2,250 3,000

Feet

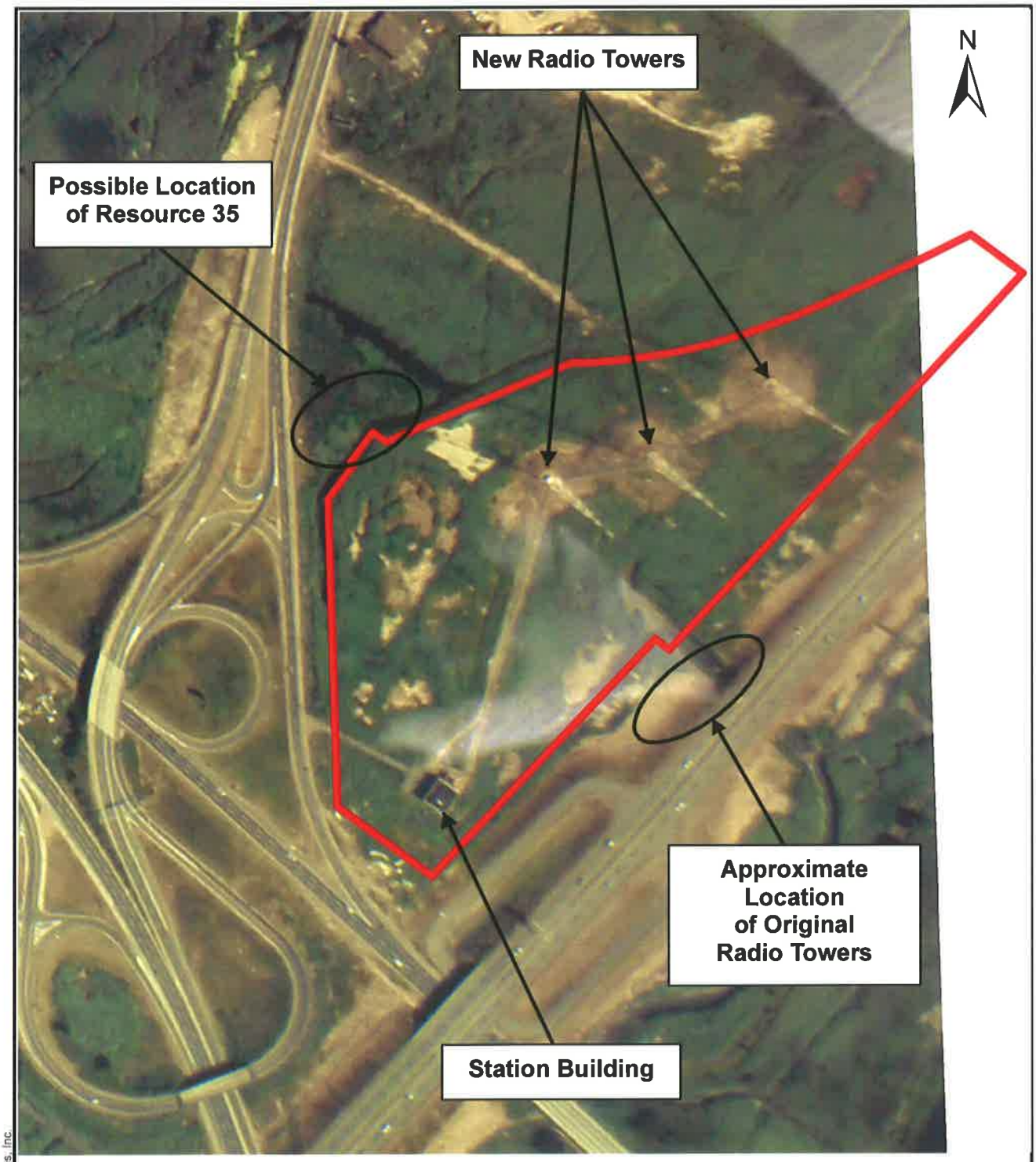
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1967 HISTORIC FILL MAP
AMERICAN DREAM MEADOWLANDS
EAST RUTHERFORD

BERGEN COUNTY NEW JERSEY

Project No.	Date	Scale	Figure No.
100234201	8/25/2011	See Above	18



Map Reference: 1972 NJDEP Tidelands Aerial Photograph.

Legend

Radio Tower Site

150 75 0 150 300 450 600

Feet

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1972 AERIAL PHOTOGRAPH
AMERICAN DREAM MEADOWLANDS
EAST RUTHERFORD

BERGEN COUNTY NEW JERSEY

Project No.	Date	Scale	Figure No.
100234201	8/25/2011	See Above	19

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The 1995 Aerial Photograph (Figure 20) depicts the APE as generally seen today. The aerial also depicts ponded water along the western side of the APE. A new access road is seen in the western portion of the site and connects to the unpaved road going to the three radio towers. Much of the rest of the site looks as it does today.

The 2009 NJDEP Historic Fill Map (Figure 21) shows that the majority of the APE has been filled in the past except for the eastern end of the APE. Much of the area surrounding the APE has also been filled. The radio tower transmission operation on this property was moved to another location due to interference issues related to the redevelopment of the Arena Site.

4.4 A Brief history of the Radio Station

WHN began operations on March 18, 1922, with 15 watts from a building in Ridgewood, Queens. It moved to Manhattan in 1923 when it was bought by the Loew's organization and was settling in as a powerful occupant of the 1010 spot on the dial, eventually ramping up to 5000 watts during the day, 1000 watts during the night from a site in Astoria, Queens (Fybush 2011).

With the National American Radio Broadcasting Agreement (NARBA) frequency shuffle of 1941, WHN moved to 1050, and a few months later completed construction on the transmitter building on the Radio Tower site in East Rutherford, New Jersey (Fybush 2011). At the time this was a rural stretch of Route 3 a few miles west of the Lincoln Tunnel.

In 1948, Loew's changed the calls of 1050 to WMGM, cross-promoting the station with its MGM movie studio. Within a few years 1050 would become one of the city's first top-40 stations. In 1962 Storer bought the station and returned to the WHN call letters and a music format. By the seventies the music format switched to country music. Emmis bought the station in 1986 and the country music format came to an end in 1987. With the end of the country music format, America's first all-sports station, WFAN, was on the air at 1050 (Fybush 2011).

WFAN was a moderate success on 1050, but operating on a Canadian/Mexican clear channel meant that at sunset, the signal from East Rutherford had to protect other 1050 operations in Toronto and Monterrey, as well as adjacent-channel KYW (1060) in Philadelphia (Fybush). Therefore, the 1050 signal missed much of the growing audience in New Jersey and upstate New York. Emmis bought out most of NBC's radio operations in the summer of 1988, and on October 7 of that same year WFAN moved down the dial to the mammoth 660 signal that had been WNBC.

Station 1050 went into a bit of a holding pattern at that point, handing off to Spanish Broadcasting Services under the new calls WUKQ. SBS already owned WSKQ (620 Newark), and the regulations then allowed only one station per owner on each band. While SBS



Map Reference:1995 Aerial Photograph, provided by EDR.

Legend

Radio Tower Site

150 75 0 150 300 450 600

Feet

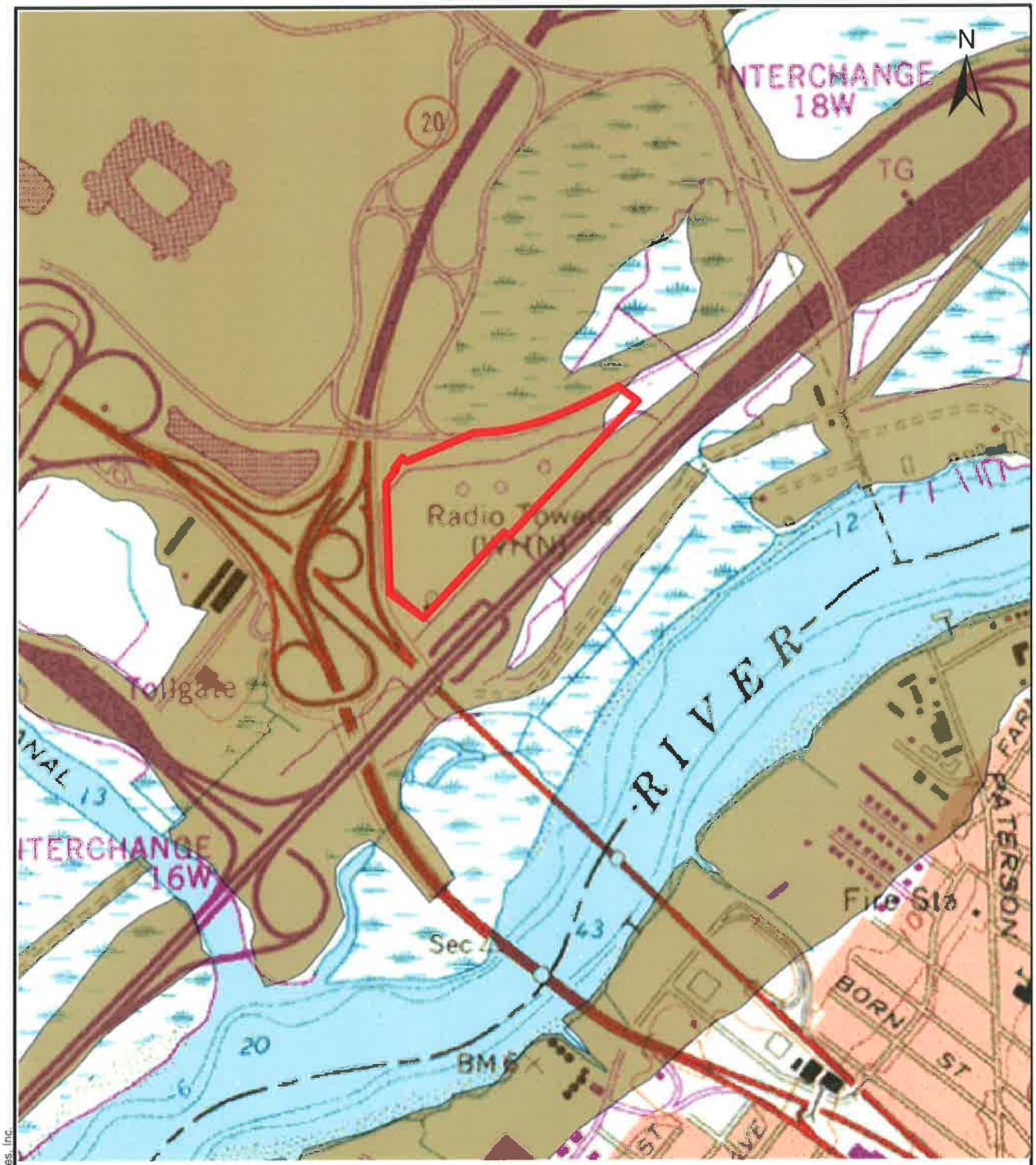
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1995 AERIAL PHOTOGRAPH
AMERICAN DREAM MEADOWLANDS
EAST RUTHERFORD

BERGEN COUNTY NEW JERSEY

Project No.	Date	Scale	Figure No.
100234201	8/25/2011	See Above	20



Map Reference: 2009 NJDEP & NJCS Historic Fill Map Statewide, USGS Topographic Map 7.5' Weehawken Quadrangle.

Legend

- Radio Tower Site
- Historic Fill

500 250 0 500 1,000 1,500 2,000 Feet

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2009 HISTORIC FILL MAP
AMERICAN DREAM MEADOWLANDS
EAST RUTHERFORD
BERGEN COUNTY NEW JERSEY

Project No.	Date	Scale	Figure No.
100234201	8/25/2011	See Above	21

negotiated a trade of 1050 for an FM facility, it was allowed to operate WUKQ as a noncommercial signal. In February 1989, SBS traded 1050 to the Forward Association for WEVD-FM (97.9) (Fybush 2011). The FM signal became WSKQ-FM, and WEVD's mixture of ethnic programming and talk moved to 1050.

During the nineties, WEVD evolved into something of an alternative talk station for New York, with hosts like Alan Colmes providing points of view that weren't often heard on WABC or WOR. In 2001, the Forward Association reached a $78 million deal to sell 1050 to Disney. On August 2001, Colmes signed off the talk programming and 1050 flipped to ESPN Radio. The WEPN calls arrived on April 2003, not long after ABC had converted its local marketing agreement of the station into an outright purchase. WEPN was operated as a sister station to WABC, sharing studio space at WABC's Two Penn Plaza facility (Fybush 2011). The radio tower transmission operation was moved to another site in North Bergen due to interference issues related to the redevelopment of the Arena Site.

4.5 Geotechnical Investigation

The geotechnical field investigation on the Radio Tower Site consisted of performing 5 drilled borings, identified as B-1 through B-5, and 3 cone probe borings, identified as CPT-1 through CPT-3. The borings were performed at select locations within the footprint of the proposed amusement park and waterpark. The individual drilled boring and cone probe boring logs and location map are presented in Appendix B.

The drilled borings were advanced to depths ranging between 68 feet and 80 feet below existing grade. Soil samples were typically taken continuously from the ground surface to depths ranging between 12 feet and 16 feet, and at 5 feet intervals thereafter. The cone probe borings ranged in depth from 55 feet to 65 feet below existing grade.

The site subsurface conditions generally consist of fill materials underlain by organic silt and peat (marsh deposits), varved clay, glacial till, and shale bedrock. Details of the subsurface conditions encountered in the drilled borings are identified on the logs included in Appendix B. The following paragraphs provide a detailed description of the observed subsurface strata and groundwater conditions

A 4 foot to 17-foot-thick layer of fill consisting primarily of brown to black sand with varying amounts of gravel, silt, clay, peat, roots, and debris was encountered in all five borings. The fill layer was found to be loose to medium dense. Refusal of the split spoon was encountered on an obstruction in boring B3.

A layer of marsh deposits consisting of black peat (meadowmat) and gray organic silt was encountered beneath the fill layer in thicknesses typically ranging from 5.5 feet to 8 feet. This

stratum is typically very soft to medium stiff. A 1.5-foot thick layer of gray silty sand was encountered beneath the marsh deposits in boring B-1.

A stratum of brown varved clay and silt (identified herein as "varved clay") was encountered beneath the marsh deposits. The thickness of this stratum ranged from approximately 32 feet to 45 feet. The upper approximately 5 feet to 10 feet of this stratum was observed to be stiff to very stiff. The remaining lower portion of this stratum was very soft.

Glacial till consisting of reddish brown sand with varying proportions of silt, clay, and gravel was typically encountered beneath the varved clay. This stratum varied in thickness from approximately 10 feet to 19 feet, and is typically medium dense to very dense.

Shale rock was encountered beneath the glacial till in all of the drilled borings. In four of the borings, the upper 5 feet to 10 feet of the shale rock was observed to be decomposed or weathered. This portion of the rock was observed to be very dense. The top of shale rock was inferred by refusal of advancement of the drilling equipment to be at depths ranging from 68 feet to 80 feet.

Groundwater levels were observed and recorded in all five borings when first encountered and at the completion of drilling. Groundwater was encountered in the borings at approximate depths ranging from 4 feet to 10 feet, or from approximate el 0 to el 4. A temporary groundwater observation well was installed in boring B-3. Groundwater levels in the temporary well were observed to be at approximate el 4.5.

5.0 ARCHAEOLOGICAL SURVEY

The goal of the Phase IA Cultural Resource Survey was to locate any known and/or undocumented potentially significant prehistoric or historic archaeological resources in the APE. Results of background research and a visual inspection of the APE were used to identify the presence or absence of significant archaeological resources.

5.1 Criteria for Assessment

The assessment of archaeological resource sensitivity is based on:

- The potential for archaeological sites to exist in a given area; and
- The sensitivity of that area to contain intact cultural resources.

Sensitivity is derived by measuring the potential presence of archaeological resources against known modifications of naturally occurring landscapes that may have destroyed the archaeological value of those resources. In areas where no sites have been documented the potential presence of prehistoric resources is based primarily on environmental setting such as topography, proximity to water and other resources and soil quality. The potential for historic resources is usually determined through the analysis of historic sources, especially cartographic materials. The presence of roads, canals or railroads documented on historic maps usually increases the potential for historic sites.

5.2 Evaluation of Potential Sensitivity

Past cultural resources studies conducted in the vicinity of the APE (The Louis Berger Group 1995; HPI 1997; NEA 2001; Langan 2005; Schuldenrein 2009) have characterized the APE as having minimal, if any, archaeological sensitivity for the possible presence of prehistoric archaeological resources. However, past studies by Hunter Research (2009) also identified the possible presence of a historic tide gate feature and drainage ditches associated with the historic drainage systems employed to drain the Hackensack Meadowlands in close proximity of the APE. Historic background and cartographic data also suggest the possible presence of these historic resources in close proximity to the APE. Based upon the available information reviewed the APE has been characterized as low to moderately sensitive for the possible presence of historic features associated with these above mentioned drainage ditches.

Geotechnical Investigation

The geotechnical investigation of the Radio Tower Site revealed that the subsurface conditions generally consist of fill materials underlain by organic silt and peat (marsh deposits), varved clay, glacial till, and shale bedrock (Langan 2011). However, in boring B-1 a 1.5-foot thick layer of gray silty sand was encountered beneath the marsh deposits. This boring was conducted in the

southern part of the APE just to the north of the transmission building. None of the other borings revealed this stratum between the marshmat and the varved clay.

The silty sand stratum found in boring B-1 is similar to a culturally sensitive strata discovered at the Standard Chlorine Chemical Company (SCCC) site located along the Hackensack River in the Hackensack Meadowlands in Kearny, New Jersey (Stiteler 2010; Audin and Stiteler 2011). At the SCCC site a distinct stratum of sand, varying in thickness between 3 and 8 feet, was found under the marshmat layer, above the varved clay. In some cases a thin layer of estuarine muds was found over the cultural sand layer. Samples of the sand material were archaeologically water screened for artifacts and resulted in the recovery of over 100 lithic flakes and possible flakes from the archaeological screening. One depleted micro core was also recovered form the water screening.

Taking into account the results of these recent investigations at the SCCC site, the results of past surveys that did not conduct borings below the marshmat in the APE must be rethought. The 1.5-foot thick layer of gray silty sand, although thinner than the layer found in Kearny, may represent a potentially culturally sensitive layer for prehistoric materials.

Because only one boring in the APE contained this layer, the boring logs from the APE were compared to boring logs conducted for the Meadowlands Xanadu Project (Langan 2003) to the north of the APE to see if boring B-1 was an abnormality. A total of fourteen of the borings closest to the current APE were reviewed, borings B-8, B-17, B-26, B-46, B-55, B-56, B-68, B-69 B-71A, B-73, B-81A, B-84, B-85 and B-86. These boring logs and a location map can be found in Appendix C.

Eight of the fourteen borings reviewed contained a silt layer, most with at least trace, under the marshmat and above the varved clay and silt. The thickness of the silt layer varied from one foot to four feet in thickness. However, none of the borings contained a distinct sand layer similar to those found on the SCCC site.

5.3 Archaeological Fieldwork

The archaeological fieldwork for the proposed project consisted of a pedestrian survey. The pedestrian survey was conducted for the site by Michael Audin, RPA on August 23, 2011. The survey was conducted at low tide in order to better inspect the APE for evidence of the presence of historic archaeological resources associated with the historic Hackensack Meadowlands drainage systems. More specifically, for the potential presence of drainage ditches and historic flood control gates that may be present adjacent or within the APE. Past research conducted by Hunter Research (2006, 2009) indicates that remnants of a historic tide gate associated with the Hackensack Meadowlands drainage system may be present adjacent to the APE. This gate was identified by Hunter Research in 2009 as Resource No. 35 - Tide Gate (Hunter Research, Inc. 2009).

General APE Overview

The APE consists of a relatively flat, open meadow and wetland vegetated with Phragmites and occasional stands of trees along the perimeter of the APE (Photographs 1 through 3). The property is presently developed with three, 500+ foot high steel lattice radio transmission towers, access roads and a radio transmission building (Photographs 4 through 6). The three radio towers are aligned in a southwest to northeast orientation near the central portion of the property. The transmission building, associated parking and access driveways occur in the southern and western sections of the property. Herbaceous upland and wetland areas comprise the vegetative community on the property.

The majority of the property drains to an Unnamed Tributary (UNT) to the Hackensack River that flows through a 96" corrugated metal pipe underneath the New Jersey Turnpike. A small portion of the northern extent of the property drains to an UNT to Cedar Creek. This tributary drains through a 108" reinforced concrete pipe beneath the New Jersey Turnpike. The radio towers and associated roads split the property in two, not allowing the tides to reach the western wetland features.

Drainage Ditches

The pedestrian survey of the APE included a search for any remaining drainage ditches. Several small surface water features were observed in the APE mostly in the north and eastern portions. These surface water features had considerable over growth of Phragmites and other wetland vegetation creating poor visibility. However, these features were more meandering and did not exhibit the straight drainage ditches associated with historic drainage of the Hackensack Meadowlands or mosquito control.

Resource No. 35 – Tide Gate

The pedestrian survey in the vicinity of Resource No. 35 – Tide Gate included the south and west (outside) area adjacent to the APE. A small man-made retention area and drainage ditch was observed along the southwest side near Route120 (Photographs 7 and 8). This retention area is a new feature associated with the new construction of Route 120. To the northeast of the retention area is a small drainage area that could have also been the location of the Resource No. 35. However, no traces of a tide gate were found during the pedestrian survey. The soil on the ground contained numerous historic artifacts from the mid to late 20th-century most likely indicating the presence of fill materials in the area. Which episode of filling they are from was not determined.



Map Reference: NJDEP 2007 Aerial Photograph.

Legend

Radio Tower APE

Photo Locations

130 65 0 130 260 390 520

Feet

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PHOTO LOCATION PLAN
AMERICAN DREAM MEADOWLANDS

EAST RUTHERFORD

BERGEN COUNTY NEW JERSEY

Project No.	Date	Scale	Figure No.
100234201	8/25/2011	See Above	22



Photograph 1 – View of the southeastern portion of the APE, facing southeast. Taken from Route 120 by Michael Audin.



Photograph 2 – View looking into the central portion of the APE, facing northeast. Taken from Route 120 by Michael Audin.



Photograph 3 – View looking into the northwestern portion of the APE, facing northeast. Taken from Route 120 access ramp by Michael Audin.



Photograph 4 – View of the 3 radio towers in the APE, facing northeast. Taken from an access road by Michael Audin.



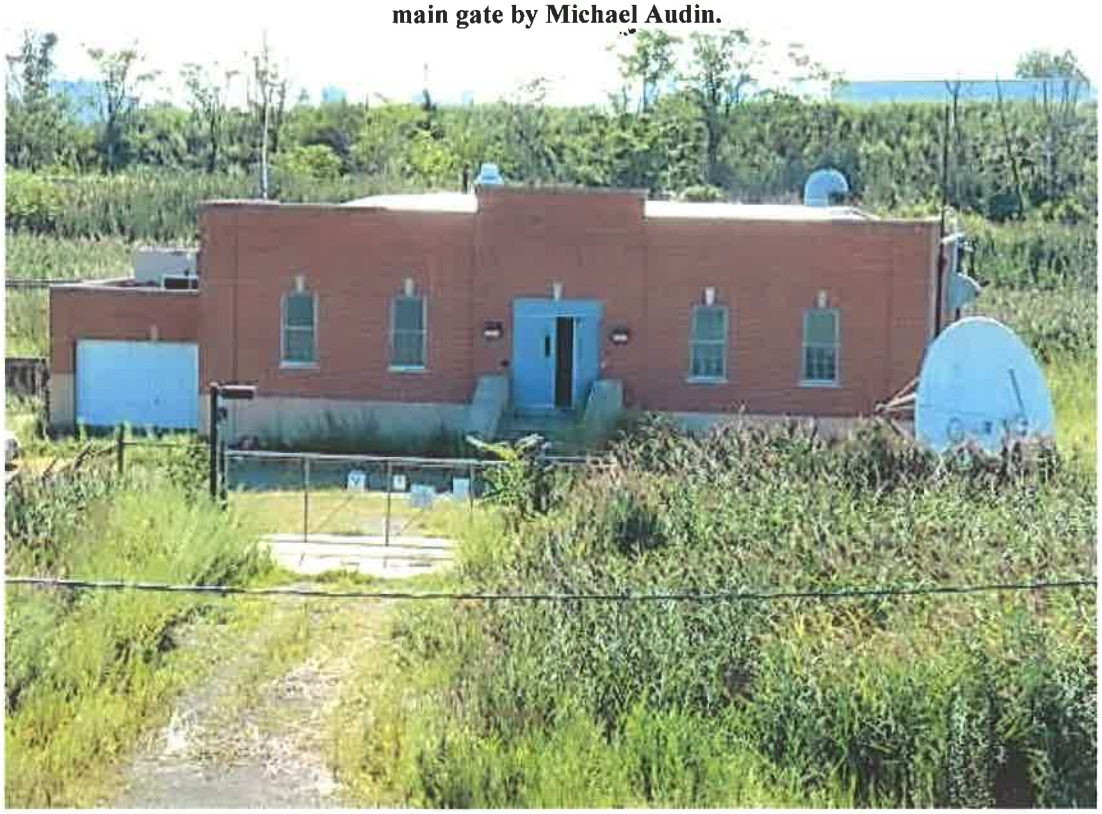
Photograph 5 – View of the main access road into the APE, facing southeast. Taken from near the main gate by Michael Audin.



Photograph 6 – View of the transmission building in the APE, facing southeast. Taken from Route 120 access ramp by Michael Audin.



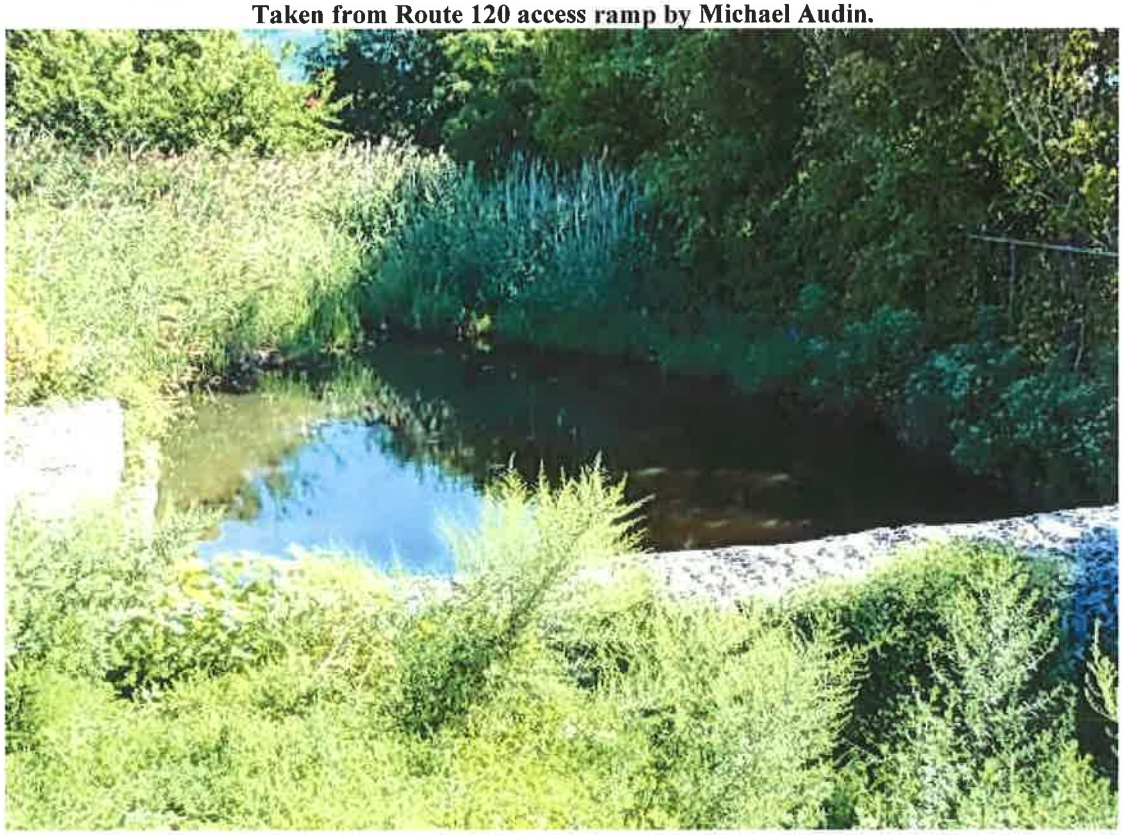
Photograph 5 – View of the main access road into the APE, facing southeast. Taken from near the main gate by Michael Audin.



Photograph 6 – View of the transmission building in the APE, facing southeast. Taken from Route 120 access ramp by Michael Audin.



Photograph 7 – View of retention area in possible location of Resource 35, looking north. Taken from Route 120 access ramp by Michael Audin.



Photograph 8 – View of retention area, looking northeast. Taken from Route 120 by Michael Audin.

5.4 Interpretations of the Results

Drainage Ditches

Historic background research indicates that a system of drainage ditches was present within the APE since at least the 1940s. Aerial images topographic maps from the 1940s, 1950s and 1960s indicate that these ditches were similar to those described as associated with the mosquito control measures employed in the Hackensack Meadowlands (Hunter Research, Inc. 2009). The imagery revealed that the ditches were located in several places within the APE. Subsequent filling in of the APE has most likely filled in the majority, if not all, of the drainage ditches. It is possible that some of the ditches to the north or the east of the radio towers at the edge of the APE still exist. These ditches would have a more natural look versus the straight lines that were typically created for drainage and mosquito control after years of not being maintained. However, it is more likely that the filling events in the APE have destroyed all traces of the drainage ditches and what can be seen in the APE today is from natural factors.

Resource No. 35 – Tide Gate

Historic background research indicates that a tide gate was present to the vicinity of the southwest boundary of the APE. The Hunter Research report (2009) indicates the gates location form cartographic resources, but the report did not discuss visiting the tide gate near the APE. Aerial imagery for the APE dating from between 1931 and 1995 indicates that there were several phases of modification and realignment for Route 120. None of the imagery clearly indicates the original tide gate. The pedestrian survey included the entire western and southern boundary of the APE and did not identify any features or remains of the tide gate. The pedestrian survey did find a new retention pond and drainage ditch in the vicinity of the tide gate. It is most likely that the rerouting and expansion of Route 120 has destroyed any remains of this tide gate.

Radio Towers and Station Transmission Building

Historic background research indicates that the radio towers currently in the APE are not the original towers constructed in 1941. These towers were constructed as a result of the construction of the New Jersey Turnpike in the location of the original towers. The current towers were constructed sometime in the 1960s or early 1970s and appear on the 1972 Aerial Photograph (Figure 19) making them most likely less than 50 years in age.

The station transmission building is a raised one story brick building on a concrete foundation (Photograph 6) built in 1941 with the original radio towers (now demolished). The building has been renovated several times on the inside, even as late as 2003 when Disney took over the station transmission building.

6.0 CONCLUSIONS AND RECOMMENDATIONS

This report presents the results of a Phase IA Cultural Resource Survey conducted within the APE of the Amusement Park and Water Park Project on Block 107.02, Lot 3 in the Borough of East Rutherford, Bergen County, New Jersey. The Phase IA Cultural Resource Survey has been performed in accordance with Section 106 of the National Historic Preservation Act (36 CFR Part 800: Protection of Historic Properties). The APE is situated on historically filled areas and wetlands in close proximity of the Hackensack River.

The Phase IA Cultural Resource Survey consisted of documentary background research and a pedestrian survey of the APE. The background research did not identify any known prehistoric or historic archaeological sites on the project site. Past cultural resources studies conducted within the vicinity of the APE (The Louis Berger Group 1995; HPI 1997; NEA 2001; Langan 2005; Schuldenrein 2009) characterized the vicinity of the APE as having little, if any, sensitivity for the possible presence of prehistoric archaeological resources. However, recent studies by Hunter Research (2009) identified the possible presence of a historic tide gate and drainage ditches associated with the drainage systems employed to drain the Hackensack Meadowlands on or adjacent to the APE. Based upon the available information the APE has been characterized as low to moderately sensitive for the possible presence of historic features associated with these above mentioned tide gate and drainage ditches.

In a recent geotechnical investigation conducted in the APE, boring B-1 encountered a 1.5-foot thick layer of gray silty sand beneath the marsh deposits. The silty sand stratum found in boring B-1 is similar to a culturally sensitive strata discovered at the SCCC site located along the Hackensack River in the Hackensack Meadowlands in Kearny, New Jersey (Stiteler 2010; Audin and Stiteler 2011). At the SCCC site the cultural bearing layer was a distinct sand layer below the marshmat and in some case silty estuarine muds. To determine if this one boring was an abnormality or not it was compared with borings conducted for the Meadowlands Xanadu Project just north of the Radio Tower site. In the comparison with the Xanadu borings, eight of the fourteen borings reviewed contained a silt layer, most with at least trace, under the marshmat and above the varved clay and silt. The thickness of the silt layer varied from one foot to four feet in thickness. However, none of the borings contained a distinct sand layer similar to those found on the SCCC site. Based on the information collected at the SCCC site we conclude that the 1.5-foot thick silty sand layer encountered in boring B-1 is most likely an estuarine mud layer and not a culture bearing sand layer.

Historic background research concluded that the radio towers currently in the APE are not the original towers constructed in 1941. These towers were constructed as a result of the construction of the New Jersey Turnpike in the location of the original towers. The current towers were constructed sometime in the 1960s or early 1970s and appear on the 1972 Aerial Photograph making them most likely less than 50 years in age.

The station transmission building is a raised one story brick building on a concrete foundation built in 1941 with the original radio towers (now demolished). The building has been renovated several times on the inside, even as late as 2003 when Disney took over the station transmission building.

Archaeological fieldwork, consisting of a pedestrian survey, did not identify the presence of any features associated with historic drainage systems within the APE. Background research indicates that these features are most likely associated with the early twentieth-century efforts to drain the area and to control mosquito populations in New Jersey. No evidence of these types of resources, including drainage ditches and Resource No. 35 – Tide Gate mapped by Hunter Research (2009), was observed or encountered in the field.

The documentary research found no listed or eligible cultural resources in the APE. The pedestrian survey of the APE did not encounter any evidence of either the former drainage ditches or Resource No. 35 – Tide Gate. Based on the documentary research and the pedestrian survey we conclude that no prehistoric or historic archaeological resources will be affected by the proposed project. Therefore, no further archaeological survey is recommended.

The current radio towers were constructed in the late 1960s or early 1970s and are most likely not eligible for the National Register of Historic Places. The station transmission building, built in 1941, is over 50 years in age and may have been associated with significant persons or events associated with radio over its history. Some radio stations and towers have been determined eligible for the National Register of Historic Places. The proposed project will include the demolition of the building and radio towers. Therefore, we recommend that a Reconnaissance Level Architectural Survey by a qualified professional be completed on the transmission building to determine if there is justification for further investigation of National Register eligibility.

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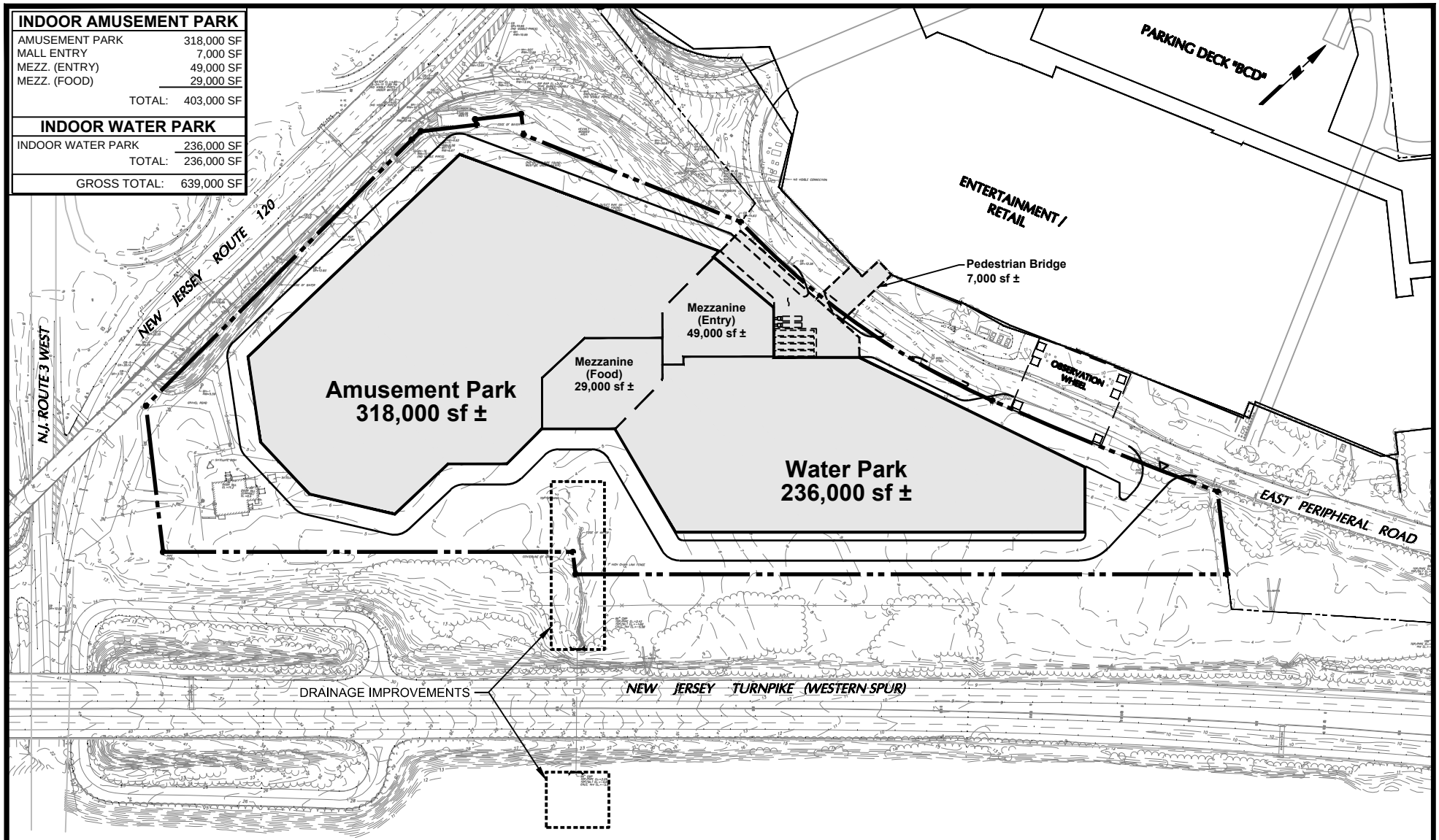
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DRAWINGS



INDOOR AMUSEMENT PARK	
AMUSEMENT PARK	318,000 SF
MALL ENTRY	7,000 SF
MEZZ. (ENTRY)	49,000 SF
MEZZ. (FOOD)	29,000 SF
TOTAL:	403,000 SF

INDOOR WATER PARK	
INDOOR WATER PARK	236,000 SF
TOTAL:	236,000 SF
GROSS TOTAL:	639,000 SF

0 125 250

SCALE IN FEET

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

River Drive Center 1 Elmwood Park, NJ 07407
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NEW JERSEY PENNSYLVANIA NEW YORK CONNECTICUT FLORIDA NEVADA VIRGINIA CALIFORNIA
NJ Certificate of Authorization No: 24GA27996400

CONCEPT PLAN

AMUSEMENT PARK AND WATER PARK
AMERICAN DREAM MEADOWLANDS
BLOCK 107.02, LOT 3

EAST RUTHERFORD NEW JERSEY

Project No.	Date	Scale	Fig. No.
100234201	10/11/11	1"=250'	1

Filename: \\langan.com\data\EP\data2\100234201\Cadd Data – 100234201\Wetland Plans\ACOE Concept Plan.dwg Date: 10/10/2011 Time: 14:59 User: joldenburger Style Table: Langan.stb Layout: A Size Sheet (Side)

APPENDIX A

QUALIFICATIONS OF PREPARERS

MICHAEL AUDIN, RPA
Archaeologist / Cultural Resource Specialist

Field Crew Management
Phase I, II and III Excavation
Human Remains/Burial Excavation
Site Preparation and Survey
Historic Research
Photographer
Laboratory Analysis
Field Illustration
Report Writing and Editing
Historic American Building Surveys

EDUCATION

Hunter College: M.A. Anthropology
William Paterson University: B.A. Anthropology
Archaeological Field School: Lenape Meadows, Somerset County Parks Commission, New Jersey

YEARS EXPERIENCE: 9

SUMMARY QUALIFICATIONS

Mr. Audin is a Registered Professional Archaeologist (RPA) that has been reviewed by several State Historic Preservation Offices as a Principal Investigator and has over 9 years of professional experience (over 7 years in management positions) in Cultural Resource Management. Responsibilities include coordination and implementation of archaeological and historical tasks associated with projects requiring cultural and historic assessments as part of permit and regulatory review. Office tasks include communication with State Historic Preservation Offices and other regulatory offices, budgeting, proposal writing, field testing strategy and planning, hiring of field technicians, report writing, GIS mapping, production and editing. Field tasks include all aspects of Phase I, II and III archaeological and historical investigations including field supervision, excavation, monitoring, site photographer, prehistoric and historic site assessments, site survey, field illustration, field documentation, planning, preliminary architectural evaluations and level III Historic American Building Surveys.

In addition Mr. Audin has 3 years of experience as a land surveyor and 10 years business management experience prior to coming to cultural resources.

RELEVANT EXPERIENCE

Old St. Patrick's Cathedral Wall Restoration Project, Archaeological Monitoring, New York
Principal Investigator for and archeological monitor for Landmarks Preservation Commission permit for brick wall stabilization around the northern part of a historic cemetery in New York City. Conducted limited research, removed headstones for storage and reset at end of project, monitored for human remains during backhoe excavation for new concrete supports, supervision of archaeological assistants, determined method of avoidance or removal of human remains encountered and eventual reburial, report writing and preparation.

Tomjack Creek, Phase IA, Smithfield Township, Pennsylvania
Principal Investigator for prehistoric/historic site investigation for a US Army Corps of Engineers Permit for a wetland mitigation site as part of the Tennessee Gas Line Company Northeast Upgrade Project. Conducted research, site reconnaissance, writing and preparation of report, edited and produced report for submission.

Van Auken Creek, Phase IA, Clinton Township, Pennsylvania
Principal Investigator for prehistoric/historic site investigation for a US Army Corps of Engineers

Permit for a wetland mitigation site as part of the Tennessee Gas Line Company Northeast Supply Diversification Project. Conducted research, site reconnaissance, writing and preparation of report, edited and produced report for submission.

Renaissance Plaza Project, Phase I, Egg Harbor City, New Jersey
Principal Investigator for prehistoric/historic site investigation for NJ Pinelands Commission. Conducted research, conducted subsurface field testing for historic features, writing and preparation of report, edited and produced report for submission.

Alpha Water Works Upgrades Project, Phase II, Site 28Wa673, Alpha, New Jersey
Principal Investigator for prehistoric/historic site investigation for NJDEP Environmental Infrastructure Trust funding program. Conducted research, excavation of shovel test pits and units, laboratory analysis of artifacts, writing, preparation, editing and producing report for submission.

State University of New York, Ulster Campus, Phase I, Marbletown, New York
Principal Investigator for prehistoric/historic site investigation for NYS SEQR reviewed project. Conducted research, assessed prehistoric/historic archaeological potential, field testing, writing and preparation of report, edited and produced report for submission.

NJ Transit, Phase III Data Recovery Investigation, Market St Garage, Site 28Pa, Paterson, NJ
Principal Investigator for unanticipated historic structure uncovered during excavation for a drainage pipe. Field work consisted of the excavation and documentation of a historic industrial feature partially exposed during excavation work. Recommended preservation in place with appropriate fill materials and submitted a technical memo to NJDEP SHPO.

EZ Automotive Services, Phase IA & IB, Robbinsville, New Jersey
Principal Investigator for prehistoric/historic site investigation for NJDEP. Conducted research, assessed prehistoric/historic archaeological potential, conducted field testing, writing and preparation of reports, edited and produced report for submission.

Old St. Patrick's Cathedral Wall Restoration Project, Archaeological Monitoring, New York
Principal Investigator for and archeological monitor for Landmarks Preservation Commission permit for brick wall stabilization around the southern part of a historic cemetery in New York City. Conducted limited research, monitoring for human remains during backhoe excavation for new concrete supports, supervision of one archaeological assistant, determined method of avoidance or removal of human remains encountered and eventual reburial, report writing and preparation.

Pennsauken Country Club Water Reuse Project, Phase I, Pennsauken, New Jersey
Principal Investigator for prehistoric/historic site investigation for NJDEP Environmental Infrastructure Trust funding program. Conducted research, preparation of site, excavation of shovel test pits, laboratory analysis of artifacts, writing, preparation, editing and producing report for submission.

NYS Route 440 Pole Relocation Project, Phase IA & IB, Staten Island, New York
Principal Investigator for prehistoric/historic site investigation for Department of Transportation NEPA documentation and Section 106 reviewed project. Conducted research, assessed prehistoric/historic archaeological potential, conducted field testing, writing and preparation of reports, edited and produced report for submission.

World Trade Center, Phase III, Potential Human Remains Recovery, Staten Island, New York
Field crew for recovery of potential human remains for the New York City Office of the Chief Medical Examiner. Conducted materials screening for human remains and artifacts relating to the 2001 attacks on the World Trade Center.

SCCC, Phase IB Cultural Resource Investigation, Kearny, New Jersey
Principal Investigator for historic investigations for NJDEP and USEPA Superfund site. Conducted additional research proving the Jersey City Water Works was located outside of the project area and conducted backhoe trenching for historic drainage features related to the Hackensack Meadowlands, writing and preparation of report, edited and produced report for submission.

Access to Regional Core (ARC), 3-D Laser Scanning, New York, New York
Field crew for documentation of historic and non-historic buildings for Section 106. Conducted 3-D laser scanning of all buildings in the project area. Collected field data of varying resolutions for buildings in project area, historic buildings were recorded at higher resolution.

Jersey City Walkway and DMAVA Park, Phase IA, Jersey City, New Jersey
Principal Investigator for prehistoric/historic site investigation for NJDEP and Section 106. Conducted research, assessed prehistoric/historic archaeological potential, monitored geotechnical sub surface investigation for archaeological remains, writing and preparation of report, edited and produced report for submission.

Route 33 Interchange Improvements, Phase I, Palmer Township, Pennsylvania
Principal Investigator for prehistoric/historic site investigation for Pennsylvania Department of Transportation and Section 106 reviewed project. Conducted research, site excavation of shovel test pits, laboratory analysis of artifacts, writing and preparation of report, and editing report for submission.

USDA, Health-Based Plant Genomics Facility, Phase IB, Cornell University, Ithaca, New York
Co-Principal Investigator for prehistoric/historic site investigation as part of a Section 106 Assessment for the addition to the Plant Genomics Laboratory Building site. Conducted research, excavation of shovel test pits, laboratory analysis of artifacts, writing and preparation of report, edited and produced report for submission.

SCCC, Phase IA Cultural Resource Investigation, Kearny, New Jersey
Principal Investigator for prehistoric/historic site investigation for NJDEP and USEPA Superfund site. Conducted research, assessed prehistoric/historic archaeological potential, writing and preparation of report, edited and produced report for submission.

GAC Adsorption Plant, Phase I, Pennsauken, New Jersey
Principal Investigator for prehistoric/historic site investigation for NJDEP Environmental Infrastructure Trust funding program. Conducted research, preparation of site, excavation of shovel test pits, laboratory analysis of artifacts, writing and preparation of report, edited and produced report for submission.

Penn Regional Business Center III, Phase I, Smithfield, Pennsylvania
Principal Investigator for prehistoric/historic site investigation for Pennsylvania Funding Grant Application. Conducted research, preparation of site, excavation of shovel test pits, laboratory analysis of artifacts, writing and preparation of report, edited and produced report for submission.

Montauk Theater, Level III HABS and Architectural Salvage Plan, Passaic, New Jersey
Principal Investigator for EO215 compliance for NJ Schools Development Authority. Conducted level III Historic American Building Survey (HABS) including photographic documentation and an architectural Salvage Plan of the Montauk Theater to mitigate the proposed demolition of this building. The HABS and Salvage Plan were requested by the NJ HPO to satisfy the EO215 review.

Former Koppers Superfund Site, Additional Phase IB, Sites 7NC-E-187, 188 & 189, Newport, Delaware
Crew chief and OSHA Site Safety Officer for prehistoric/historic site investigation for EPA compliance for superfund site during three month phase IB auger testing conducted by 13 archaeologists. Teamed with John Milner and Associates. Work included over 1,700 phase IB augers in a tidal marsh. Additional work included field tech training, and safety oversight.

Dredge Stockpile Site, Phase I, Harmony, New Jersey
Field director, research coordinator, lab director and photographer for prehistoric/historic site investigation for Section 106 review of stockpile site for dredge materials from FEMA. Field duties include preparation of site, excavation of 32 shovel test pits and site survey. Post field work included laboratory analysis of artifacts, writing of sections of report and prepared, edited and produced report for submission.

Lowes, Phase I, Mansfield, Pennsylvania
Field director, research coordinator, lab director and photographer for prehistoric site investigation for review for big box retail store. Field duties include site preparation, excavation 60 shovel test pits of site and survey. Post field work included laboratory analysis of artifacts, writing of sections of report and prepared, edited and produced report for submission.

Former Jacobs Aircraft Engine Factory, HABS, Lower Pottsgrove, Pennsylvania
Complier/photographer for NPDES permit compliance. Conducted low level Historic American Building Survey (HABS) including photographical documenting of the former Jacobs Aircraft Engine Factory and Administrative Building to mitigate the proposed demolition of these buildings. The photographic documentation was requested by PHMC to satisfy the NPDES permit review.

Queensboro Plaza, Phase I, Long Island City, New York
Field director, research coordinator, lab director and photographer for historic site investigation for cultural resources section 106 for a NEPA assessment and LPC review for bike path in the Queensboro Plaza. Includes an archaeological assessment, field testing and architectural evaluation of the current property. Field work included site preparation, the excavation of a two meter by two meter test pit and site survey. Post field work included laboratory analysis of artifacts, writing of sections of report and prepared, edited and produced report for submission.

Lowes, Phase IB, Montgomery, New York
Field director, research coordinator, lab director and photographer for prehistoric/historic site investigation for SEQRA review for retail store. Field work included the preparation of site, excavation of 60 shovel test pits and site survey. Post field work included laboratory analysis of artifacts, writing of sections of report, prepared, edited and produced report for submission.

Green Brook Trail, Application for Project Authorization/Preliminary Assessment, Plainfield, Green Brook, and North Plainfield, New Jersey
Principal Investigator for New Jersey Historic Preservation Act and Freshwater Wetland Permit compliance. Completed and submitted an Application for Project Authorization for Green Brook Park

and Washington Park Historic District for a multi-use recreational trail. Additionally, completed a preliminary archaeological assessment for the proposed seven-mile trail, including research, analysis, and report writing.

Public School #3, Archaeological Monitoring, West New York, New Jersey
Archaeological Monitor/researcher for NJ Executive Order 215 Compliance for 1 day of archaeological monitoring for human remains and research on school site that found headstone during excavation. Post field activities included report writing for submission to state.

Former Koppers Superfund Site, Phase IB and II, Sites 7NC-E-124, 133, 134, 135, 137, 138, 139, 140, & 143, Newport, Delaware
Crew chief and OSHA Site Safety Officer for EPA compliance for superfund site during six month phase IB and II field excavations conducted by 20 archaeologists, teamed with John Milner and Associates. Work included setting of testing grid and field testing of over 3000 phase IB auguring and STP units and over 180 phase II units. Additional work included lab work, field tech training, and safety oversight.

Bronx River Park, Phase IA, Bronx, New York
Research coordinator, researcher and report production for New York City Landmarks Preservation Commission Compliance. Assessed park land for prehistoric and historic archaeological potential.

USDA, Health-Based Plant Genomics Facility, Cornell University, Ithaca, NY.
Research coordinator, researcher and report production for archaeological resources Section 106 Assessment as part of a NEPA Screening on the Plant Genomics Laboratory Building site.

Weeksville Village, Phase IB testing, Brooklyn, New York
Archaeological Monitor for SEQRA review for village cultural center. Performed 1 day of field duties, with Joan Geismar. Work included monitoring of back hoe trenching for foundations and artifact deposits associated with the Huntefly Houses.

Edgewater Colony, Phase II, Edgewater, New Jersey
Field director and lab director for or EIT storm water improvements loan consisting of the preparation of a Phase II prehistoric/historic site investigation. Included the direction of two field technicians excavating a total of 8 standard test units, photographer and the coordination of lab work. Other post-field responsibilities include writing sections, preparation and production of the final report for submittal to New Jersey DEP Municipal Finance and Technical Services.

Portion of the Northeast Business Park, Phase IA, Washington Township, New Jersey
Research coordinator, researcher, and report production for New Jersey Wetlands Permit. Assessed site for prehistoric and historic archaeological sensitivity.

Creighton Farm Bridge Crossing, Phase I, Willistown, Pennsylvania
Field director, research coordinator, lab director, photographer and report preparation for Army Corps of Engineers Permit. Post field work included laboratory analysis of artifacts, assisting with the writing, prepared, edited and produced report.

Camp Laughing Water, Phase I, New Hanover and Upper Fredrick, Pennsylvania
Field director, research coordinator, lab director, photographer and report preparation for Army Corps of Engineers Permit. Post field work included laboratory analysis of artifacts, assisting with

the writing, prepared, edited and produced report.

Camp Hidden Falls, Phase I, Delaware and Lehman Townships, Pennsylvania
Field director, research coordinator, lab director, photographer and report preparation for Army Corps of Engineers Permit. Post field work included laboratory analysis of artifacts, assisting with the writing, prepared, edited and produced report.

Select Sires, Phase I, Eaton, Pennsylvania
Field director, research coordinator, lab director, photographer and report preparation for Pennsylvania section 105 Permit. Post field work included laboratory analysis of artifacts, assisting with the writing, prepared, edited and produced report.

Tournament World, Phase IB, Montgomery, New York
Field director, research coordinator, lab director, and photographer for SEQRA review. Field assessment for prehistoric and historic archaeological sites. Post-field work included laboratory analysis of artifacts, assisting with the writing, prepared, edited and produced report.

Former Old First Presbyterian Church Cemetery, Phase III Data Recovery, Newark, New Jersey
Project Manager/Field Director
Responsibilities included:

- Over sight of all field activities for 2.2 acre cemetery excavation
- Preparation and implementation of a comprehensive field plan for the locating human remains and associated artifacts
- Hiring and managing a field staff of 35
- Directing and coordinating sub contractor with field staff of 30
- Directing and coordinating 4 backhoes on site to move overburden and back fill site
- Over sight of cataloging all burials and artifacts
- Laboratory analysis of artifacts
- Writing, coordinating and editing of final report

Circulations Improvement Project, Phase IA and IB, Newark, New Jersey
Field director, research coordinator, photographer and lab director for NJ Executive Order 215 Compliance. Phase I background investigation and Phase IB field testing. Work included coordinating conducting research, conducting photographic pedestrian survey site, and conducting field testing. Post field work included laboratory analysis of artifacts and preparation of the final reports. Report preparation included writing sections of the report, preparation and production of final report for submittal.

Edgewater Colony, Phase IB, Edgewater, New Jersey
Field director, research coordinator, and photographer for Environmental Infrastructure Trust Financing Program (EIT). Preparation of a Phase IB prehistoric/historic site investigation. Included the direction of three field technicians digging a total of 139 standard test pits, project coordination with the principal investigator, photographer and the coordination of lab work. Other post-field responsibilities include assisting with the writing, preparation and production of the final report.

Former Central Railroad Terminal, Archaeological Monitoring, Newark, New Jersey
Crew Chief/Project Coordinator Application for project authorization compliance of 6 week archaeological monitoring during demolition of former railroad terminal for SHPO resolution on

application for project authorization. Monitor for human remains associated with the Old First Presbyterian Church cemetery, identifying, excavating, cataloging and turn over to mortician for reburial. Post field work included lab analysis of artifacts.

Regional Biocontainment Laboratory – Newark Center, University of Medicine and Dentistry of New Jersey, Newark, New Jersey – Researcher and report writer for cultural resources section of Environmental Assessment in accordance with the requirements of NEPA for the construction of a new Regional Biocontainment Laboratory under a grant form the National Institutes of Health.

USDA, Health-Based Plant Genomics Facility, Phase IA, Cornell University, Ithaca, New York
Researcher and site inspector for cultural resources section of a Section 106 Assessment as part of a NEPA Screening on the Plant Genomics Laboratory Building site. Includes an archaeological assessment and architectural evaluation of the current facility and property.

Newark Downtown Core Redevelopment and Circulations Improvement Plan, Newark, New Jersey
Responsibilities included:

- Preparing a multi-phased strategy for investigating, testing and mitigating the project area
- Conducting preliminary research regarding various aspects of the project area, including possible intact remains within the former First Presbyterian Church cemetery
- Supervising research
- Conducting field photo reconnaissance and preliminary visual assessment of all properties potentially eligible for listing on the State and National Register of Historic Places that may be impacted by the proposed project
- Contributing to the Application for Project Authorization regarding the proposed demolition of five historic structures located within the Four Corners Historic District

NJSCC School Development Program, New Jersey
Crew Chief, researcher, photographer and report writing and production for NJ Executive Order 215 Compliance and NJSCC Guidelines. Participated in the development and redevelopment of 20 new and existing school sites located throughout New Jersey. Responsibilities included:

- Conducting and overseeing background research at the New Jersey Historic Preservation Office, the New Jersey State Museum and local archives
- Conducting field photo reconnaissance and preliminary visual assessment of all properties potentially eligible for listing on the State and National Register of Historic Places that may be impacted by the proposed project
- Preparation and assistance in writing of the Cultural and Historical Resource Assessment section of Environmental Assessment and Environmental Impact Statement Reports and Phase IA background investigations
- Overseeing report production and preparing maps and figures
- Producing for internal departments/clients memos, letters and other documentation outlining potential issues and possible recommendations.

Pen Del Development, Phase IB and II, Site 28BU590, Pemberton, New Jersey
Field/Laboratory Technician of a Phase I & II prehistoric site investigation/excavation. Field responsibilities also included photographer and mapping excavation locations using GPS equipment. Laboratory Technician responsibilities included; cleaning, cataloging and photographing all artifacts. Other post-field responsibilities included assisting with the preparation and production of the final

cultural resource report for submittal to New Jersey HPO.

Field School, Lenape Meadows, Phase II, Basking Ridge, New Jersey
Field and Laboratory Technician for phase II prehistoric excavation. Field work included daily preparation of site, field excavations, documentation of artifact finds, field crew management and the closing up the site for the winter. Laboratory work included cleaning, identifying, cataloging and photographic documentation of all artifacts.

Lithics Identification Project, William Paterson University, New Jersey
Volunteer. Conducted laboratory analysis, identification and cataloging, of over 5,000 stone fragments from the Wallkill River basin in Northern New Jersey, submitted to Dr. Janet Pollak. Research included identifying and cataloging human produced stone flakes and tools vs. naturally altered stone.

SELECTED PUBLICATIONS

Phase IA Cultural Resource Survey, Standard Chlorine Chemical Company Site, Interim Response Action Workplan, Town of Kearny, Hudson County, New Jersey. Michael Audin, RPA, Principal Investigator, 2009. MS on file at NJSHPO, Trenton, NJ.

Phase I Cultural Resource Investigation GAC Adsorption Plant, Pennsauken, Camden County, New Jersey. Michael Audin, RPA, Principal Investigator, 2009. MS on file at NJSHPO, Trenton, NJ.
Historic American Building Survey for the Montauk Theater, Passaic, Passaic County, New Jersey. Michael Audin, RPA, Principal Investigator, 2009. Submitted to the NJ HPO, Trenton, NJ.

Phase I Archaeological Investigation Montgomery Towne Square, Montgomery, Orange County, New York. Ludomir Lozny Principal Investigator, Michael Audin, and Sarah Hlubik, 2007. MS on file at OPRHP, Pebbles Island, NY.

Phase II Archaeological Investigation of the Edgewater Colony, Edgewater, Bergen County, New Jersey. Ludomir Lozny PI, Michael Audin, and Sarah Hlubik, 2007. MS on file at NJSHPO, Trenton, NJ.

Phase I Archaeological Survey Camp Hidden Falls, Lehman Township, Pike County, Pennsylvania. Ludomir Lozny PI, Michael Audin, and Erol Kavountzis, 2006. Ms on file at PHMC, Harrisburg, Pa.

Phase I Archaeological Investigation Eaton, Wyoming County, Pennsylvania. Ludomir Lozny PI, Michael Audin, and Erol Kavountzis, 2006. Ms on file at PHMC, Harrisburg, Pa.

Phase III Cemetery Excavation, Old First Presbyterian Church, Newark Downtown Core Redevelopment, Newark, Essex County, New Jersey. Michael Audin, Erol Kavountzis, and Sarah Hlubik, 2005. Manuscript on file at NJSHPO, Trenton NJ.

PRESENTATIONS

2011 "New Jersey's Iron Coffins" presented at the Archaeological Society of New Jersey Meeting.

2009 "The Montauk Theater: Last of the Seven Passaic Theaters" presented to a William Paterson University Class on Material Culture.

2007 "Excavations at the Old First Presbyterian Cemetery in Newark, NJ" presented to William

Paterson University's Anthropology Club.

SUMMARY OF PROFESSIONAL ACTIVITIES

Mr. Audin is the author or co-author of over sixty (60) cultural resource reports in New Jersey, New York and Pennsylvania.

PROFESSIONAL DEVELOPMENT

Historic Preservation Research Course, Drew University, February 2005
OSHA 40 Hour Certified HAZWOPER Training (December, 2005) and refreshers
OSHA Site Supervisor Certified (June, 2007) and refreshers
NJSHPO Cultural Resources Best Practices Workshop, October 2006
Introduction to ArcGIS I, November 2006
Preservation Planning in the Highlands, Drew University, March 2007
Section 106 Essentials Class with ACHP, July 2007
Pennsylvania Department of Transportation, Cultural Resource Handbook Class, April 2010
Federal Communication Commission Training, Washington D.C., June 2011

PROFESSIONAL AFFILIATIONS

Archaeological Society of New Jersey
Council for Northeast Historical Archaeology
Eastern States Archaeological Federation
Lambda Alpha National Collegiate Honors Society for Anthropology
Middle Atlantic Archaeological Conference
National Trust for Historic Preservation
New York State Archaeological Association (Lifetime Member)
Register of Professional Archaeologists
Society of American Archaeology
Society for Historical Archaeology
Society for Industrial Archaeology
The Society for Pennsylvania Archaeology

APPENDIX B

APE BORING LOGS AND LOCATION PLAN

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Log of Boring **B-1** Sheet 1 of 4

Project: American Dream	Project No.: 100234201
Location: East Rutherford, New Jersey	Elevation and Datum: Approx. el 8 (NGVD29)
Drilling Agency: Craig Test Boring	Date Started: 8/22/11 — Date Finished: 8/22/11
Drilling Equipment: CME 75 Truck-Mounted Drill Rig	Completion Depth: 85.2 ft — Rock Depth: 80 ft
Size and Type of Bit: 2-7/8" & 3-7/8" Dia. Tri-Cone Roller Bit	Number of Samples: Disturbed 20 — Undisturbed 2 — Core 1
Casing Diameter (in): 4" O.D. Steel Casing — Casing Depth (ft): 20	Water Level (ft.): First ▽ 4 — Completion ▼ - — 24 HR. ▼ -
Casing Hammer: Safety — Weight (lbs): 140 — Drop (in): 30	Drilling Foreman: Keith Parent
Sampler: 2" O.D. Split Spoon/ 3" O.D. Shelby Tube	Inspecting Engineer: Manisha Chawla
Sampler Hammer: Safety — Weight (lbs): 140 — Drop (in): 30	

Material Symbol	Elev. (ft)	Sample Description	Coring min/ft	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/ft)	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
	+8.0	Reddish-brown f-c SAND, trace f-c gravel, trace silt, trace wood (dry) [FILL]		0	S-1	SS	18	9, 8, 16, 29	24	Started drilling at 7:50 am. SS 0'-2'
		Black f-c SAND, some silt, trace f-c gravel (moist) [FILL]		2	S-2	SS	12	8, 12, 14, 12	26	SS 2'-4'. Drilled to 4'.
		Gray f-c SAND, some debris (brick and concrete) (wet) [FILL]		4	S-3	SS	6	10, 12, 12, 23	24	SS 4'-6'
		Black f-c SAND, some debris (concrete, asphalt, brick, and wood) (wet) [FILL]		6	S-4	SS	10	10, 13, 28, 88	41	SS 6'-8'. Drilled to 8'.
		Black f-c SAND, some debris (concrete, asphalt, and brick) (wet) [FILL]		8	S-5	SS	8	3, 3, 2, 2	5	SS 8'-10'. Installed casing to 10'. Drilled to 10'. Brown to black wash.
	-1.4	Black PEAT, some silt, trace fine sand (wet) [MEADOWMAT]		10	ST-1	UNDIST	22	PUSHED		Inserted Shelby tube sample ST-1 at 10' at 8:38 am. Removed Shelby tube at 9:49 am. Observed peat at bottom of sample.
		Black PEAT, some silt (wet) [MEADOWMAT]		12	S-6	SS	20	3, 2, 2, 2	4	SS 12'-14'
	-5.4	Gray fine SAND, some silt (wet) [MEADOWMAT]		14						Drilled to 15'. Gray wash.
	-7.0	Gray and reddish-brown VARVED CLAY and SILT, trace fine sand (wet)		16	S-7	SS	24	2, 4, 5, 7	9	SS 15'-17' q_u = 1.5 tsf. Drilled to 17'. Gray to black wash.
				18	ST-2	UNDIST	24	PUSHED		Inserted Shelby tube sample ST-2 at 17' at 9:05 am. Removed Shelby tube at 9:26 am. Observed clay at bottom of sample.
		Reddish-brown and gray VARVED SILT and CLAY, trace fine sand (wet)		19	S-8	SS	24	4, 5	12	SS 19'-20' q_u=1.25 tsf
				20						

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Log of Boring **B-1** Sheet 2 of 4

Project	Project No.
American Dream	100234201
Location	**Elevation and Datum**
East Rutherford, New Jersey	Approx. el 8 (NGVD29)

Material Symbol	Elev. (ft)	Sample Description	Coring min/ ft	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/ft) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				20	S-8	SS	24	7 6	12	Drilled to 25'. Dark gray wash.
				21						
				22						
				23						
				24						
		Gray VARVED CLAY (wet)		25	S-9	SS	24	WOH WOH WOH WOH	0*	SS 25'-27' q_u=1.25 tsf
				26						
				27						Drilled to 30'. Dark gray wash. Easy drilling.
				28						
				29						
		Gray VARVED CLAY (wet)		30	S-10	SS	24	WOR WOR WOR WOR	0*	SS 30'-32' q_u<0.1 tsf
				31						
				32						Drilled to 35'. Dark gray wash. Easy drilling.
				33						
				34						
		Gray to reddish-brown VARVED CLAY (wet)		35	S-11	SS	24	WOR WOR WOR WOR	0*	SS 35'-37' q_u=0.25 tsf
				36						
				37						Drilled to 40'. Dark gray wash. Easy drilling.
				38						
				39						
		Reddish-brown to gray VARVED CLAY (wet)		40	S-12	SS	24	WOR WOR WOR WOR	0*	SS 40'-42'
				41						
				42						Drilled to 45'. Dark gray wash. Easy drilling.
				43						
				44						
				45						

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Log of Boring **B-1** Sheet 3 of 4

Project	Project No.
American Dream	100234201
Location	**Elevation and Datum**
East Rutherford, New Jersey	Approx. el 8 (NGVD29)

Material Symbol	Elev. (ft)	Sample Description	Coring min/ft	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/ft) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
		Reddish-brown VARVED CLAY (wet)		45	S-13	SS	24	WOR WOR WOR WOR	0	SS 45'-47'
				46						
				47						Drilled to 50'. Dark gray wash Easy drilling.
				48						
				49						
		Reddish-brown VARVED CLAY (wet)		50	S-14	SS	24	WOR WOR WOR WOR	0	SS 50'-52'
				51						
				52						Drilled to 50' Gray wash. Easy drilling
				53						
				54						
		Reddish-brown VARVED CLAY (wet)		55	S-15	SS	24	WOR WOR WOR WOR	0	SS 55'-57'
				56						
				57						Drilled to 60'. Gray to reddish-brown wash Easy drilling.
				58						
				59						
	-52.0			60	S-16	SS	8	50 27 15 16	42	SS 60'-62'
		Reddish-brown Silty f-c SAND, some clay, trace fine gravel (wet) [TILL]		61						
				62						Drilled to 65'. Reddish-brown wash
				63						
				64						
				65	S-17	SS	12	14 39 42 30	81	SS 65'-67'
		Reddish-brown f-m SAND, trace silt, trace fine gravel (wet) [TILL]		66						
				67						Drilled to 70'. Rig chattering 68'-70'. Reddish-brown wash.
				68						
				69						
	-62.0			70						

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Log of Boring **B-1** Sheet 4 of 4

Project	Project No.
American Dream	100234201
Location	**Elevation and Datum**
East Rutherford, New Jersey	Approx. el 8 (NGVD29)

Material Symbol	Elev. (ft)	Sample Description	Coring min/ ft	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/ft) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
		Reddish-brown f-m SAND, some silt, trace rock fragments (wet) [DECOMPOSED ROCK]		70	S-18	SS	24	27 38 61 84	99•	SS 70'-72'
				71						
				72						Drilled to 75'. Reddish-brown wash.
				73						
				74						
	-67.0			75	S-19	SS	8	56 76 50/2"	Refusal•	SS 75'-76'2"
		Reddish-brown ROCK FRAGMENTS, some silt, trace f-c sand (wet) [WEATHERED ROCK]		76						
				77						Drilled to 80'. Reddish-brown wash.
				78						
				79						
	-72.2	Reddish-brown ROCK FRAGMENTS, some silt, trace f-c sand (wet) [WEATHERED ROCK]		80	S-20	SS	2	50/2"	Refusal•	SS 80'-80'2" Started NX-core C1 at 80.2' at 12:04 pm.
		Reddish-brown SHALE	7:30	81	C-1	NX CORE	REC=50"/60" =83%	RQD=28"/60" =47%		
			7:25	82						Reddish-brown wash.
			4:55	83						
			4:00	84						
			4:38	85						Finished NX-core at 12:34 pm.
	-77.2	End of boring at 85 feet.		86						Boring completed at 12:45 pm. Borehole grouted upon completion.
				87						
				88						
				89						
				90						
				91						
				92						
				93						
				94						
				95						

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Log of Boring **B-2** Sheet 1 of 3

Project: American Dream	Project No.: 100234201
Location: East Rutherford, New Jersey	Elevation and Datum: Approx. el 6 (NGVD29)
Drilling Agency: Craig Test Boring	Date Started: 8/22/11 — Date Finished: 8/22/11
Drilling Equipment: CME 75 Truck-Mounted Drill Rig	Completion Depth: 68 ft — Rock Depth: 68 ft
Size and Type of Bit: 2-7/8" & 3-7/8" Dia. Tri-Cone Roller Bit	Number of Samples: Disturbed 17 — Undisturbed 2 — Core 0
Casing Diameter (in): 4" O.D. Steel Casing — Casing Depth (ft): 8	Water Level (ft.): First ▽ 6 — Completion ▼ - — 24 HR. ▼ -
Casing Hammer: Safety — Weight (lbs): 140 — Drop (in): 30	Drilling Foreman: Keith Parent
Sampler: 2" O.D. Split Spoon/ 3" O.D. Shelby Tube	Inspecting Engineer: Manisha Chawla
Sampler Hammer: Safety — Weight (lbs): 140 — Drop (in): 30	

Material Symbol	Elev. (ft)	Sample Description	Depth Scale	Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/ft)	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
	+6.0	Reddish-brown f-c SAND, trace fine gravel, trace silt, trace debris (wood, brick, and glass) (dry) [FILL]	0	S-1	SS	14	7 17 34 11	51	Started at 1:25 pm. SS 0'-2'
		Black f-m SAND, trace silt, trace debris (brick and wood) (dry) [FILL]	2	S-2	SS	4	17 21 20 19	41	SS 2'-4' Drilled to 4'.
	+2.0	Black PEAT, some clay (moist) [MEADOWMAT]	4	S-3	SS	14	2 3 2 2	5	SS 4'-6'
		Black PEAT, some clay (wet) [MEADOWMAT]	6 ▽	S-4	SS	2	1 2 2 1	4	SS 6'-8' Installed casing to 8'. Drilled to 8'. Gray wash.
			8	ST-1	UNDIST	20	PUSHED		Inserted Shelby tube sample ST-1 at 8' at 1:33 pm. Removed Shelby tube at 1:43 pm.
		Black PEAT, some clay (wet) [MEADOWMAT]	10	S-5	SS	24	WOH WOH 1 1	1	SS 10'-12'
	-5.2	Reddish-brown and gray VARVED SILT and CLAY, trace fine sand (wet)	12						Drilled to 15'. Gray wash.
		Reddish-brown and gray VARVED SILT and CLAY, trace fine sand (wet)	15	S-6	SS	24	5 8 12 13	20	SS 15'-17' q_u=1.5 tsf Drilled to 20'. Gray wash.
			17						
			20						

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Log of Boring **B-2** Sheet 2 of 3

Project	Project No.
American Dream	100234201
Location	**Elevation and Datum**
East Rutherford, New Jersey	Approx. el 6 (NGVD29)

Material Symbol	Elev. (ft)	Sample Description	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist. BL/6in	N-Value (Blows/ft) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
		Reddish-brown to gray VARVED SILT and CLAY (wet)	20	S-7	SS	24	1 1 1 1	2	SS 20'-22' q_u=0.25 tsf
			21						
			22						Drilled to 25'. Gray wash.
			23						
			24						
		Gray VARVED CLAY (wet)	25	S-8	SS	24	WOR WOR WOR WOR	0	SS 25'-27' Drilled to 27'. Gray wash. q_u < 0.1
			26						
			27						
			28	ST-2	UNDIST	28	PUSHED		Inserted Shelby tube sample ST-2 at 27' at 2:06 pm. Removed Shely tube at 2:16 pm.
		Gray VARVED CLAY (wet)	29	S-9	SS	24	WOR WOR WOR WOR	0	SS 29'-31'
			30						
			31						Drilled to 35'. Gray wash.
			32						
			33						
			34						
		Gray VARVED CLAY (wet)	35	S-10	SS	24	WOR WOR WOR WOR	0	SS 35'-37'
			36						
			37						Drilled to 40'. Gray wash.
			38						
			39						
		Reddish-brown to gray VARVED CLAY (wet)	40	S-11	SS	28	WOR WOR WOR WOR	0	SS 40'-42'
			41						
			42						Drilled to 45'. Gray wash.
			43						
			44						
			45						

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Log of Boring **B-2** Sheet 3 of 3

Project	Project No.
American Dream	100234201
Location	**Elevation and Datum**
East Rutherford, New Jersey	Approx. el 6 (NGVD29)

Material Symbol	Elev. (ft)	Sample Description	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/ft) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
		Reddish-brown to gray VARVED CLAY (wet)	45	S-12	SS	26	WOR WOR WOR WOR	0	SS 45'-47'
			46						
			47						Drilled to 50'. Gray wash.
			48						
			49						
	-44.0		50	S-13	SS	14	WOR WOH 6 9	6	SS 50'-52'
		Reddish-brown Clayey f-c SAND, some silt, trace fine gravel (wet) [TILL]	51						
			52						Drilled to 55'. Reddish-brown wash.
			53						
			54						
			55	S-14	SS	24	7 13 19 16	32	SS 55'-57'
		Reddish-brown Clayey f-c SAND, some silt, trace fine gravel (wet) [TILL]	56						
			57						Drilled to 60'. Gray wash.
			58						
			59						
			60	S-15	SS	18	22 70 38 28	108	SS 60'-62'
		Reddish-brown f-c SAND, some clay, trace f-c gravel, trace silt, trace rock fragments (wet) [TILL]	61						
			62						Drilled to 65'. Rig chattering at 64'. Reddish-brown wash.
			63						
			64						
			65	S-16	SS	2	60/2"	Refusal	SS 65'-65'2"
		Reddish-brown f-c SAND, some f-c gravel, some clay, trace silt, trace rock fragments (wet) [TILL]	66						Hard drilling 65'-68'. Rig bouncing at 67'. Refusal with drill bit at 68'. Rock inferred.
			67						
	-62.0		68	S-17	SS	0	50/0"	Refusal	SS at 68'
		End of boring at 65 feet.	69						Boring completed at 3:20 pm. Borehole grouted upon completion.
			70						

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Log of Boring **B-3** Sheet 1 of 1

Project: American Dream	Project No.: 100234201
Location: East Rutherford, New Jersey	Elevation and Datum: Approx. el 6.5 (NGVD29)
Drilling Agency: Craig Test Boring	Date Started: 8/19/11 — Date Finished: 8/19/11
Drilling Equipment: CME 750 AX Track-Mounted Drill Rig	Completion Depth: 16 ft — Rock Depth: NE
Size and Type of Bit: 2-7/8" & 3-7/8" Dia. Tri-Cone Roller Bit	Number of Samples: Disturbed 7, Undisturbed 1, Core 0
Casing Diameter (in): 4" O.D. Steel Casing — Casing Depth (ft): 10	Water Level (ft.): First ▽ 5, Completion ▼ -, 24 HR. ▼ -
Casing Hammer: Auto — Weight (lbs): 140 — Drop (in): 30	Drilling Foreman: Paul Mullins
Sampler: 2" O.D. Split Spoon/ 3" O.D. Shelby Tube	Inspecting Engineer: Manisha Chawla
Sampler Hammer: Safety — Weight (lbs): 140 — Drop (in): 30	

Material Symbol	Elev. (ft)	Sample Description	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/ft)	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
	+6.5	Reddish-brown fine SAND, some clay, trace roots (dry) [FILL]	0	S-1	SS	12	3 4 6 7	10	Started at 9:34 am. SS 0'-2'
		Reddish-brown fine SAND, trace silt, trace brick (dry) [FILL] Reddish-brown fine SAND, some silt, trace roots (dry) [FILL]	2	S-2	SS	14	4 6 5 2	11	SS 2'-4' Drilled to 4'.
		Reddish-brown to gray fine SAND, some silt, trace clay, trace roots (dry) [FILL] Black CLAY, some fine sand, trace roots (wet) [FILL]	4 ▽	S-3	SS	14	2 2 1 1	3	SS 4'-6'
		Black CLAY, some fine sand, trace roots (wet) [FILL]	6	S-4	SS	18	1 2 1 1	3	SS 6'-8' Drilled to 8'.
		Black fine SAND, some peat, trace roots (wet) [FILL]	8	S-5	SS	8	3 4 12 22	16	SS 8'-10'
	-3.5	Black PEAT, some fine sand, trace silt [MEADOWMAT]	10	S-6	SS	6	10 4 4 4	8	SS 10'-12' Installed casing to 10'. Drilled to 12'. Brown wash.
		Black PEAT, trace silt (wet) [MEADOWMAT]	12	S-7	SS	12	1 2 3 4	5	SS 12'-14' Drilled to 14'.
		Black PEAT (wet) [MEADOWMAT]	14	ST-1	UNDIST	24	PUSHED		Inserted Shelby tube sample ST-1 at 14' at 10:00 am. Removed Shelby tube at 10:10 am. Peat was observed at the top of the sample and clay was observed at the bottom of the sample. SS 16'-18' Lost split spoon in borehole while removing rods. Terminated boring at 10:30 am. Borehole grouted upon completion. Moved 4' east of the this location to Boring B3A.
	-9.3		16						
	-9.5	Reddish brown VARVED SILT AND CLAY (wet) Terminated boring at 16 feet.	18						
			20						

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Log of Boring **B-3A** Sheet 1 of 4

Project: American Dream	Project No.: 100234201
Location: East Rutherford, New Jersey	Elevation and Datum: Approx. el 6.5 (NGVD29)
Drilling Agency: Craig Test Boring	Date Started: 8/19/11 — Date Finished: 8/19/11
Drilling Equipment: CME 750 AX Track-Mounted Drill Rig	Completion Depth: 80 ft — Rock Depth: 75 ft
Size and Type of Bit: 2-7/8" & 3-7/8" Dia. Tri-Cone Roller Bit	Number of Samples: Disturbed 9 — Undisturbed 1 — Core 1
Casing Diameter (in): 4" O.D. Steel Casing — Casing Depth (ft): 10	Water Level (ft.): First ▽ 5 — Completion ▼ - — 24 HR. ▼ -
Casing Hammer: Auto — Weight (lbs): 140 — Drop (in): 30	Drilling Foreman: Paul Mullins
Sampler: 2" O.D. Split Spoon/ 3" O.D. Shelby Tube	Inspecting Engineer: Manisha Chawla
Sampler Hammer: Safety — Weight (lbs): 140 — Drop (in): 30	

Material Symbol	Elev. (ft)	Sample Description	Coring min/ ft	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/ft) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
	+6.5			0						Boring B3A moved 4' east of the original location. Started drilling at 10:35 am.
		▽		1–15						
	-9.5	Reddish-brown to gray VARVED SILT AND CLAY, trace fine sand (wet)		16	S-1	SS	20	4 8 11 14	19	Drilled to 16'. Brown wash. SS 16'-18'
				17–18						Drilled to 25'. Brown wash. Easy drilling.
				19–20						

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Log of Boring **B-3A** Sheet 2 of 4

Project	Project No.
American Dream	100234201
Location	**Elevation and Datum**
East Rutherford, New Jersey	Approx. el 6.5 (NGVD29)

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Coring min/ ft	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/ft) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
		Gray VARVED Clay (wet)		25	S-2	SS	24	WOR WOR WOR WOR	●	SS 25'-27' q_u=0.25 tsf
				27						Drilled to 30'. Brown wash. Easy drilling.
		Gray VARVED Clay (wet)		30	S-3	SS	24	WOR WOR WOR WOR	●	SS 30'-32' q_u<0.1 tsf
				32						Drilled to 35'. Brown to gray wash. Easy drilling.
		Reddish-brown to gray VARVED Clay (wet)		35	S-4	SS	24	WOR WOR WOR WOR	●	SS 35'-37'
				37						Drilled to 40'. Brown wash. Easy drilling.
		Reddish-brown VARVED Clay (wet)		40	S-5	SS	24	WOR WOR WOR WOR	●	SS 40'-42'
				42	SB-1	UNDIST	24	PUSHED		Drilled to 42'. Brown wash. Easy drilling. Inserted Shelby tube sample ST-1 at 42' at 11:04 am. Removed Shelby tube at 11:14 am. Clay observed at the bottom of the sample.
				45						Drilled to 45'.

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Log of Boring **B-3A** Sheet 3 of 4

Project	Project No.
American Dream	100234201
Location	**Elevation and Datum**
East Rutherford, New Jersey	Approx. el 6.5 (NGVD29)

Material Symbol	Elev. (ft)	Sample Description	Coring min/ ft	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/ft) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
		Reddish-brown VARVED Clay (wet)		45						SS 45'-47'
				46	S-6	SS	24	WOR WOR WOR WOR	0	
				47						Drilled to 50'. Easy drilling 47'-49'
				48						Moderatley difficult drilling at 49'. Till inferred.
	-42.5			49						
		Reddish-brown f-c SAND, some clay, trace f-c gravel (wet) [TILL]		50						SS 50'-52'
				51	S-7	SS	24	7 8 10 13	18	
				52						Drilled to 55'. Reddish-brown wash.
				53						
				54						
		Reddish-brown f-c SAND, some silt, trace f-c gravel (wet) [TILL]		55						SS 55'-57'
				56	S-8	SS	4	9 11 13 14	24	
				57						Drilled to 60'. Moderately difficult drilling. Reddish-brown to brown wash. Rig chattering at 59'.
				58						
				59						
		Reddish-brown f-c SAND, some silt (wet) [TILL]		60						SS 60'-62'
				61	S-9	SS	20	37 50 61 52	111	
				62						Drilled to 64'. Reddish-brown wash. Rig chattering at 63'. Difficult drilling between 63'-64'. Rig bouncing. Refusal with drill bit at 64'.
	-57.5			63						
		BOULDER		64						Started NX-core C1 at 64' at 12:20 pm.
				65						
				66	C-1	NX CORE	REC=8"/48" =17%	RQD=0"/48" =0%		Difficult coring at 68'. Stopped NX-core at 68' at 12:41 pm.
				67						
	-61.5			68						Boulder recovered in core C1.
				69						Drilled to 70'. Reddish-brown wash. Difficult drilling.
				70						

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Log of Boring **B-3A** Sheet 4 of 4

Project	Project No.
American Dream	100234201
Location	**Elevation and Datum**
East Rutherford, New Jersey	Approx. el 6.5 (NGVD29)

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Coring min/ ft	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/ft) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
		Reddish-brown ROCK FRAGMENTS, some silt, trace f-c sand (wet) [WEATHERED ROCK]		70	S-10	SS	20	44 49 50 45	99+	Switched to auto hammer. SS 70'-72' Drilled to 75'. Reddish-brown wash. Difficult drilling.
	-68.5			75	S-11	SS	0	50/0"	Refusal	SS at 75' Rock observed at the tip of spoon.
		Reddish-brown SHALE	5:30	76	C-2	NX CORE	REC=47"/60" =78%	RQD=20"/60" =33%		Started NX-core C2 at 75' at 1:25 pm.
			4:20	77						Reddish-brown wash.
			7:15	78						
			5:30	79						Finished NX-core at 80' at 2:12 pm.
			5:25	80						Boring completed at 2:30 pm. Borehole grouted upon completion.
	-73.5	End of boring at 80 feet.		81						
				82						
				83						
				84						
				85						
				86						
				87						
				88						
				89						
				90						
				91						
				92						
				93						
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Log of Boring **B-4** Sheet 1 of 4

Project: American Dream	Project No.: 100234201
Location: East Rutherford, New Jersey	Elevation and Datum: Approx. el 7 (NGVD29)
Drilling Agency: Craig Test Boring	Date Started: 8/18/11 — Date Finished: 8/18/11
Drilling Equipment: CME 750 AX Track-Mounted Drill Rig	Completion Depth: 80 ft — Rock Depth: 75 ft
Size and Type of Bit: 2-7/8" & 3-7/8" Dia. Tri-Cone Roller Bit	Number of Samples: Disturbed 19 — Undisturbed 2 — Core 1
Casing Diameter (in): 4" O.D. Steel Casing — Casing Depth (ft): 8	Water Level (ft.): First ▽ 6 — Completion ▼ - — 24 HR. ▼ -
Casing Hammer: Auto — Weight (lbs): 140 — Drop (in): 30	Drilling Foreman: Paul Mullins
Sampler: 2" O.D. Split Spoon/ 3" O.D. Shelby Tube	Inspecting Engineer: Manisha Chawla
Sampler Hammer: Safety — Weight (lbs): 140 — Drop (in): 30	

Material Symbol	Elev. (ft)	Sample Description	Coring min/ ft	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/ft)	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
	+7.0	Brown fine SAND, some silt, trace roots, trace debris (wood, brick and glass) [FILL]		0	S-1	SS	8	6, 9, 3, 2	12	Started drilling at 8:45 am. SS 0'-2'
		Brown f-m SAND, some peat, trace roots, trace debris (plastic, wood, glass and fabric) [FILL]		2	S-2	SS	8	2, 3, 4, 2	7	SS 2'-4' Drilled to 4'.
		Black to brown CLAY, some f-m sand, trace roots, trace debris (glass and plastic) (moist) [FILL]		4	S-3	SS	6	3, 3, 3, 5	6	SS 4'-6'
		Black and brown Clayey fine SAND, trace roots, some debris (plastic, wood, styrofoam, brick and glass) (wet) [FILL]	▽	6	S-4	SS	6	2, 3, 4, 28/1"	7	SS 6'-8' Plastic and wood stuck in spoon tip. Installed casing to 8'. Drilled to 8'.
		WOOD (wet) [FILL]		8	S-5	SS	1	5, 3, 2, 2	5	SS 8'-10'
	-3.0	Dark brown to black PEAT, some silt (wet) [MEADOWMAT]		10	S-6	SS	8	2, 2, 2, 1	4	SS 10'-12' Drilled to 12'.
		Dark brown PEAT (wet) [MEADOWMAT]		12	ST-1	UNDIST	24	PUSHED		Inserted Shelby tube sample ST-1 at 12' at 9:46 am. Removed Shelby tube at 9:58 am. Observed peat at bottom of sample. Drilled to 14'.
		Dark brown PEAT (wet) [MEADOWMAT]		14	S-7	SS	2	WOH, WOH, 1, 1	1	SS 14'-16'
	-11.0			16						Drilled to 18'. Brown wash. Gray wash at 18'. Clay inferred.
		Brown and gray VARVED SILT AND CLAY, trace fine sand (wet)		18	S-8	SS	19	5, 6, 8, 8	14	SS 18'-20' q_u = 1.5 tsf
				20						

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Log of Boring **B-4** Sheet 2 of 4

Project	Project No.
American Dream	100234201
Location	**Elevation and Datum**
East Rutherford, New Jersey	Approx. el 7 (NGVD29)

Material Symbol	Elev. (ft)	Sample Description	Coring min/ ft	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/ft) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				20						Drilled to 25'. Brown wash. Easy drilling.
				21						
				22						
				23						
				24						
		Brown VARVED CLAY, trace fine sand (wet)		25	S-9	SS	18	WOR WOR 0 WOR WOR		SS 25'-27' q_u = 1.0 tsf
				26						
				27						Drilled to 30'. Brown wash.
				28						
				29						
		Gray VARVED CLAY (wet)		30	S-10	SS	24	WOR WOR 0 WOR WOR		SS 30'-32' q_u = 1.0 tsf
				31						
				32						
				33						Drilled to 35'. Brown to gray wash.
				34						
		Brown VARVED CLAY (wet)		35	ST-2	UNDIST	24	PUSHED		Inserted Shelby tube sample ST-2 at 35' at 10:18 am.
				36						Removed Shelby tube at 10:28 am.
				37	S-11	SS	0	WOR WOR 0 WOR WOR		SS 37'-39'
				38						Drilled to 40'. Brown to gray wash. Easy drilling.
				39						
		Brown VARVED CLAY (wet)		40	S-12	SS	24	WOR WOR 0 WOR WOR		SS 40'-42'
				41						
				42						Drilled to 45'. Brown wash. Easy drilling.
				43						
				44						
				45						

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Log of Boring **B-4** Sheet 3 of 4

Project	Project No.
American Dream	100234201
Location	**Elevation and Datum**
East Rutherford, New Jersey	Approx. el 7 (NGVD29)

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Coring min/ ft	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/ft) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
		Brown VARVED CLAY (wet)		45	S-13	SS	24	WOR WOR WOR WOR	0	SS 45'-47'
				46						
				47						Drilled to 50'. Brown wash. Easy drilling.
				48						
				49						
	-43.0			50	S-14	SS	20	4 5 8 7	13	SS 50'-52'
		Reddish-brown fine SAND, some silt, trace clay (wet) [TILL]		51						
				52						Drilled to 55'. Reddish-brown wash. Easy drilling.
				53						
				54						
				55	S-15	SS	14	8 7 4 4	11	SS 55'-57'
		Reddish-brown f-c SAND, some fine gravel, trace silt (wet) [TILL]		56						
				57						Drilled to 60'. Reddish-brown wash. Difficult drilling.
				58						
				59						
				60	S-16	SS	18	4 7 11 9	18	SS 60'-62'
		Reddish-brown SILT, some f-c sand, trace fine gravel (wet) [TILL]		61						
				62						Drilled to 65'. Reddish-brown wash.
				63						
				64						
	-58.0			65	S-17	SS	16	40 38 40 45	78	SS 65'-67'
		Reddish-brown SILT, some rock fragments, trace f-c sand [DECOMPOSED ROCK]		66						
				67						Rig chattering at 65'. Drilled to 70'. Reddish-brown wash.
				68						
				69						
				70						

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Log of Boring **B-4** Sheet 4 of 4

Project	Project No.
American Dream	100234201
Location	**Elevation and Datum**
East Rutherford, New Jersey	Approx. el 7 (NGVD29)

Material Symbol	Elev. (ft)	Sample Description	Coring min/ ft	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/ft) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
		Reddish-brown SHALE ROCK fragments and SILT, trace clay [WEATHERED ROCK]		70	S-18	SS	5	100/5"	Refusal	SS 70'-70'5"
				71						Drilled to 75'. Reddish-brown to brown wash.
				72						
				73						
				74						Switched to auto hammer.
	-68.0			75	S-19	SS	0	50/0"	Refusal	SS refusal at 75'. Started NX-Core C-1 at 11:59 am.
		Reddish-brown SHALE ROCK	5:12	76	C-1	NX CORE	REC=55"/60" =92%	RQD=28"/60" =47%		
			4:44	77						Reddish-brown wash.
			5:20	78						
			4:51	79						Finished NX-Core at 12:23 pm.
			4:30	80						Borehole completed at 12:35 pm. Borehole grouted upon completion.
	-73.0	End of boring at 80 feet.		81						
				82						
				83						
				84						
				85						
				86						
				87						
				88						
				89						
				90						
				91						
				92						
				93						
				94						
				95						

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Log of Boring **B-5** Sheet 1 of 4

Project: American Dream	Project No.: 100234201
Location: East Rutherford, New Jersey	Elevation and Datum: Approx. el 11.5 (NGVD29)
Drilling Agency: Craig Test Boring	Date Started: 8/18/11 — Date Finished: 8/19/11
Drilling Equipment: CME 750 AX Track-Mounted Drill Rig	Completion Depth: 80.3 ft — Rock Depth: 80 ft
Size and Type of Bit: 2-7/8" & 3-7/8" Dia. Tri-Cone Roller Bit	Number of Samples: Disturbed 21 — Undisturbed 2 — Core 0
Casing Diameter (in): 4" O.D. Steel Casing — Casing Depth (ft): 15	Water Level (ft.): First ▽ 10 — Completion ▼ 6.5 — 24 HR. ▼ 7
Casing Hammer: Auto — Weight (lbs): 140 — Drop (in): 30	Drilling Foreman: Paul Mullins
Sampler: 2" O.D. Split Spoon/ 3" O.D. Shelby Tube	Inspecting Engineer: Manisha Chawla
Sampler Hammer: Safety — Weight (lbs): 140 — Drop (in): 30	

Material Symbol	Elev. (ft)	Sample Description	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist BL/6in.	N-Value (Blows/ft) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
	+11.5	Light brown to brown fine SAND, trace roots, trace silt (dry) [FILL]	0	S-1	SS	10	1 2 3	5	Started drilling at 12:50 pm. SS 0'-2'
		Brown to black fine SAND, trace roots, trace fine gravel (dry) [FILL]	2	S-2	SS	10	2 4 4	8	SS 2'-4' Drilled to 4'.
		Brown f-c SAND, trace roots, trace clay (dry) [FILL]	4	S-3	SS	12	3 4 3	7	SS 4'-6'
		Brown f-c SAND, trace roots, trace fine gravel (dry) [FILL] ▽ ▼	6	S-4	SS	14	2 3 2	5	SS 6'-8' Installed casing to 8'. Drilled to 8'.
		Black f-c SAND, trace fine gravel, trace clay, trace roots, trace glass (moist) [FILL]	8	S-5	SS	6	2 2 3	4	SS 8'-10'
		Black f-c SAND, trace fine gravel, trace clay, trace roots, trace glass (wet) [FILL] ▽	10	S-6	SS	12	WOH WOH WOH 4	0	SS 10'-12' Drilled to 12'.
		Black f-m SAND, some clay, trace roots, trace debris (wood, plastic, and glass) (wet) [FILL]	12	S-7	SS	8	3 4 5 7	9	SS 12'-14' Installed casing to 15'. Drilled to 15'. Brown to black wash.
		WOOD (wet) [FILL]	14						SS 15'-17'
	-5.5	Black PEAT (wet) [MEADOWMAT]	16	S-8	SS	1	4 8 3 4	11	Drilled to 18' Wash color changes from brown to black at 17'. Peat inferred.
			18	ST-1	UNDIST	24	PUSHED		Inserted Shelby tube sample ST-1 at 18' at 1:08 pm. Removed Shelby tube at 1:18 pm. Peat observed at the top of
	-8.3		20						

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Log of Boring **B-5** Sheet 2 of 4

Project	Project No.
American Dream	100234201
Location	**Elevation and Datum**
East Rutherford, New Jersey	Approx. el 11.5 (NGVD29)

Material Symbol	Elev. (ft)	Sample Description	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/ft) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
		Gray SILT, trace sand (wet) [MEADOWMAT]	20	S-9	SS	18	WOH WOH WOH WOH	WOH 0	the sample and silt at the bottom of the sample. Stopped work at 2:15 pm.
			21						Restarted at 6:55 am on 8/19/11.
			22						SS 20'-22'. Drilled to 22'. Black to gray wash.
			23	ST-2	UNDIST	24	PUSHED		Inserted Shelby tube sample ST-2 at 22' at 7:05 am. Removed Shelby tube at 7:15 am.
	-12.5		24						
		Brown and Gray VARVED SILT and CLAY, trace fine sand (wet)	25	S-10	SS	24	7 7 9 10	16	SS 24'-26'
			26						Installed casing to 20'.
			27						Drilled to 30'. Brown to gray wash. Easy drilling.
			28						
			29						
			30						
		Gray VARVED CLAY, trace fine sand (wet)	31	S-11	SS	18	WOR WOR WOR WOR	WOR 0	SS 30'-32' q_u = < 0.1 tsf
			32						Drilled to 35'. Gray wash. Easy drilling.
			33						
			34						
			35						
		Gray VARVED CLAY (wet)	36	S-12	SS	24	WOR WOR WOR WOR	WOR 0	SS 35'-37'
			37						Drilled to 40'. Gray wash. Easy drilling.
			38						
			39						
			40						
		Gray VARVED CLAY (wet)	41	S-13	SS	24	WOR WOR WOR WOR	WOR 0	SS 40'-42' q_u = < 0.1 tsf
			42						Drilled to 45'. Gray wash. Easy drilling.
			43						
			44						
			45						

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Log of Boring **B-5** Sheet 3 of 4

Project	Project No.
American Dream	100234201
Location	**Elevation and Datum**
East Rutherford, New Jersey	Approx. el 11.5 (NGVD29)

Material Symbol	Elev. (ft)	Sample Description	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/ft) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
		Brown VARVED CLAY (wet)	45						
			46	S-14	SS	24	WOR WOR WOR WOR	0	SS 45'-47'
			47						Drilled to 50'. Gray wash. Easy drilling.
			48						
			49						
		Reddish-brown VARVED CLAY (wet)	50						SS 50'-52'
			51	S-15	SS	24	WOR WOR WOR WOR	0	q_u = < 0.1 tsf
			52						Drilled to 55' Brown wash. Easy drilling.
			53						
			54						
		Reddish-brown VARVED CLAY (wet)	55						SS 55'-57'
			56	S-16	SS	20	WOR WOR WOR WOR	0	
			57						Drilled to 60'. Rig chattering at 59'. Gray to Reddish-brown wash. Till inferred.
	-47.5		58						
			59						
		Reddish-brown CLAY, some f-c sand, trace fine gravel, some silt (wet) [TILL]	60						SS 60'-62' Coarse gravel in spoon tip.
			61	S-17	SS	24	10 16 17 12	33	
			62						Drilled to 65'. Reddish-brown wash. Rig chattering.
			63						
			64						
		Reddish-brown CLAY, some f-c sand, some silt, trace fine gravel (wet) [TILL]	65						SS 65'-67'
			66	S-18	SS	20	17 20 26 17	46	
			67						Drilled to 70'. Reddish-brown wash. Rig chattering 69'-70'. Difficult drilling.
			68						
			69						
			70						

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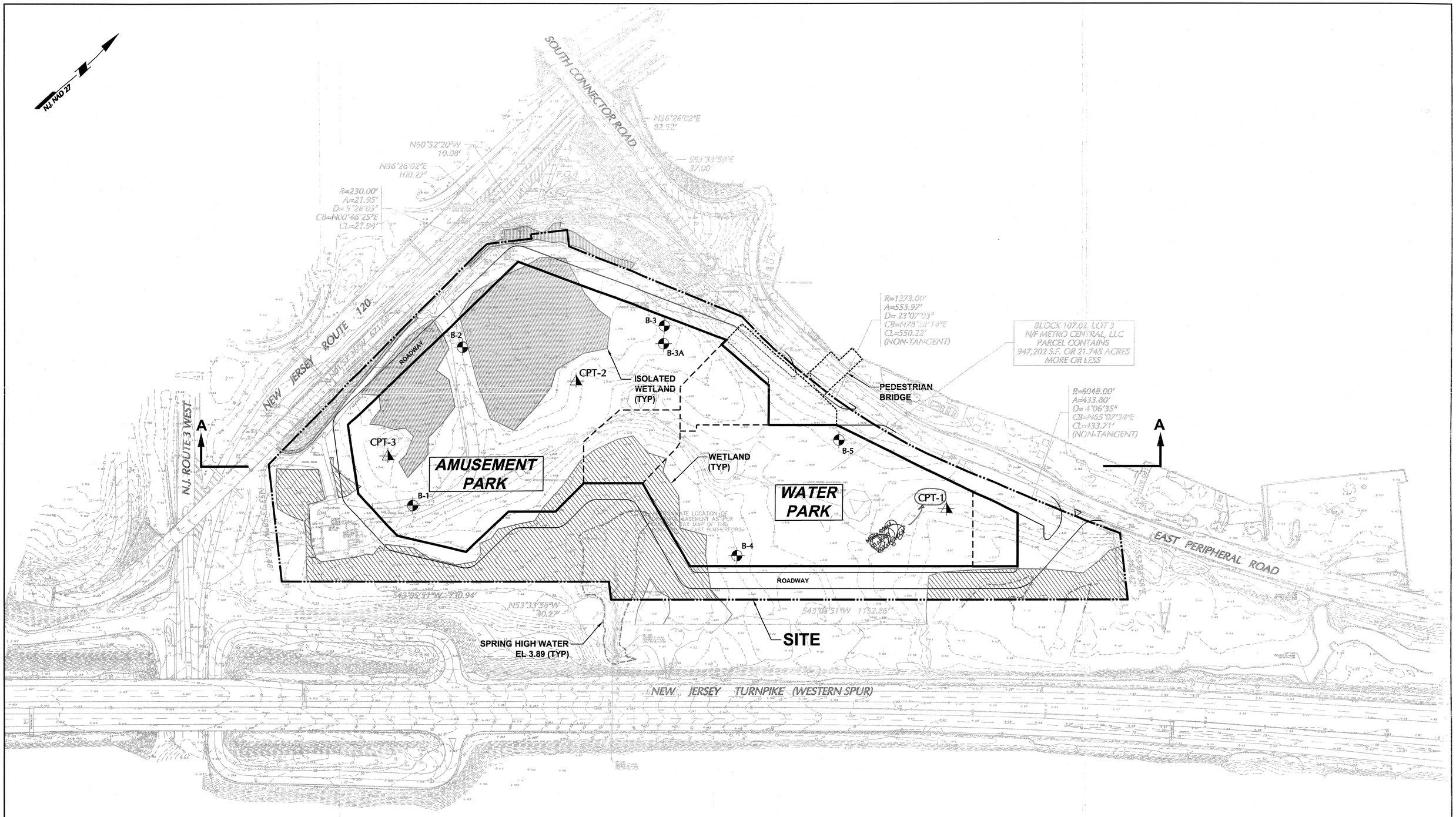
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Log of Boring **B-5** Sheet 4 of 4

Project	Project No.
American Dream	100234201
Location	**Elevation and Datum**
East Rutherford, New Jersey	Approx. el 11.5 (NGVD29)

Material Symbol	Elev. (ft)	Sample Description	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist. BL/6in	N-Value (Blows/ft) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
		Reddish-brown Gravelly SAND, some silt, some clay (wet) [TILL]	70	S-19	SS	24	29 31 51 53	82	SS 70'-72' (Switched to Auto Hammer)
			71						
			72						Drilled to 75' Moderately diffcult drilling. Rig chattering. Reddish-brown wash
			73						
			74						
	-63.5		75						
		Reddish-brown decomposed SHALE, some f-c sand, some silt (wet) [DECOMPOSED ROCK]	76	S-20	SS	22	22 27 58 56	85	SS 75'-77'
			77						Drilled to 80'. Reddish-brown wash. Difficult drilling.
			78						
			79						
	-68.5		80	S-21	SS		100/2.5'	Refusal	SS 80'-80.25'
	-68.7	Reddish-brown SHALE End of boring at 80.25 feet.	81						Borehole completed at 9:00 am. Temporary water level observation well (10' screen + 10' solid pipe) installed. Water level observation well removed on 8/22/11. Borehole grouted upon removal of well.
			82						
			83						
			84						
			85						
			86						
			87						
			88						
			89						
			90						
			91						
			92						
			93						
			94						
			95						

\\LANGAN.COM\DATA\EP\DATA2\100234201\ENGINEERING DATA\GEOTECHNICAL\GINTLOGS\100234201.GPJ ... 9/16/2011 9:53:30 AM ... Report: Log - LANGAN ... Template LANGAN.GDT



NOTES:

1. BASE FIGURE REPRODUCED FROM A 9 SEPTEMBER 2011 DRAFT BOUNDARY AND TOPOGRAPHIC SURVEY PREPARED BY LANGAN ENGINEERING AND ENVIRONMENTAL SERVICES, INC. (LANGAN).
   A. THE MERIDEAN OF THIS SURVEY IS REFERENCED TO THE NEW JERSEY STATE PLANE COORDINATE SYSTEM NAD 27 AS ESTABLISHED USING GPS METHODS AND CONVERTED USING CORPSCON.
   B. ELEVATIONS SHOWN ARE REFERENCED TO THE NGVD29 DATUM AS ESTABLISHED USING GPS METHODS AND CONVERTED USING CORPSCON.
2. WETLANDS AND SPRING HIGH WATER EXTENTS REPRODUCED FROM A 26 JULY 2011 WETLAND DELINEATION PLAN PREPARED BY LANGAN.
3. PROPOSED DEVELOPMENT REPRODUCED FROM A 22 JULY 2011 CONCEPTUAL MASSING PLAN CMP-4AW RADIO TOWER SITE PREPARED BY LANGAN.
4. DRILLED BORINGS B-1 THROUGH B-5 WERE PERFORMED BY CRAIG TEST BORING, INC. (CRAIG) BETWEEN 18 AND 22 AUGUST 2011 UNDER THE FULL-TIME INSPECTION OF LANGAN.
5. CONE PROBE BORINGS CPT-1 THROUGH CPT-3 WERE PERFORMED BY CRAIG TEST BORING, INC. ON 18 AUGUST 2011 UNDER THE FULL-TIME INSPECTION OF LANGAN.
6. SEE FIGURE 8 FOR GENERALIZED SUBSURFACE PROFILE.

LEGEND:

- DRILLED BORING LOCATION
- CONE PROBE BORING LOCATION

80 0 40 80
SCALE IN FEET

LANGAN
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NEW JERSEY PENNSYLVANIA NEW YORK CONNECTICUT FLORIDA NEVADA VIRGINIA CALIFORNIA
NJ Certificate of Authorization No: 24GA27996400

Project
AMERICAN DREAM
PRELIMINARY GEOTECHNICAL INVESTIGATION
EAST RUTHERFORD
BERGEN COUNTY NEW JERSEY

Drawing Title
BORING & CPT LOCATION PLAN

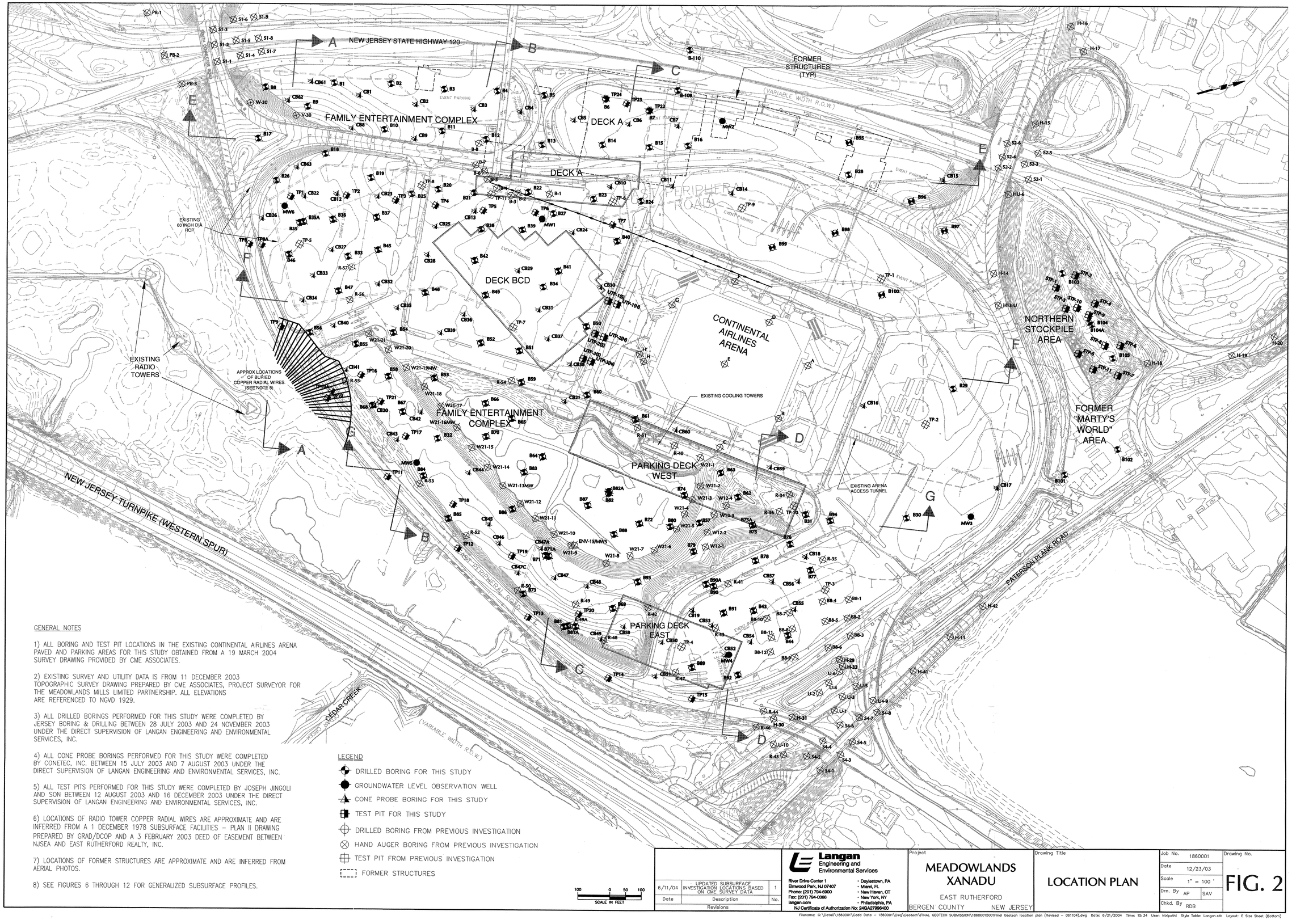
Project No.	100234201
Date	09/16/2011
Scale	1" = 80'
Drn. By	A.C.
Last Revised	A.P.

Figure No. 2

Filename: \\langan.com\data\EP\data2\100234201\Cadd Data – 100234201\Geotech\Boring and CPT Location Plan.dwg Date: 9/16/2011 Time: 12:43 User: klawson Style Table: Langan.stb Layout: Layout1

APPENDIX C

XANADU BORING LOGS AND LOCATION PLAN



GENERAL NOTES

1) ALL BORING AND TEST PIT LOCATIONS IN THE EXISTING CONTINENTAL AIRLINES ARENA PAVED AND PARKING AREAS FOR THIS STUDY OBTAINED FROM A 19 MARCH 2004 SURVEY DRAWING PROVIDED BY CME ASSOCIATES.

2) EXISTING SURVEY AND UTILITY DATA IS FROM 11 DECEMBER 2003 TOPOGRAPHIC SURVEY DRAWING PREPARED BY CME ASSOCIATES, PROJECT SURVEYOR FOR THE MEADOWLANDS MILLS LIMITED PARTNERSHIP. ALL ELEVATIONS ARE REFERENCED TO NGVD 1929.

3) ALL DRILLED BORINGS PERFORMED FOR THIS STUDY WERE COMPLETED BY JERSEY BORING & DRILLING BETWEEN 28 JULY 2003 AND 24 NOVEMBER 2003 UNDER THE DIRECT SUPERVISION OF LANGAN ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

4) ALL CONE PROBE BORINGS PERFORMED FOR THIS STUDY WERE COMPLETED BY CONETEC, INC. BETWEEN 15 JULY 2003 AND 7 AUGUST 2003 UNDER THE DIRECT SUPERVISION OF LANGAN ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

5) ALL TEST PITS PERFORMED FOR THIS STUDY WERE COMPLETED BY JOSEPH JINGOLI AND SON BETWEEN 12 AUGUST 2003 AND 16 DECEMBER 2003 UNDER THE DIRECT SUPERVISION OF LANGAN ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

6) LOCATIONS OF RADIO TOWER COPPER RADIAL WIRES ARE APPROXIMATE AND ARE INFERRED FROM A 1 DECEMBER 1978 SUBSURFACE FACILITIES – PLAN II DRAWING PREPARED BY GRAD/DCOP AND A 3 FEBRUARY 2003 DEED OF EASEMENT BETWEEN NJSEA AND EAST RUTHERFORD REALTY, INC.

7) LOCATIONS OF FORMER STRUCTURES ARE APPROXIMATE AND ARE INFERRED FROM AERIAL PHOTOS.

8) SEE FIGURES 6 THROUGH 12 FOR GENERALIZED SUBSURFACE PROFILES.

LEGEND

- DRILLED BORING FOR THIS STUDY
- GROUNDWATER LEVEL OBSERVATION WELL
- CONE PROBE BORING FOR THIS STUDY
- TEST PIT FOR THIS STUDY
- DRILLED BORING FROM PREVIOUS INVESTIGATION
- HAND AUGER BORING FROM PREVIOUS INVESTIGATION
- TEST PIT FROM PREVIOUS INVESTIGATION
- FORMER STRUCTURES

SCALE IN FEET: 100 0 50 100

Date	Description	No.
6/11/04	UPDATED SUBSURFACE INVESTIGATION LOCATIONS BASED ON CME SURVEY DATA	1
	Revisions	

Langan Engineering and Environmental Services

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- Miami, FL
- New Haven, CT
- New York, NY
- Philadelphia, PA

NJ Certificate of Authorization No: 24GA27996400

Project: MEADOWLANDS XANADU
EAST RUTHERFORD
BERGEN COUNTY NEW JERSEY

Drawing Title: LOCATION PLAN

Job No.	1860001
Date	12/23/03
Scale	1" = 100 '
Drn. By	AP SAV
Chkd. By	RDB

Drawing No.: FIG. 2

Filename: G:\Data0\1860001\Cadd Data – 1860001\Dwg\Geotech\FINAL GEOTECH SUBMISSION\1860001500\Final Geotech location plan (Revised – 061104).dwg Date: 6/21/2004 Time: 15:34 User: hfripathi Style Table: Langan.stb Layout: E Size Sheet (Bottom)

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Log of Boring **B-8** Sheet 1 of 3

Project: MEADOWLANDS XANADU		Project No.: 1860001	
Location: EAST RUTHERFORD, NJ		Elevation and Datum: approximately el 14 NGVD 1929	
Drilling Agency: JERSEY BORING AND DRILLING		Date Started: 7/28/03	Date Finished: 7/29/03
Drilling Equipment: ACKER D-2 DRILL RIG		Completion Depth: 50 ft	Rock Depth: 45 ft.
Size and Type of Bit: 3 7/8" OD ROLLER BIT		Number of Samples: Disturbed 13	Undisturbed 1 / Core 1
Casing Diameter (in): 4" ID CASING	Casing Depth (ft): 19	Water Level (ft.): First ▽ 11	Completion ▼ - / 24 HR. ▼ -
Casing Hammer: DONUT	Weight (lbs): 300 / Drop (in): 24	Drilling Foreman: MANUEL CARIRE	
Sampler: 2" OD STD SPLIT SPOON		Inspecting Engineer: SETH VAIDYA	
Sampler Hammer: SAFETY	Weight (lbs): 140 / Drop (in): 30		

Material Symbol	Elev. (ft)	Sample Description	Core Fissures	Casing blws/ft or Cor. Time	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
	+14.0	3" ASPHALT pavement and 5" ASPHALT millings			0						Start @ 12:50pm.
	+13.3	Dark Brown Silty CLAY, tr. fine sand, tr. roots. (moist) [FILL]			1						Drilled to 1 ft.
					2	S1	SS	16	5 9 9 14	18	SS 1 ft - 3 ft
		Light Brown f-m SAND, tr. coarse sand. (dry) [FILL]		9	3						
				11	4	S2	SS	14	19 21 21 24	42	SS 3 ft - 5 ft
				12	5						Installed casing to 5 ft.
		Brown Silty f-c SAND, tr. fine gravel. (moist) [FILL]		24	6	S3	SS	24	17 10 14 9	24	SS 5 ft - 7 ft
				31	7						
		Black organic SILT, sm. sand, tr. fine gravel, tr. roots, tr. plastic. (moist) [FILL]		39	8	S4	SS	13	8 15 23 14	38	SS 7 ft - 9 ft PID = 0 ppm
				9	9						Installed casing to 9 ft. Cleaned casing out.
		No Recovery ▽		17	10	S5	SS	0	9 8 5 4	13	SS 9 ft - 11 ft
				22	11						
				33	12	S6	SS	4	5 6 4 12	10	SS 11 ft - 13 ft PID = 1 ppm
		Black f-c SAND, tr. fine gravel, tr. plastic, tr. glass. (wet) (organic odor) [FILL]		31	13						Drilled to 15 ft. Loosing drilling mud at 12 ft.
				26	14						Dark blackish brown color wash with roots, wood.
				62	15						Installed casing to 14 ft.
				39	16	S7	SS	10	6 5 5 7	10	SS 15 ft - 17 ft
	-3.0	Dark Gray and Brown PEAT, visible white residue with light organic odor. (moist) [FILL]		33	17						
				38	18						Flushed casing and drilled down to 20 ft.
				21	19						
					20						

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Log of Boring **B-8** Sheet 2 of 3

Project	Project No.
MEADOWLANDS XANADU	1860001
Location	**Elevation and Datum**
EAST RUTHERFORD, NJ	approximately el 14 NGVD 1929

Material Symbol	Elev. (ft)	Sample Description	Core Fissures	Casing blws/ ft or Cor. Time	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist Bl./6in	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
		Brown and Gray alternating layers of VARVED CLAY and SILT, tr. roots. (wet)			20	S8	SS	16	4 6 7 8	13	SS 20 ft - 22 ft Left the sampler inside boring. qu = 0.75tsf Stopped at 2:55 pm. Restart at 7:40am on 7/29/03. Installed casing to 19 ft. Cleaned casing. Shelby tube sample obtained at 22 ft.
	-9.5	Reddish brown Sandy SILT, tr. roots. (wet)			21	SHELBY #1	UNDIST	18	Pushed		
					22						
					23						
	-12.0				24	S9	SS	5	9 9 11 10	20	SS 24 ft - 26 ft
					25						
					26						Drilled to 30 ft. Difficult drilling. Brown wash.
					27						
					28						
					29						
		Reddish brown Silty f-c SAND, tr. f-c gravel, tr. clay, tr. roots. (wet) [TILL]			30	S10	SS	10	16 26 34 50/2"	60	SS 30 ft - 32 ft
					31						
					32						Drilled to 35 ft. reddish brown color wash. Mod. difficult drilling.
					33						
					34						
		Reddish brown Silty f-c SAND, sm. f-c gravel, tr. clay, tr. roots. (wet) [TILL]			35	S11	SS	12	11 7 19 9	26	SS 35 ft - 37 ft
					36						
					37						Drilled to 40 ft. reddish brown wash. Mod. difficult drilling.
					38						
					39						
		No Recovery			40	S12	SS	0	50/2"	Refusal	SS 40 ft - 40 ft 2 in
					41						
					42						Reddish brown glacial till inferred. Drilled to 45 ft. Reddish brown shale in wash. Mod. difficult to difficult drilling.
					43						
					44						
	-31.0				45						

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Log of Boring **B-8** Sheet 3 of 3

Project	Project No.
MEADOWLANDS XANADU	1860001
Location	**Elevation and Datum**
EAST RUTHERFORD, NJ	approximately el 14 NGVD 1929

Material Symbol	Elev. (ft)	Sample Description	Core Fissures	Casing blws/ft or Cor. Time	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
		No Recovery		7:00	45	S13	S	0	50/1"	Refusal	SS 45 ft - 45 ft 1 in NX-coring 45 ft to 50 ft Changed rotation speed of barrel after 1 ft.
		Reddish brown SHALE		8:31	46	CORE #1	NX CORE	Rec=50"/60"=83%	RQD= 34"/60" =57%		
				6:12	47						
				4:12	48						Reddish brown colored wash.
				5:08	49						
	-36.0	End of boring at 50 ft at 11:19am.			50						Boring grouted and patched with asphalt upon completion.
					51						
					52						
					53						
					54						
					55						
					56						
					57						
					58						
					59						
					60						
					61						
					62						
					63						
					64						
					65						
					66						
					67						
					68						
					69						
					70						

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Log of Boring **B-17** Sheet 1 of 4

Project: MEADOWLANDS XANADU	Project No.: 1860001
Location: EAST RUTHERFORD, NJ	Elevation and Datum: approximately el 30 NGVD 1929
Drilling Agency: JERSEY BORING AND DRILLING	Date Started: 8/22/03 — Date Finished: 8/26/03
Drilling Equipment: A-300 INGERSOLL-RAND DRILL RIG	Completion Depth: 78 ft — Rock Depth: 73 ft.
Size and Type of Bit: 4 7/8" OD ROLLER BIT	Number of Samples: Disturbed 18, Undisturbed 1, Core 1
Casing Diameter (in): 4" ID CASING — Casing Depth (ft): 15	Water Level (ft.): First ▽ 4, Completion ▼ -, 24 HR. ▼ -
Casing Hammer: DONUT — Weight (lbs): 300 — Drop (in): 24	Drilling Foreman: CEMMIE HARTLEY
Sampler: 2" OD STD SPLIT SPOON	Inspecting Engineer: HIMANSHU TRIPATHI
Sampler Hammer: DONUT — Weight (lbs): 140 — Drop (in): 30	

Material Symbol	Elev. (ft)	Sample Description	Core Fissures	Coring Time (min)	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
	+30.0	Light Brown f-c SAND. (moist) [FILL]			0	S1	SS	6	9 16 17 26	33	Start time: 12:05pm.
					1						SS 0 ft - 2 ft
		Light Brown f-c SAND. (moist) [FILL]			2	S2	SS	6	28 30 30 31	60	
					3						SS 2 ft - 4 ft
					4						Drilled to 4 ft with water.
		Light Brown f-c SAND. (wet) [FILL]			5	S3	SS	8	7 5 8 12	13	SS 4 ft - 6 ft
		Light Brown f-c SAND. (wet) [FILL]			6	S4	SS	7	7 7 9 12	16	SS 6 ft - 8 ft
					7						
					8						Drilled to 8 ft with mud. Easy drilling. Brown color wash.
		Light Brown f-c SAND. (wet) [FILL]			9	S5	SS	11	4 3 7 24	10	SS 8 ft - 10 ft
		Light Brown f-c SAND. (wet) [FILL]			10	S6	SS	14	35 45 47 45	92	SS 10 ft - 12 ft
					11						
					12						Drilled to 15 ft. Installed casing to 10 ft (push).
					13						
					14						
					15						
		Light Brown m-c SAND. (wet) [FILL]			16	S7	SS	12	35 47 62 75	109	SS 15 ft - 17 ft
					17						
					18						Drilling stopped at 1:40pm on 8/22/03. Drilling started at 8:20 am on 8/25/03. Installed casing to 15 ft (push). Drilled to 20 ft. Light brown colored wash.
					19						
					20						

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Log of Boring **B-17** Sheet 2 of 4

Project	Project No.
MEADOWLANDS XANADU	1860001
Location	**Elevation and Datum**
EAST RUTHERFORD, NJ	approximately el 30 NGVD 1929

Material Symbol	Elev (ft)	Sample Description	Core Fissures	Coring Time (min)	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
		Light Brown f-c SAND. (wet) [FILL]			20	S8	SS	20	27 42 30 30	72	SS 20 ft - 22 ft
					21						Drilled to 25 ft. Light brown colored wash.
					22						
					23						
					24						
		Light Brown m-c SAND. (wet) [FILL]			25	S9	SS	15	31 39 37 49	76	SS 25 ft - 27 ft
					26						Drilled to 30 ft. Light brown wash.
					27						
					28						
					29						
		Light Brown f-c SAND. (wet) [FILL]			30	S10	SS	12	17 20 21 23	41	SS 30 ft - 32 ft
					31						Drilled to 35 ft.
					32						
					33						
					34						
	-6.6				35	S12	SS	10	13 11 12 30	23	SS 35 ft -37 ft
		Dark Brown to Black Sandy SILT. (wet)			36						Drilled to 40 ft. Dark brown color wash.
	-9.0				37						Easy drilling. Light brown color wash beyond 39 ft.
					38						
		Brown CLAY, tr. fine sand. (wet)			39						q_u=0.1tsf. s_u=0tsf.
					40	S13	SS	22	3 2 3 4	5	SS 40 ft - 42 ft
					41						Drilled to 45 ft. Light brown wash. Easy drilling.
					42						
					43						
					44						
					45						

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Log of Boring **B-17** Sheet 3 of 4

Project	Project No.
MEADOWLANDS XANADU	1860001
Location	**Elevation and Datum**
EAST RUTHERFORD, NJ	approximately el 30 NGVD 1929

Material Symbol	Elev. (ft)	Sample Description	Core Fissures	Coring Time (min)	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist. BL/6in	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
		Brown CLAY. (wet)			45						q_u=0.1tsf. s_u=0tsf.
					46	S14	SS	23	WOR WOR WOR WOR	0	SS 45 ft - 47 ft
					47						Drilled and cleaned up to 47 ft.
					48	SHELBY #1	UNDIST	24	PUSHED		Shelby tube 47 ft - 49 ft
		Reddish brown CLAY. (wet)			49						q_u=0.1tsf. s_u=0tsf.
					50	S15	SS	22	WOR WOR WOR WOR	0	SS 49 ft - 51 ft
					51						Drilled to 55 ft. Easy drilling. Moderate difficulty in drilling from 54 ft.
					52						
					53						
	-24.0				54						
		Reddish brown Silty SAND, sm. f-c gravel, tr. clay. (wet) [TILL]			55						
					56	S16	SS	10	9 13 10 25	23	SS 55 ft - 57 ft
					57						Moderate difficulty in drilling at 58 ft. Drilled to 60 ft. Reddish brown wash.
					58						
					59						
		Reddish brown Silty f-c SAND, sm. f-c gravel, tr. clay. (wet) [TILL]			60	S17	SS	4	100/5"	Refusal	SS 60 ft - 60.5 ft
					61						Drilling stopped at 2:25pm on 8/25/03. Drilling started at 8:00am on 8/26/03.
					62						
					63						
					64						
					65	S18	SS	12	47 40 86/4"	Refusal	Drilled to 65 ft. Difficulty in drilling, increased rotation speed.
					66						Reddish brown color wash. SS 65 ft - 66.3 ft
					67						
					68						Drilled to 70 ft. Difficulty in drilling. Vigorous shaking of drill rig at 67 ft.
					69						
					70						

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Log of Boring **B-17** Sheet 4 of 4

Project	Project No.
MEADOWLANDS XANADU	1860001
Location	**Elevation and Datum**
EAST RUTHERFORD, NJ	approximately el 30 NGVD 1929

Material Symbol	Elev. (ft)	Sample Description	Core Fissures	Coring Time (min)	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
		Reddish brown Silty f-c SAND, sm. f-c gravel, tr. clay, (wet) [TILL]			70	S19	SS	5	17		SS 70 ft - 71.25 ft
					71				82	Refusal	Drilled to 73 ft. Reddish brown wash. Very difficult drilling.
	-43.0				72				100/3"		
		Reddish brown SHALE.			73						NX Coring started at 73 ft.
				5:00	74						
				5:20	75	CORE #1	NX CORE	Rec=48"/60"=80%	RQD= 20"/60" =33%		NX Core 73 ft to 78 ft.
				6:05	76						Reddish brown color wash.
				6:10	77						
				6:08	78						
	-48.0	End of boring at 78 ft, at 11:45am.			79						Boring grouted on completion.
					80						
					81						
					82						
					83						
					84						
					85						
					86						
					87						
					88						
					89						
					90						
					91						
					92						
					93						
					94						
					95						

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Log of Boring **B-26** Sheet 1 of 4

Project: MEADOWLANDS XANADU		Project No.: 1860001	
Location: EAST RUTHERFORD, NJ		Elevation and Datum: approximately el 16 NGVD 1929	
Drilling Agency: JERSEY BORING AND DRILLING		Date Started: 8/13/03	Date Finished: 8/13/03
Drilling Equipment: ACKER D-2 DRILL RIG		Completion Depth: 70 ft	Rock Depth: 60.2 ft.
Size and Type of Bit: 3 7/8" O.D. ROLLER BIT		Number of Samples: Disturbed 16	Undisturbed 1 / Core 1
Casing Diameter (in): 4" ID CASING	Casing Depth (ft): 24	Water Level (ft.): First ▽ 7	Completion ▼ - / 24 HR. ▼ -
Casing Hammer: DONUT	Weight (lbs): 300 / Drop (in): 24	Drilling Foreman: MANUEL CARIRE	
Sampler: 2" OD STD SPLIT SPOON		Inspecting Engineer: SETH VAIDYA	
Sampler Hammer: SAFETY	Weight (lbs): 140 / Drop (in): 30		

MATERIAL SYMBOL	Elev (ft)	Sample Description	Core Fissures	Casing blws/ ft or Cor. Time	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr resist BL/6in	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
	+16.0	3" ASPHALT pavement and 5" ASPHALT millings			0						Start: 6:50 am
	+15.3				1						Drilled to 1 ft.
		Yellowish brown f-c SAND, tr. fine gravel. (moist) [FILL]			2	S1	SS	16	12 16 10 11	26	SS 1 ft - 3 ft
					3						
		Dark Brown Silty f-m SAND, tr. fine gravel, tr. wood, tr. glass. (organic odor) (moist) [FILL]			4	S2	SS	12	6 9 7 11	16	SS 3 ft - 5 ft
					5						Drilled to 5 ft with water.
		Dark Brown Silty f-m SAND, tr. roots. (organic) (moist) [FILL] ▽		22	6	S3	SS	15	6 7 7 8	14	SS 5 ft - 7 ft
				63	7						
		Dark Brown f-m SAND, tr. f-c gravel, tr. silt. (wet) [FILL]		67	8	S4	SS	2	17 40 50 48	90	SS 7 ft - 9 ft Gravel stuck in the spoon tip.
				28	9						Pushed casing to 6 ft. Drove casing to 9 ft.
		No recovery		24	10	S5	SS	0	4 6 7 6	13	Drilled to 9 ft. SS 9 ft - 11 ft Plastic catcher replaced.
				11							
		Dark Brown ORGANICS, tr. glass, tr. brick. (wet) [FILL]		33	11	S6	SS	14	7 4 6 11	10	SS 11 ft - 13 ft
				34	12						
				69	13						Drilled to 15 ft.
				69	14						
				57	15	S7	SS	6	5 6 8 7	14	SS 15 ft - 17 ft
		Dark Brown ORGANICS, tr. brick, tr. glass. (wet) [FILL]		59	16						Drove casing to 19 ft.
				82	17						Drilled to 20 ft.
				48	18						
	-3.0			53	19						Inferred transition at 19 ft.
					20						

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Log of Boring **B-26** Sheet 2 of 4

Project	Project No.
MEADOWLANDS XANADU	1860001
Location	**Elevation and Datum**
EAST RUTHERFORD, NJ	approximately el 16 NGVD 1929

Material Symbol	Elev. (ft)	Sample Description	Core Fissures	Casng blws/ ft or Cor. Time	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist BL/6in.	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
		Dark Brown PEAT. (wet) [MEADOWMAT]		60	20						
				66	21	S8	SS	3	5 3 2 5	5	SS 20 ft - 22 ft
				57	22						Installed casing to 24 ft.
				54	23						Drilled to 25 ft. Dark gray to black color wash. Organic odor up to 24 ft. Gray color wash beyond 24 ft.
	-8.0				24						
		Grayish brown SILT, sm. fine sand, tr. clay, tr. roots. (wet)			25	S9	SS	10	4 9 11 12	20	SS 25 ft- 27 ft q_u = 1.5 tsf s_u = 0.8 tsf Drilled to 30 ft. Brown color wash at 28 ft. Very easy drilling.
	-12.0				26						
					27						
					28						
					29						
		Brown CLAY, tr. silt, tr. fine sand. (wet)			30	S10	SS	24	WOH WOH WOH WOH	0	SS 30 ft - 32 ft
					31						
					32						Drilled to 32 ft.
					33	SHELBY #1	UNDIST	24	PUSH		Shelby tube at 32 ft.
					34						
		Brown CLAY. (wet)			35	S11	SS	19	WOH WOH WOH WOH	0	SS 34 ft - 36 ft q_u = 0 tsf Drilled to 40 ft. Brown color wash. Easy drilling.
					36						
					37						
					38						
					39						
					40						
		Brown CLAY. (wet)			41	S12	SS	24	WOH WOH WOH WOH	0	SS 40 ft - 42 ft q_u = 0 tsf Drilled to 45 ft. Brown color wash. Easy drilling.
					42						
					43						
					44						
					45						

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Log of Boring **B-26** Sheet 3 of 4

Project	Project No.
MEADOWLANDS XANADU	1860001
Location	**Elevation and Datum**
EAST RUTHERFORD, NJ	approximately el 16 NGVD 1929

Material Symbol	Elev. (ft)	Sample Description	Core Fissures	Casing blws/ft or Cor. Time	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist. BL/6in	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
		Brown CLAY. (wet)			45	S13	SS	24	WOR WOR WOH WOH	0	SS 45 ft - 47 ft q_u = 0 tsf Drilled to 50 ft. Brown color wash. Easy drilling.
					46						
					47						
					48						
					49						
					50	S14	SS	20	WOH WOH WOH WOH	0	SS 50 ft - 52 ft q_u = 0.25 tsf s_u = 0.1 tsf Drilled to 55 ft. Brown color wash. Easy drilling.
					51						
					52						
					53						
					54						
	-39.0	Reddish brown Sandy SILT, tr. clay, tr. f-c gravel. (wet) [TILL]			55	S15	SS	15	16 24 18 15	42	SS 55 ft - 57 ft Drilled to 60 ft. Reddish brown color wash. Moderately difficult drilling.
					56						
					57						
					58						
					59						
	-44.0	Reddish brown Sandy SILT, tr. clay, tr. fine gravel. (wet) [TILL]			60	S16	SS	2	100/4"	Refusal	
		Reddish brown weathered SHALE. (wet)			61						SS 60 ft - 62 ft Drilled to 65 ft. Reddish brown color wash. Very difficult drilling.
					62						
					63						
					64						
				3:50	65	CORE #1	NX CORE	Rec=60"/60"=100%	ROD= 44"/60" =73%		NX coring beyond 65 ft.
				4:20	66						
		Reddish brown SHALE.		5:00	67						
				4:30	68						
				4:00	69						
	-54.0				70						

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Log of Boring **B-26** Sheet 4 of 4

Project	Project No.
MEADOWLANDS XANADU	1860001
Location	**Elevation and Datum**
EAST RUTHERFORD, NJ	approximately el 16 NGVD 1929

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Core Fissures	Casng blws/ ft or Cor. Time	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
		End of boring at 12:00 pm and 70 ft.			70						Boring grouted and patched with asphalt on completion.
					71						
					72						
					73						
					74						
					75						
					76						
					77						
					78						
					79						
					80						
					81						
					82						
					83						
					84						
					85						
					86						
					87						
					88						
					89						
					90						
					91						
					92						
					93						
					94						
					95						

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Log of Boring **B-46** Sheet 1 of 4

Project: MEADOWLANDS XANADU	Project No.: 1860001
Location: EAST RUTHERFORD, NJ	Elevation and Datum: approximately el 14 NGVD 1929
Drilling Agency: JERSEY BORING AND DRILLING	Date Started: 8/28/03 — Date Finished: 8/29/03
Drilling Equipment: A-300 INGERSOLL-RAND DRILL RIG	Completion Depth: 74 ft — Rock Depth: 69 ft.
Size and Type of Bit: 4 7/8" O.D. ROLLER BIT	Number of Samples: Disturbed 18 — Undisturbed 0 — Core 1
Casing Diameter (in): 4" ID CASING — Casing Depth (ft): 24	Water Level (ft.): First ▽ 5 — Completion ▼ - — 24 HR. ▼ -
Casing Hammer: DONUT — Weight (lbs): 140/300 — Drop (in): 24	Drilling Foreman: CEMMIE HARTLEY
Sampler: 2" OD STD SPLIT SPOON	Inspecting Engineer: HIMANSHU TRIPATHI
Sampler Hammer: SAFETY — Weight (lbs): 140 — Drop (in): 30	

Material Symbol	Elev. (ft)	Sample Description	Core Fissures	Casing blws/ft or Cor. Time	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
	+14.0	3" ASPHALT pavement and 5" ASPHALT millings.			0						Start time: 7:55 am
	+13.3				1						Drilled to 1 ft with water.
				28		S1	SS	12	24 17 18 24	35	SS 1 ft - 3 ft
	+11.6	Yellowish gray f-c SAND. (moist) [FILL]		28	2						
		Black PEAT. (moist) [FILL]			3						
		Gray f-c SAND. (moist) [FILL]		30		S2	SS	12	16 23 60 72	83	SS 3 ft - 5 ft
	+10.0	Reddish brown Silty f-c SAND, f-c gravel, tr. wood. (moist) [FILL] ▽		32	4						
					5						Drilled to 5 ft with mud. Dark brown color wash.
		Dark Gray f-c SAND. (wet) [FILL]		20		S3	SS	1	32 47 40 43	87	SS 5 ft - 7 ft
				18	6						
		Dark Gray f-c GRAVEL, tr. f-c sand. (wet) [FILL]		22		S4	SS	14	26 44 53 95	97	SS 7 ft - 9 ft
				20	7						
		Reddish brown to Black ORGANICS, some f-c sand, tr. f-c gravel, tr. glass. (wet) [FILL]		20		S5	SS	6	3 5 11 11	16	Installed casing to 9 ft. Changed casing hammer weight from 140 lbs to 300 lbs after depth of 5 ft. Drilled to 9 ft.
				20	8						
		Brown to Black f-c SAND, some f-c gravel, tr. wood. (wet) [FILL]		21		S6	SS	2	7 11 35 100/2"	46	SS 9 ft - 11 ft SS 11 ft - 12.6 ft
				22	9						Drilled to 15 ft. Light brown color wash.
				24							
		Dark Brown to Black ORGANICS, some f-c sand, tr. glass, tr. f-c gravel, tr. rubber. (wet) [FILL]		25		S7	SS	1	41 100	Refusal	SS 15 ft - 16 ft
				26	10						Installed casing to 14 ft.
				24							Drilled to 20 ft. Dark brown to black color wash with wood.
				23							
				43							

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Log of Boring **B-46** Sheet 2 of 4

Project	Project No.
MEADOWLANDS XANADU	1860001
Location	**Elevation and Datum**
EAST RUTHERFORD, NJ	approximately el 14 NGVD 1929

Material Symbol	Elev. (ft)	Sample Description	Core Fissures	Casing blws/ ft or Cor. Time	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
		Brown to Black ORGANICS, tr. f-c sand, tr. f-c gravel, tr. rubber, tr. glass, tr. cloth. (wet) [FILL]		45	20	S8	SS	.5	11 4 4 6	8	SS 20 ft - 22 ft
				40	21						Installed casing to 19 ft.
				45	22						Drilled to 25 ft. Dark brown color wash with wood. Wash color changed to reddish brown at 24 ft.
	-10.0			45	23						
		Reddish brown VARVED SILT and CLAY, tr. f-c sand. (wet)			24						
					25	S9	SS	18	9 7 8 7	15	SS 25 ft - 27 ft
					26						Stopped drilling at 27 ft at 1:15 pm on 8/28/03. Started drilling at 7:10 am on 8/29/03.
					27						Installed casing to 24 ft.
					28						Drilled to 30 ft. Brown color wash.
					29						
					30	S10	SS	2	3 2 2 1	4	SS 30 ft - 32 ft q_u = 0 tsf s_u = 0 tsf
		Reddish brown VARVED SILT and CLAY. (wet)			31						
	-18.0				32						Drilled to 35 ft. Brown color wash at 32 ft.
					33						
					34						
		Brown CLAY. (wet)			35	S11	SS	24	WOR WOR WOR WOR	0	SS 35 ft - 37 ft q_u = 0 tsf s_u = 0 tsf
					36						
					37						Drilled to 40 ft. Brown color wash.
					38						
					39						
					40	S12	SS	0	WOR WOR WOR WOR	0	SS 40 ft - 42 ft
		No recovery			41						
					42						Drilled to 45 ft. Brown color wash.
					43						
					44						
					45						

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Log of Boring **B-46** Sheet 3 of 4

Project	Project No.
MEADOWLANDS XANADU	1860001
Location	**Elevation and Datum**
EAST RUTHERFORD, NJ	approximately el 14 NGVD 1929

Material Symbol	Elev. (ft)	Sample Description	Core Fissures	Casing blws/ft or Cor. Time	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist. Bl./6in	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
		Brown CLAY. (wet)			45	S13	SS	3	2 2 1 2	3	SS 45 ft - 47 ft q_u = 0 tsf s_u = 0 tsf
					46						
					47						
					48						Drilled to 50 ft. Brown color wash. Easy drilling.
					49						
					50	S14	SS	24	WOR WOR WOR WOR	0	SS 50 ft - 52 ft q_u = 0 tsf s_u = 0 tsf
		Brown CLAY. (wet)			51						
					52						
					53						Drilled to 55 ft. Brown color wash.
					54						
		Brown CLAY. (wet)			55	S15	SS	24	2 3 4 8	7	SS 55 ft - 57 ft q_u = 0.1 tsf s_u = 0 tsf
	-42.6				56						
		Reddish brown Silty f-c SAND, tr. f-c gravel, tr. clay. (wet) [TILL]			57						
					58						Drilled to 60 ft. Brown color wash.
					59						
					60	S16	SS	0	8 8 6 9	14	SS 60 ft - 62 ft
		No recovery			61						
					62						
					63						Drilled to 65 ft. reddish brown color wash. Moderate difficulty in drilling at 63 ft.
					64						
					65	S17	SS	12	24 42 62 70	104	SS 65 ft - 67 ft
		Reddish brown Silty f-c SAND, tr. clay, tr. f-c gravel (wet) [TILL]			66						
					67						
					68						Drilled to 70 ft. reddish brown color wash.
					69						Difficulty drilling at 69 ft.
	-55.0				70						

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Log of Boring **B-46** Sheet 4 of 4

Project	Project No.
MEADOWLANDS XANADU	1860001
Location	**Elevation and Datum**
EAST RUTHERFORD, NJ	approximately el 14 NGVD 1929

Material Symbol	Elev (ft)	Sample Description	Core Fissures	Casng blws/ft or Cor. Time	Depth Scale	Sample Data: Number	Type	Recov (in)	Penetr. resist BL/6in	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
		Reddish brown weathered SHALE.		6:30	70	S18	S3	0.5	100/2"	Refusal	SS 70 ft - 70.17 ft
				5:00	71	CORE #1	NX CORE	Rec=41"/45.96"=89%	RQD= 0"/45.96" =0%		
		Reddish brown SHALE.		8:20	72						NX Coring from 70 ft - 74 ft
				6:50	73						Core barrel jammed at 74 ft.
	-60.0				74						Stopped coring at 74 ft.
		End of boring at 1:40 pm and 74 ft.			75						Boring grouted and patched with asphalt upon completion.
					76						
					77						
					78						
					79						
					80						
					81						
					82						
					83						
					84						
					85						
					86						
					87						
					88						
					89						
					90						
					91						
					92						
					93						
					94						
					95						

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Log of Boring **B-55** Sheet 1 of 4

Project: MEADOWLANDS XANADU		Project No.: 1860001	
Location: EAST RUTHERFORD, NJ		Elevation and Datum: approximately el 16 NGVD 1929	
Drilling Agency: JERSEY BORING AND DRILLING		Date Started: 9/5/03	Date Finished: 9/8/03
Drilling Equipment: ACKER D-2 DRILL RIG		Completion Depth: 85 ft	Rock Depth: 78 ft.
Size and Type of Bit: 3 7/8" O.D. ROLLER BIT		Number of Samples: Disturbed 24	Undisturbed 0 / Core 1
Casing Diameter (in): 4" ID CASING	Casing Depth (ft): 14	Water Level (ft.): First ▽ 4	Completion ▼ - / 24 HR. ▼ -
Casing Hammer: DONUT	Weight (lbs): 300 / Drop (in): 24	Drilling Foreman: CARLOS TIRADO	
Sampler: 2" OD STD SPLIT SPOON		Inspecting Engineer: SETH VAIDYA	
Sampler Hammer: SAFETY	Weight (lbs): 140 / Drop (in): 30		

Material Symbol	Elev. (ft)	Sample Description	Core Fissures	Coring Time (min)	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
	+16.0	Brown f-c SAND, tr. silt, tr. roots. (moist) [FILL]			0	S1	SS	12	4 4 5	8	Start: 6:50 am SS 0 ft - 2 ft
		Brown f-m SAND, tr. silt. (moist) [FILL]			2	S2	SS	15	7 9 9 8	18	SS 2 ft - 4 ft
		Brown Silty f-m SAND, tr. roots. (wet) [FILL]			4	S3	SS	4	3 4 4 4	8	Drilled to 4 ft. SS 4 ft - 6 ft
		No recovery			6	S4	SS	0	50/0"	Refusal	SS 6 ft - 8 ft
		Dark Brown organic SILT, sm. f-c sand, tr. clay, tr. plastic. (wet) [FILL]			8	S5	SS	14	3 5 8 9	13	Drilled to 8 ft. SS 8 ft - 10 ft
		Dark Brown organic SILT, tr. f-c sand, tr. clay, tr. f-c gravel, tr. plastic. (wet) [FILL]			10	S6	SS	10	15 10 12 9	22	SS 10 ft - 12 ft
		Dark Brown organic SILT, tr f-c sand, tr. plastic. (wet) [FILL]			12	S7	SS	8	2 4 6 10	10	Pushed casing to 9 ft. Drilled to 12 ft. SS 12 ft - 14 ft
	+2.5	Dark Brown f-m SAND. (wet) [FILL]			14	S8	SS	16	9 16 11 19	27	SS 14 ft - 16 ft
		Dark Brown f-m SAND, tr. silt, tr f-c gravel. (wet) [FILL]			16	S9	SS	12	18 15 8 16	23	Pushed casing to 14 ft. Drilled to 16 ft. SS 16 ft - 18 ft
		Gray f-m SAND. (wet) [FILL]			18	S10	SS	8	8 8 28 8	36	SS 18 ft - 20 ft
		Gray f-m SAND, tr. silt. (wet) [FILL]			20						

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Log of Boring **B-55** Sheet 2 of 4

Project	Project No.
MEADOWLANDS XANADU	1860001
Location	**Elevation and Datum**
EAST RUTHERFORD, NJ	approximately el 16 NGVD 1929

Material Symbol	Elev. (ft)	Sample Description	Core Fissures	Coring Time (min)	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
					20						Drilled to 20 ft.
	-5.5	Dark Gray Sandy SILT, tr. organics. (wet) [FILL]			21	S11	SS	3	2 3 4 5	7	SS 20 ft - 22 ft
		Brown PEAT. (wet) [MEADOWMAT]			22						
					23	S12	SS	14	3 4 4 3	8	SS 22 ft - 24 ft
	-8.0	Brown PEAT. (wet) [MEADOWMAT]			24						Drilled to 24 ft.
		Gray SILT, tr. clay. (wet)			25	S13	SS	12	4 6 9 11	15	SS 24 ft - 26 ft q_u = 2.5 tsf S_u = 1.0 tsf
		Gray SILT, tr. clay. (wet)			26						
	-11.0	Brown VARVED CLAY and SILT, tr. fine sand. (wet)			27	S14	SS	24	11 13 18 18	31	SS 26 ft - 28 ft
					28						
					29						Drilled to 30 ft. Brown color wash. Easy drilling.
					30						
		Brown VARVED CLAY and SILT, tr. fine sand. (wet)			31	S15	SS	24	2 3 6 6	9	SS 30 ft - 32 ft q_u = 1.0 tsf S_u = 0.3 tsf
					32						Drilled to 35 ft. Brown colored wash. Easy drilling.
	-17.0				33						Inferred transition at 33 ft.
					34						
					35						
		Brown CLAY. (wet)			36	S16	SS	18	WOH WOH WOH WOH	0	SS 35 ft - 37 ft S_u = 0.06 tsf (remolded)
					37						
					38						Drilled to 40 ft. Brown color wash. Easy drilling.
					39						
					40						
		Brown CLAY. (wet)			41	S17	SS	24	WOR WOR WOR WOR	0	SS 40 ft - 42 ft S_u - 0.08 tsf (remolded)
					42						
					43						Drilled to 45 ft. Brown color wash. Easy drilling.
					44						
					45						

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Project	Project No.
MEADOWLANDS XANADU	1860001
Location	**Elevation and Datum**
EAST RUTHERFORD, NJ	approximately el 16 NGVD 1929

Material Symbol	Elev (ft)	Sample Description	Core Fissures	Coring Time (min)	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
		Brown CLAY. (wet)			45	S18	SS	10	WOR WOR WOR WOR		SS 45 ft - 47 ft S_u = 0.08 tsf (remolded)
					46						
					47						
					48						Drilled to 50 ft. Brown color wash. Easy drilling.
					49						
		Brown CLAY. (wet)			50	S19	SS	12	WOR WOR WOR WOR		SS 50 ft - 52 ft S_u = 0.1 tsf (remolded)
					51						
					52						Drilled to 55 ft. Brown color wash. Easy Drilling.
					53						
					54						
		Brown CLAY. (wet)			55	S20	SS	15	WOR WOR WOR WOR		SS 55 ft - 57 ft S_u = 0.12 tsf (remolded)
					56						
					57						
					58						Drilled to 60 ft. Brown color wash. Easy drilling.
					59						
		Brown CLAY, tr. silt, tr. fine sand. (wet)			60	S21	SS	18	WOR WOR WOR WOR		SS 60 ft - 62 ft S_u = 0.04 tsf (remolded) End of days work at 12:20 pm.
					61						
					62						Restart on 9/8/03 at 7:35 am.
					63						
					64						
		Brown CLAY, tr. silt, tr. fine sand (wet)			65	S22	SS	10	WOH WOH 17 27		Drilled to 65 ft. SS 65 ft - 67 ft
	-50.0				66						
		Reddish brown Sandy SILT, tr. f-c gravel, tr. clay. (wet) [TILL]			67						
					68						Drilled to 70 ft. Reddish brown color wash. Moderately difficult drilling.
					69						
					70						

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Log of Boring **B-55** Sheet 4 of 4

Project	Project No.
MEADOWLANDS XANADU	1860001
Location	**Elevation and Datum**
EAST RUTHERFORD, NJ	approximately el 16 NGVD 1929

Material Symbol	Elev. (ft)	Sample Description	Core Fissures	Coring Time (min)	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
		Reddish brown Sandy SILT, tr. clay, tr. f-c gravel. (wet) [TILL]			70	S23	SS	1	16 24 30 47	54+	SS 70 ft - 72 ft
					71						
					72						Drilled to 75 ft. Reddish brown color wash. Moderately difficult drilling.
					73						
					74						
		Reddish brown Sandy SILT, tr. clay, tr. f-c gravel. (wet) [TILL]			75	S24	SS	9	7 12 25 41	37+	SS 75 ft - 77 ft
					76						
	-62.0				77						
					78						Drilled to 80 ft. Reddish brown color wash. Difficult drilling beyond 78 ft.
					79						
		No recovery		5:30	80	S25	SS	0	50/0"	Refusal+	SS 80 ft - 82 ft. Spoon bouncing.
				6:15	81	CORE # 1	NX CORE	Rec=60"/60"=100%	RQD= 45"/60" =75%		NX Coring beyond 80 ft.
				6:00	82						
		Reddish brown SHALE.		7:15	83						Reddish brown color wash.
				6:30	84						
	-69.0				85						
		End of boring at 11:00 am and 85 ft.			86						Boring grouted and patched with asphalt at completion.
					87						
					88						
					89						
					90						
					91						
					92						
					93						
					94						
					95						

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Log of Boring **B-56** Sheet 1 of 4

Project: MEADOWLANDS XANADU		Project No.: 1860001	
Location: EAST RUTHERFORD, NJ		Elevation and Datum: approximately el 12 NGVD 1929	
Drilling Agency: JERSEY BORING AND DRILLING		Date Started: 9/5/03	Date Finished: 9/5/03
Drilling Equipment: ACKER D-2 DRILL RIG		Completion Depth: 80 ft	Rock Depth: 74 ft.
Size and Type of Bit: 3 7/8" O.D. ROLLER BIT		Number of Samples: Disturbed 18	Undisturbed 0 / Core 1
Casing Diameter (in): 4" ID CASING	Casing Depth (ft): 19	Water Level (ft.): First ▽ 5	Completion ▼ - / 24 HR. ▼ -
Casing Hammer: DONUT	Weight (lbs): 300 / Drop (in): 24	Drilling Foreman: MANUEL CARIRE	
Sampler: 2" OD STD SPLIT SPOON		Inspecting Engineer: SETH VAIDYA	
Sampler Hammer: SAFETY	Weight (lbs): 140 / Drop (in): 30		

Elev. (ft)	Sample Description	Sample Data: Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/foot)	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
+12.0	3" ASPHALT pavement and 5" ASPHALT millings.						
+11.3	Brown f-m SAND, tr. silt. (moist) [FILL]	S1	SS	12	11, 16, 23, 23	39	Start: 6:55 am Drilled to 1 ft. SS 1 ft - 3 ft
+10.0	Gray f-m SAND, tr. silt. (moist) [FILL]						
	Brown and Gray f-c SAND, tr. silt, tr. f-c gravel, tr. wood. (moist) [FILL] ▽	S2	SS	16	9, 17, 11, 10	28	SS 3 ft - 5 ft
							Drilled to 5 ft.
	Dark Brown organic SAND and SILT, tr. roots. (wet) [FILL]	S3	SS	3	4, 4, 6, 9	10	SS 5 ft - 7 ft
	Dark Brown Silty f-c SAND, tr. wood, tr. plastic. (wet) [FILL]	S4	SS	12	4, 8, 8, 7	16	SS 7 ft - 9ft
							Pushed casing to 9 ft. Drilled to 9 ft.
	Brown Sandy f-c GRAVEL, tr. glass. (wet) [FILL]	S5	SS	1	3, 3, 2, 2	5	SS 9 ft - 11 ft
	Black Silty f-c SAND, sm. organics, tr. wood. (very strong organic odor) (wet) [FILL]	S6	SS	4	2, 2, 2, 2	4	SS 11 ft - 13 ft
-2.0							Pushed casing to 14 ft. Drilled to 15 ft. Black color wash. Wood and roots in the wash beyond 14 ft.
	No Recovery	S7	SS	0	4, 7, 9, 6	16	SS 15 ft - 17 ft Wood and root fibers in catcher. Meadowmat inferred.
-6.0							Pushed casing to 19 ft. before spoon for S7 was opened. Drilled to 20 ft. Wash turned grayish brown at 18 ft. Inferred transition at 18 ft.

Core Fissures | Coring Time (min) | Depth Scale: 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 | N-Value (Blows/foot): 10 20 30 40

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Log of Boring **B-56** Sheet 2 of 4

Project	Project No.
MEADOWLANDS XANADU	1860001
Location	**Elevation and Datum**
EAST RUTHERFORD, NJ	approximately el 12 NGVD 1929

Material Symbol	Elev. (ft)	Sample Description	Core Fissures	Coring Time (min)	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
		Gray and Brown SILT, tr. clay. (wet)			20	S8	SS	16	2 5 7 11	12	SS 20 ft - 22 ft q_u = 1.75 tsf S_u = 0.6 tsf
	-10.0				21						
					22						Drilled to 25 ft. Brown color wash beyond 22 ft.
					23						
					24						
					25						
		Brown VARVED CLAY, SILT and SAND. (wet)			26	S9	SS	20	4 5 7 8	12	SS 25 ft - 27 ft q_u = 1.5 tsf S_u = 0.4 tsf
					27						
	-16.0				28						Drilled to 30 ft. Brown color wash. Easy drilling. Inferred transition at 28 ft.
					29						
					30				WOR		
		Brown CLAY, tr. silt, tr. fine sand. (wet)			31	S10	SS	24	WOR WOH WOH	0	SS 30 ft - 32 ft S_u = 0.12 tsf (remolded)
					32						
					33						Drilled to 35 ft. Easy drilling. Brown color wash.
					34						
					35				WOR		
		Brown CLAY. (wet)			36	S11	SS	13	WOR WOR	0	SS 35 ft - 37 ft S_u = 0.07 tsf (remolded)
					37						
					38						Drilled to 40 ft. Easy drilling. Brown color wash.
					39						
					40				WOR		
		Brown CLAY. (wet)			41	S12	SS	16	WOR WOR	0	SS 40 ft - 42 ft S_u = 0.1 tsf (remolded)
					42						
					43						Drilled to 45 ft. Easy drilling. Brown color wash.
					44						
					45						

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Log of Boring **B-56** Sheet 3 of 4

Project	Project No.
MEADOWLANDS XANADU	1860001
Location	**Elevation and Datum**
EAST RUTHERFORD, NJ	approximately el 12 NGVD 1929

Material Symbol	Elev. (ft)	Sample Description	Core Fissures	Coring Time (min)	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
		Brown CLAY, tr. silt. (wet)			45	S13	SS	24	WOR WOR WOR WOR	0	SS 45 ft - 47 ft S_u = 0.11 tsf (remolded)
					46						
					47						Drilled to 50 ft. Easy drilling. Brown color wash.
					48						
					49						
		Brown CLAY. (wet)			50	S14	SS	24	WOR WOR WOR WOR	0	SS 50 ft - 55 ft S_u = 0.08 tsf (remolded)
					51						
	-42.0				52						
					53						Drilled to 55 ft. Brown color wash. Easy drilling to 54 ft. Slightly hard drilling beyond 54 ft.
					54						
		Reddish brown Gravelly f-c SAND, tr. silt. (wet) [TILL]			55	S15	SS	10	13 24 14 12	38	SS 55 ft - 57 ft
					56						
					57						Drilled to 60 ft. Moderately difficult drilling. Reddish brown color wash.
					58						
					59						
		Reddish brown Sandy SILT, tr. clay. (wet) [TILL]			60	S16	SS	8	52 44 34 34	78	SS 60 ft - 62 ft q_u = 1.5 tsf S_u = 0.6 tsf
					61						
					62						Drilled to 65 ft. Reddish brown color wash. Difficult drilling.
					63						
					64						
		Reddish brown f-m SAND and SILT, tr. f-c gravel. (wet) [TILL]			65	S17	SS	14	27 24 47 45	71	SS 65 ft - 67 ft
					66						
					67						Drilled to 70 ft. Reddish brown color wash. Moderately difficult drilling.
					68						
					69						
					70						

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Project	Project No.
MEADOWLANDS XANADU	1860001
Location	**Elevation and Datum**
EAST RUTHERFORD, NJ	approximately el 12 NGVD 1929

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Core Fissures	Coring Time (min)	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
		Reddish brown Silty f-c SAND, tr. f-c gravel. (wet) [TILL]			70	S18	SS	14	24 43 46 100/5"	89•	SS 70 ft - 72 ft
	-62.0				71						
					72						Drilled to 75 ft. Difficult drilling beyond 72.5 ft. Very difficult drilling beyond 74 ft.
					73						
					74						
				4:12	75	CORE #1	NX CORE	Rec=60"/60"=100%	RQD= 4"/60" =7%		NX coring 75 ft - 80 ft
		Reddish brown SHALE.		3:10	76						
				3:00	77						Horizontal joints spaced up to 24 in. apart. Vertical fracture runs along almost the entire length of core. Hence low RQD.
				2:45	78						
				3:00	79						
	-68.0				80						
		End of boring at 11:30 and 80 ft.			81						Boring grouted and patched with asphalt upon completion.
					82						
					83						
					84						
					85						
					86						
					87						
					88						
					89						
					90						
					91						
					92						
					93						
					94						
					95						

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Log of Boring **B-68** Sheet 1 of 4

Project: MEADOWLANDS XANADU	Project No.: 1860001
Location: EAST RUTHERFORD, NJ	Elevation and Datum: approximately el 15 NGVD 1929
Drilling Agency: JERSEY BORING AND DRILLING	Date Started: 9/16/03 — Date Finished: 9/16/03
Drilling Equipment: ACKER D-2 DRILL RIG	Completion Depth: 90 ft — Rock Depth: 80 ft.
Size and Type of Bit: 3 7/8" O.D. ROLLER BIT	Number of Samples: Disturbed 24, Undisturbed 0, Core 1
Casing Diameter (in): 4" ID CASING — Casing Depth (ft): 14	Water Level (ft.): First ▽ 2, Completion ▼ 10, 24 HR. ▼ -
Casing Hammer: DONUT — Weight (lbs): 300 — Drop (in): 24	Drilling Foreman: MANUEL CARIRE
Sampler: 2" OD STD SPLIT SPOON	Inspecting Engineer: SETH VAIDYA
Sampler Hammer: SAFETY — Weight (lbs): 140 — Drop (in): 30	

Material Symbol	Elev (ft)	Sample Description	Core Fissures	Casing blws/ ft or Cor. Time	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
	+15.0	Brown f-c SAND, tr. f-c gravel, tr. roots. (dry) [FILL]		0	0	S1	SS	10	4 11 14 14	25	Start at 8:00am.
				0	1						SS 0 ft - 2 ft
		Brown f-c SAND, tr. f-c gravel. (wet) [FILL] ▽		0	2	S2	SS	8	5 5 8 7	13	
				0	3						SS 2 ft - 4 ft
		Brown f-c SAND, sm. f-c gravel, tr. organic silt, tr. geofabric. (wet) [FILL]		0	4	S3	SS	12	30 13 11 23	24	Drilled to 4 ft using water (not mud).
				0	5						SS 4 ft - 6 ft
		Dark Brown organic Silty f-m SAND, tr. roots, tr. glass. (wet) [FILL]		0	6	S4	SS	12	14 13 14 20	27	
				0	7						SS 6 ft - 8 ft
		Brown f-c SAND, tr. f-c gravel, tr. brick. (moist) [FILL]		0	8						Drilled to 8 ft.
				0	9	S5	SS	14	9 28 27 24	55	SS 8 ft - 10 ft
		Grayish brown f-c SAND, tr. f-c gravel. (wet) [FILL] ▼		0	10	S6	SS	8	36 38 75 100/2"	113	
				0	11						SS 10 ft - 12 ft
		Grayish brown Gravelly f-c SAND, tr. organics, tr. wood. (wet) [FILL]		31	12	S7	SS	8	25 18 11 11	29	Pushed casing to 9 ft. Drilled to 12 ft using mud.
				51	13						SS 12 ft - 14 ft
		Grayish brown f-m SAND. (wet) [FILL]			14	S8	SS	8	14 17 14 10	31	
					15						SS 14 ft - 16 ft
					16	S9	SS	8	4 6 4 3	10	Pushed casing to 12 ft. Drove casing to 14 ft. Drilled to 16 ft.
		Gray f-c SAND. (wet) [FILL]			17						SS 16 ft - 18 ft
	-3.5				18						
		Dark Brown PEAT. (moist) [MEADOWMAT]			19	S10	SS	20	4 4 3 3	7	SS 18 ft - 20 ft
					20						

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Log of Boring **B-68** Sheet 2 of 4

Project	Project No.
MEADOWLANDS XANADU	1860001
Location	**Elevation and Datum**
EAST RUTHERFORD, NJ	approximately el 15 NGVD 1929

Material Symbol	Elev. (ft)	Sample Description	Core Fissures, Casing blws/ft or Cor. Time	Depth Scale	Sample Data: Number	Type	Recov (in)	Penetr resist BL/6in	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				20						Drilled to 20 ft.
				21	S11	SS	24	1 2 4 4	6	SS 20 ft - 22 ft
		Dark Brown PEAT, tr. silt. (wet) [MEADOWMAT]		22						
				23	S12	SS	24	4 5 4 4	9	SS 22 ft - 24 ft
	-8.8	Gray SILT. (wet)		24						Drilled to 25 ft. Gray wash beyond 24 ft.
	-10.0	Brown VARVED CLAY and SILT. (wet)		25						
				26	S13	SS	12	2 2 3 2	5	SS 25 ft - 27 ft q_u = 1.5 tsf, S_u = 0.75 tsf Drilled to 30ft. Brown wash. Easy drilling.
				27						
				28						
				29						
				30						
		Brown VARVED CLAY and SILT (wet)		31	S14	SS	16	3 3 2 2	5	SS 30 ft - 32 ft q_u = 1.0 tsf, S_u = 0.6 tsf Inferred transition at 32 ft. Drilled to 35 ft. Brown wash. Easy drilling.
	-17.0			32						
				33						
				34						
		Brown CLAY. (wet)		35	S15	SS	24	WOR WOR WOR WOR	0	SS 35 ft - 37 ft S_u = 0.1 tsf (remolded)
				36						
				37						
				38						Drilled to 40 ft. Easy drilling. Brown wash.
				39						
		Brown CLAY (wet)		40	S16	SS	24	WOR WOR WOR WOR	0	SS 40 ft - 42 ft S_u = 0.08 tsf (remolded) Drilled to 45 ft. Brown wash. Easy drilling.
				41						
				42						
				43						
				44						
				45						

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Log of Boring **B-68** Sheet 3 of 4

Project	Project No.
MEADOWLANDS XANADU	1860001
Location	**Elevation and Datum**
EAST RUTHERFORD, NJ	approximately el 15 NGVD 1929

Material Symbol	Elev (ft)	Sample Description	Core Fissures	Casing blws/ft or Core Time	Depth Scale	Sample Data: Number	Type	Recov (in)	Penetr resist BL/6in	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
		Brown CLAY (wet)			45	S17	SS	24	WOR WOR WOR WOR	0	SS 45 ft - 47 ft S_u = 0.08 tsf (remolded) Drilled to 50 ft. Easy drilling. Brown color wash.
					46						
					47						
					48						
					49						
		Brown CLAY. (wet)			50	S18	SS	24	WOR WOR WOR WOR	0	SS 50 ft - 52 ft S_u = 0.05 tsf (remolded) Drilled to 55 ft. Reddish brown wash. Easy drilling.
					51						
					52						
					53						
					54						
		Brown CLAY (wet)			55	S19	SS	20	WOR WOR WOR WOR	0	SS 55 ft - 57 ft S_u = 0.05 tsf (remolded) Downtime: 10:00 - 11:15 Fixing drill rig. Drilled to 60 ft. Brown wash. Easy drilling.
					56						
					57						
					58						
					59						
	-45.0	Reddish brown Sandy SILT, sm. clay, tr. f-c gravel. (wet) [TILL]			60	S20	SS	12	7 15 50/1"	Refusal	SS 60 ft - 62 ft Drilled to 65 ft. Reddish brown wash. Moderate drilling with occasional difficult spots.
					61						
					62						
					63						
					64						
		Reddish brown Sandy SILT, tr. clay, tr. f-c gravel. (wet) [TILL]			65	S21	SS	10	14 55 40 24	95	SS 65 ft - 67 ft Drilled to 70 ft. Moderate drilling. Reddish brown wash.
					66						
					67						
					68						
					69						
					70						

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Log of Boring **B-68** Sheet 4 of 4

Project	Project No.
MEADOWLANDS XANADU	1860001
Location	**Elevation and Datum**
EAST RUTHERFORD, NJ	approximately el 15 NGVD 1929

Material Symbol	Elev. (ft)	Sample Description	Core Fissures	Casng blws/ ft or Cor. Time	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist Bl/6in	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
		Reddish brown f-m SAND and SILT. (wet) [TILL]			70				37		
	-56.0	Reddish brown weathered SHALE fragments. (wet) [TILL]			71	S22	SS	15	64 44 45	108	SS 70 ft - 72 ft
					72						Drilled to 75 ft. Reddish brown wash. Difficult drilling 72ft - 73 ft. Moderate drilling 73ft - 75 ft.
					73						
					74						
	-60.0	Reddish brown weathered SHALE. (wet)			75	S23	SS	5	100/5"	Refusal	
					76						SS 75 ft - 77 ft
					77						Drilled to 80 ft. Difficult drilling with occasional moderately hard areas. Drilling very difficult 78ft - 79ft.
					78						
					79						
	-65.0	Reddish brown weathered SHALE. (wet)			80	S24	SS	2	100/2"	Refusal	
					81						SS 80 ft - 82 ft. Refusal. Spoon bouncing.
					82						Drilled to 85 ft. Drilling very difficult to 85 ft. Rig jacked up.
					83						
					84						
				4:30	85	CORE #1	NX CORE	Rec=60"/60"=100%	RQD= 58.3"/60" =97%		NX CORING 85 ft - 90 ft
				4:15	86						
		Reddish brown SHALE.		5:00	87						Reddish brown wash.
				4:45	88						
				4:30	89						
	-75.0	End of boring at 90 ft at 14:30.			90						Boring grouted at completion.
					91						
					92						
					93						
					94						
					95						

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Log of Boring **B-69** Sheet 1 of 4

Project: MEADOWLANDS XANADU	Project No.: 1860001
Location: EAST RUTHERFORD, NJ	Elevation and Datum: approximately el 19 NGVD 1929
Drilling Agency: JERSEY BORING AND DRILLING CO.	Date Started: 9/24/03 / Date Finished: 9/25/03
Drilling Equipment: A-300 INGERSOLL-RAND DRILL RIG	Completion Depth: 75 ft / Rock Depth: 64 ft.
Size and Type of Bit: 3 7/8" O.D. ROLLER BIT	Number of Samples: Disturbed 23 / Undisturbed 1 / Core 2
Casing Diameter (in): 4" ID CASING / Casing Depth (ft): 20	Water Level (ft.): First ▽ 2 / Completion ▼ - / 24 HR. ▼ -
Casing Hammer: DONUT / Weight (lbs): 300 / Drop (in): 24	Drilling Foreman: CEMMIE HARTLEY
Sampler: 2" OD STD SPLIT SPOON	Inspecting Engineer: HIMANSHU TRIPATHI
Sampler Hammer: DONUT / Weight (lbs): 140 / Drop (in): 30	

Material Symbol	Elev. (ft)	Sample Description	Core Fissures	Casing blws/ft or Cor. Time	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
	+19.0	Reddisn brown Silty f-c SAND, tr. f-c gravel. (moist) [FILL]			0	S1	SS	6	4 19 15 9	34	Start time: 7:50 a.m SS 0 ft to 2 ft
		Brown f-c SAND. (wet) [FILL] ▽			1						
					2	S2	SS	12	6 8 17 27	25	SS 2 ft to 4 ft
		Reddish brown Silty f-c SAND, sm. f-c gravel. (wet) [FILL]			3						Drilled to 4 ft with mud.
				9	4	S3	SS	8	8 23 90 85	113	SS 4 ft to 6 ft
		Brown to Gray f-c SAND, sm. f-c gravel, tr. silt. (wet) [FILL]		10	5						
				8	6	S4	SS	8	19 27 50 34	77	SS 6 ft to 8 ft
		Gray f-c SAND, tr. f-c gravel, tr. silt. (wet) [FILL]		11	7						Drilled to 8 ft.
				9	8	S5	SS	6	12 42 46 73	88	SS 8 ft to 10 ft
		Gray to Black Gravelly f-c SAND. (wet) [FILL]		10	9						
				11	10	S6	SS	22	12 22 31 42	53	SS 10 ft to 12 ft
		Black to Brown Silty f-c SAND, sm. peat, tr. f-c gravel, tr. roots, tr. glass. (wet) [FILL]		8	11						
				6	12	S7	SS	8	15 31 30 73	61	Installed casing to 10 ft (0 ft to 5 ft, push). Drilled to 12 ft. SS 12 ft to 14 ft
		Black to Brown Gravelly f-c SAND, tr. peat. (wet) [FILL]		8	13						
				10	14	S8	SS	8	17 30 39 71	69	SS 14 ft to 16 ft
		Brown to Gray Gravelly f-c SAND, sm. silt. (wet) [FILL]		12	15						
				13	16	S9	SS	6	13 24 54 62	78	Drilled to 16 ft SS 16 ft to 18 ft
		Gray to Black f-c GRAVEL, sm. f-c sand. (wet) [FILL]		14	17						
				15	18	S10	SS	18	18 24 30 32	54	SS 18 ft to 20 ft
				19	19						
				10	20						

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Log of Boring **B-69** Sheet 2 of 4

Project	Project No.
MEADOWLANDS XANADU	1860001
Location	**Elevation and Datum**
EAST RUTHERFORD, NJ	approximately el 19 NGVD 1929

Material Symbol	Elev. (ft)	Sample Description	Core Fissures	Casing blws/ ft or Cor. Time	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr resist Bl./6in	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
		Gray to Black f-c GRAVEL, sm. f-c sand. (wet) [FILL]			20						Drilled to 20 ft.
					21	S11	SS	14	15 20 29 35	49	SS 20 ft to 22 ft
		Gray Gravelly f-c SAND. (wet) [FILL]			22						
					23	S12	SS	16	14 21 32 45	53	SS 22 ft to 24 ft
		Gray f-c GRAVEL. (wet) [FILL]			24						Installed casing to 20 ft. Drilled to 24 ft.
	-6.0				25	S13	SS	12	20 17 29 45	46	SS 24 ft to 26 ft
		Reddish brown PEAT. (wet) [MEADOWMAT]			26	S14	SS	10	47 100/5"	Refusal	SS 26 ft to 26.8 ft
					27						Drilled to 28 ft.
		Reddish brown PEAT. (wet) [MEADOWMAT]			28						
					29	S15	SS	14	3 2 8 16	10	SS 28 ft to 30 ft
		Reddish brown PEAT. (wet) [MEADOWMAT]			30						
					31	S16	SS	14	2 3 3 9	6	SS 30 ft to 32 ft
	-13.0	Brown and Gray VARVED SILT and CLAY. (wet)			32						Drilled to 32 ft.
					33	S17	SS	10	5 8 9 12	17	SS 32 ft to 34 ft
					34						Drilled to 35 ft. Brown color wash.
		Brown and Gray VARVED SILT and CLAY. (wet)			35						
					36	S18	SS	24	7 7 8 12	15	SS 35 ft to 37 ft
	-18.0				37						Drilled to 40 ft. Brown color wash.
					38						
					39						
		Brown CLAY. (wet)			40						
					41	S19	SS	24	2 2 3 6	5	SS 40 ft to 42 ft
					42	SHELBY #1	UNDIST	24	PUSH		Stop drilling at 42 ft at 2:10 p.m on 9/24/03.
					43						Start drilling at 7:15 a.m on 9/25/03. Drilled to 42 ft. Shelby Tube 42 ft to 44 ft.
		Brown CLAY, tr. f-c gravel. (wet)			44				2 1	2	
					45						

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Log of Boring **B-69** Sheet 3 of 4

Project	Project No.
MEADOWLANDS XANADU	1860001
Location	**Elevation and Datum**
EAST RUTHERFORD, NJ	approximately el 19 NGVD 1929

Material Symbol	Elev. (ft)	Sample Description	Core Fissures	Casing blws/ft or Cor. Time	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
					45	S20	SS	14	1 1	2	SS 44 ft to 46 ft
	-27.0				46						Drilled to 48 ft. Reddish brown color wash from 46 ft.
		Reddish brown Silty f-c SAND, sm. f-c gravel, tr. clay. (wet) [TILL]			47						
					48	S21	SS	18	17 60 50 48	110	SS 48 ft to 50 ft
		Reddish brown Silty f-c SAND, sm. f-c gravel. (wet) [TILL]			49						
					50	S22	SS	8	35 77 100/3"	Refusal	SS 50 ft to 51.25 ft Drilled to 52 ft. Reddish brown color wash.
	-33.0				51						
		Reddish Brown decomposed SHALE. (wet)		3:10	52	CORE #1	NX CORE	Rec=10"/60"=17%	RQD= 0"/60" =0%		NX Core 52 ft to 57 ft.
				3:20	53						
				4:10	54						
				5:10	55						
				4:30	56						
	-38.0				57						Drilled to 62 ft. Reddish brown color wash. Hard drilling.
					58						
					59						
					60						
					61						
		Reddish Brown weathered SHALE. (wet)			62	S23	SS	1	100/2"	Refusal	SS 62 ft to 62.1 ft Drilled to 70 ft. Very hard drilling from 64 ft to 70 ft. Reddish brown color wash.
					63						
					64						
					65						
					66						
					67						
					68						
					69						
					70						

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Log of Boring **B-69** Sheet 4 of 4

Project	Project No.
MEADOWLANDS XANADU	1860001
Location	**Elevation and Datum**
EAST RUTHERFORD, NJ	approximately el 19 NGVD 1929

Material Symbol	Elev. (ft)	Sample Description	Core Fissures	Casing blws/ft or Cor. Time	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
					70						NX Core 70 ft to 75 ft.
				5:00	71						
				6:10	72						
		Reddish brown SHALE		6:05	73	CORE #2	NX CORE	Rec=55"/60"=92%	RQD= 20"/60" =33%		
				6:45	74						
				6:50	75						
	-56.0	End of boring at 75 ft at 3:30 p.m on 9/25/03.									Boring grouted upon completion.
					76						
					77						
					78						
					79						
					80						
					81						
					82						
					83						
					84						
					85						
					86						
					87						
					88						
					89						
					90						
					91						
					92						
					93						
					94						
					95						

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Log of Boring **B-71** Sheet 1 of 2

Project: MEADOWLANDS XANADU		Project No.: 1860001	
Location: EAST RUTHERFORD, NJ		Elevation and Datum: approximately el 16 NGVD 1929	
Drilling Agency: JERSEY BORING AND DRILLING		Date Started: 9/18/03	Date Finished: 9/18/03
Drilling Equipment: ACKER D-2 DRILL RIG		Completion Depth: 23 ft	Rock Depth: N/E
Size and Type of Bit: 3 7/8" O.D. ROLLER BIT		Number of Samples: Disturbed 10	Undisturbed 0 / Core 0
Casing Diameter (in): 4" ID CASING	Casing Depth (ft): 19	Water Level (ft.): First ▽ 4	Completion ▼ - / 24 HR. ▼ -
Casing Hammer: DONUT	Weight (lbs): 300 / Drop (in): 24	Drilling Foreman: MANUEL CARIRE	
Sampler: 2" OD STD SPLIT SPOON		Inspecting Engineer: SETH VAIDYA	
Sampler Hammer: SAFETY	Weight (lbs): 140 / Drop (in): 30		

Material Symbol	Elev. (ft)	Sample Description	Core Fissures	Coring Time (min)	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
	+16.0	Reddish brown Silty f-c SAND, tr. vegetation. (dry) [FILL]			0	S1	SS	14	3 5 9 17	14	Start at 8:30 SS 0 ft - 2 ft
		Brown f-c SAND, tr. f-c gravel. (dry) [FILL]			1						
		Brown f-c SAND, tr. f-c gravel. (dry) [FILL]			2	S2	SS	12	12 11 13 10	24	SS 2 ft - 4 ft
		▽			3						Drilled to 4 ft, using water.
		Brown Silty f-c SAND, tr. f-c gravel. (wet) [FILL]			4	S3	SS	9	10 13 19 25	32	SS 4 ft - 6 ft
		Dark Brown Silty f-c SAND, tr. organics, tr. f-c gravel. (wet) [FILL]			5	S4	SS	12	18 9 9 11	18	SS 6 ft - 8 ft
					6						Drilled to 8 ft.
		Gray f-c SAND, tr. f-c gravel. (wet) [FILL]			7	S5	SS	8	12 47 47 29	94	SS 8 ft - 10 ft
					8						Pushed casing to 9 ft. Drilled to 10 ft.
		Greenish gray f-c SAND, tr. f-c gravel. (wet) [FILL]			9	S6	SS	12	12 25 28	53	SS 10 ft - 12 ft
					10						
					11						Drilled to 15 ft. Brown color wash.
					12						
					13						
					14						
					15	S7	SS	6	12 21 17 15	38	SS 15 ft - 17 ft
		Gray f-c SAND, tr. f-c gravel. (wet) [FILL]			16						
					17	S8	SS	12	15 18 22 24	40	SS 17 ft - 19 ft
		Grayish brown f-c SAND, tr. f-c gravel. (wet) [FILL]			18						
					19				13 19	40	Pushed casing to 19 ft. Drilled to 19 ft.
					20						

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Log of Boring **B-71** Sheet 2 of 2

Project	Project No.
MEADOWLANDS XANADU	1860001
Location	**Elevation and Datum**
EAST RUTHERFORD, NJ	approximately el 16 NGVD 1929

Material Symbol	Elev. (ft)	Sample Description	Core Fissures	Coring Time (min)	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
		Brown f-m SAND. (wet) [FILL]			20	S9	SS	6	21 14	40	SS 19 ft - 21 ft
		Brown f-c SAND, tr. f-c gravel. (wet) [FILL]			21				9		
	-6.0	Dark Brown PEAT. (moist) [MEADOWMAT]			22	S10	SS	24	7 8	15	SS 21 ft - 23 ft
	-7.0				23				11		Began driving casing. 15 ft of casing broke off and dropped inside the hole. Hole abandoned at 23 ft.
		End of boring at 11:50 am and 23 ft.			24						Boring grouted after completion.
					25						
					26						
					27						
					28						
					29						
					30						
					31						
					32						
					33						
					34						
					35						
					36						
					37						
					38						
					39						
					40						
					41						
					42						
					43						
					44						
					45						

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Log of Boring **B-71A** Sheet 1 of 4

Project: MEADOWLANDS XANADU	Project No.: 1860001
Location: EAST RUTHERFORD, NJ	Elevation and Datum: approximately el 16 NGVD 1929
Drilling Agency: JERSEY BORING AND DRILLING	Date Started: 9/18/03 — Date Finished: 9/22/03
Drilling Equipment: ACKER D-2 DRILL RIG	Completion Depth: 75 ft — Rock Depth: 65 ft.
Size and Type of Bit: 3 7/8" O.D. ROLLER BIT	Number of Samples: Disturbed 10 — Undisturbed 0 — Core 1
Casing Diameter (in): 4" ID CASING — Casing Depth (ft): 19	Water Level (ft.): First ▽ - — Completion ▼ 12 — 24 HR. ▼ -
Casing Hammer: DONUT — Weight (lbs): 300 — Drop (in): 24	Drilling Foreman: MANUEL CARIRE
Sampler: 2" OD STD SPLIT SPOON	Inspecting Engineer: SETH VAIDYA
Sampler Hammer: SAFETY — Weight (lbs): 140 — Drop (in): 30	

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Core Fissures	Coring Time (min)	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
	+16.0	NOTE: Refer to B-71 for sample descriptions up to 23 ft.			0						Start at 12:00 pm Drilled to 23 ft.
					1						
					2						
					3						
					4						
					5						
					6						Boring located approximately 10 ft South of abandoned boring B-71.
					7						
					8						
					9						
					10						Drilled down to 10 ft. Installed 10 ft of casing by pushing.
		▼			11						
					12						Drilled to 15 ft. Pushed casing to 14 ft.
					13						
					14						
					15						Drilled to 20 ft. Pushed casing to 19 ft.
					16						
					17						Casing getting lifted up when drill rods are retrieved. Borehole slightly crooked.
					18						
					19						
					20						

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Log of Boring **B-71A** Sheet 2 of 4

Project	Project No.
MEADOWLANDS XANADU	1860001
Location	**Elevation and Datum**
EAST RUTHERFORD, NJ	approximately el 16 NGVD 1929

Material Symbol	Elev (ft)	Sample Description	Core Fissures	Coring Time (min)	Depth Scale	Sample Data: Number	Type	Recov (in)	Penetr. resist BL/6in	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
					20						Drilled to 23 ft. Organics in the wash beyond 21 ft.
	-7.0				21						
					22						
					23						
		Dark Brown PEAT. (moist) [MEADOWMAT]			24	S11	SS	12	8 5 4 8	9	SS 23 ft - 25 ft
					25						
		Dark Brown PEAT. (wet) [MEADOWMAT]			26	S12	SS	15	9 7 8 12	15	SS 25 ft - 27 ft
	-10.5	Gray SILT. (wet)			27						End of days work at 1:30 pm at 27 ft.
	-12.0				28						Restart at 6:40 am on 9/22/03
					29						
					30						Drilled to 30 ft. Brown color wash. Inferred transition at 28ft.
		Brown VARVED CLAY and SILT. (wet)			31	S13	SS	24	4 7 9 9	16	SS 30 ft - 32 ft
					32						q_u = 2.25 tsf
					33						Drilled to 35 ft. Brown color wash. Easy drilling.
					34						
					35						
		Brown VARVED CLAY and SILT. (wet)			36	S14	SS	24	5 4 4 2	8	SS 35 ft - 37 ft
					37						q_u = 1.25 tsf
					38						Drilled to 40 ft. Brown color wash. Easy drilling. Reddish brown color wash beyond 39 ft.
	-23.0				39						
					40						
		Reddish brown Sandy SILT, tr. clay, tr. f-c gravel. (wet) [TILL]			41	S15	SS	10	7 8 8 20	16	SS 40 ft - 42 ft
					42						
					43						Drilled to 45 ft. Reddish brown color wash. Moderately difficult drilling.
					44						
					45						

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Log of Boring **B-71A** Sheet 3 of 4

Project	Project No.
MEADOWLANDS XANADU	1860001
Location	**Elevation and Datum**
EAST RUTHERFORD, NJ	approximately el 16 NGVD 1929

Material Symbol	Elev. (ft)	Sample Description	Core Fissures	Coring Time (min)	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
		Reddish brown Gravelly SILT, tr. clay, tr. f-m sand. (wet) [TILL]			45	S16	SS	6	16 11 12 23	23	SS 45 ft - 47 ft
					46						
					47						
					48						
					49						Drilled to 50 ft. Reddish brown color wash. Moderately difficult drilling.
					50	S17	SS	10	4 26 100/5"	Refusal	
		Reddish brown Silty f-c SAND, tr. clay, tr. f-c gravel. (wet) [TILL]			51						SS 50 ft - 52 ft
					52						
					53						Drilled to 55 ft. Difficult drilling up to 54 ft. Easier drilling 54 ft - 55 ft. Reddish brown color wash.
					54						
					55	S18	SS	15	16 22 40 38	62	
		Reddish brown Silty f-c SAND, tr. f-c gravel. (wet) [TILL]			56						SS 55 ft - 57 ft
					57						
					58						Drilled to 60 ft. Reddish brown color wash. Hard drilling.
					59						
					60	S19	SS	10	51 100/5"	Refusal	
		Reddish brown Silty f-c SAND, tr. clay, tr. f-c gravel. (wet) [TILL]			61						SS 60 ft - 62 ft
					62						Drilled to 65 ft. Difficult drilling. Reddish brown color wash.
					63						
					64						
	-49.0				65	S20	SS	0	50/0"	Refusal	
		No Recovery			66						SS 65 ft - 67 ft
					67						Drilled to 70 ft. Reddish brown color wash.
					68						
					69						Very difficult drilling.
					70						

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Log of Boring **B-71A** Sheet 4 of 4

Project	Project No.
MEADOWLANDS XANADU	1860001
Location	**Elevation and Datum**
EAST RUTHERFORD, NJ	approximately el 16 NGVD 1929

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Core Fissures	Coring Time (min)	Depth Scale	Sample Data: Number	Type	Recov (in)	Penetr. resist BL/6in	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
				1:45	70						NX Coring 70 ft - 75 ft
		Reddish brown SHALE.		1:40	71						
				2:00	72	CORE #1	NX CORE	Rec=60"/60"=100%	RQD= 49"/60" =82%		
				1:30	73						
				1:15	74						
	-59.0				75						
		End of boring at 9:45 and 75 ft.			76						Boring grouted at completion.
					77						
					78						
					79						
					80						
					81						
					82						
					83						
					84						
					85						
					86						
					87						
					88						
					89						
					90						
					91						
					92						
					93						
					94						
					95						

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Log of Boring **B-73** Sheet 1 of 4

Project: MEADOWLANDS XANADU	Project No.: 1860001
Location: EAST RUTHERFORD, NJ	Elevation and Datum: approximately el 21 NGVD 1929
Drilling Agency: JERSEY BORING AND DRILLING	Date Started: 9/22/03 — Date Finished: 9/22/03
Drilling Equipment: ACKER D-2 DRILL RIG	Completion Depth: 80 ft — Rock Depth: 70 ft.
Size and Type of Bit: 3 7/8" O.D. ROLLER BIT	Number of Samples: Disturbed 21, Undisturbed 0, Core 1
Casing Diameter (in): 4" ID CASING — Casing Depth (ft): 19	Water Level (ft.): First ▽ 2, Completion ▼ 20, 24 HR. ▼ -
Casing Hammer: DONUT — Weight (lbs): 300 — Drop (in): 24	Drilling Foreman: CARLOS TIRADO
Sampler: 2" OD STD SPLIT SPOON	Inspecting Engineer: SETH VAIDYA
Sampler Hammer: SAFETY — Weight (lbs): 140 — Drop (in): 30	

Material Symbol	Elev. (ft)	Sample Description	Core Fissures	Coring Time (min)	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist Bl./6in	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
	+21.0	Brown Silty f-m SAND, tr. f-c gravel, tr. glass. (moist) [FILL] ▽			0	S1	SS	6	4 12 24 16	36	Start: 7:30 am SS 0 ft - 2 ft
		Gray f-m SAND. (wet) [FILL]			2	S2	SS	18	16 13 39 12	52	SS 2 ft - 4 ft
					4						Drilled to 4 ft using mud.
		Brown Silty f-c SAND, tr. f-c gravel. (wet) [FILL]			5	S3	SS	12	16 20 17 12	37	SS 4 ft - 6 ft
		Brown Silty f-m SAND, tr. f-c gravel. (wet) [FILL]			7	S4	SS	10	6 10 14 34	24	SS 6 ft - 8 ft
					8						Pushed casing 8 ft. Drilled to 8 ft.
		Gray f-m SAND. (wet) [FILL]			9	S5	SS	18	13 10 8 15	18	SS 8 ft - 10 ft
	+11.4	Brown Silty f-c SAND, tr. f-c gravel. (wet) [FILL]			10						
		Brown f-c SAND, tr. f-c gravel, tr. brick, tr. wood. (wet) [FILL]			11	S6	SS	14	33 55 46 22	101	SS 10 ft - 12 ft
					12						Pushed casing to 14 ft. Drilled to 15 ft.
					15						
		Grayish brown Gravelly f-c SAND, tr. silt. (wet) [FILL]			16	S7	SS	5	20 13 12 11	25	SS 15 ft - 17 ft
		Dark Gray f-c SAND. (wet) [FILL]			18	S8	SS	4	13 16 10 17	26	SS 17 ft - 19 ft
		▼			20						

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Log of Boring **B-73** Sheet 2 of 4

Project	Project No.
MEADOWLANDS XANADU	1860001
Location	**Elevation and Datum**
EAST RUTHERFORD, NJ	approximately el 21 NGVD 1929

Material Symbol	Elev. (ft)	Sample Description	Core Fissures	Coring Time (min)	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist Bl./6in	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
					20						Pushed casing to 19 ft. Drilled to 20 ft.
		Brown f-m SAND. (wet) [FILL]			21	S9	SS	12	8 10 38 45	48	SS 20 ft - 22 ft
		Grayish brown f-m SAND, tr. roots. (wet) [FILL]			22	S10	SS	12	18 22 44 23	66	SS 22 ft - 24 ft
	-4.0				23						
		Dark Brown PEAT. (moist) [MEADOWMAT]			24	S11	SS	24	6 6 10 9	16	Drilled to 25 ft. Brown color wash. SS 25 ft - 27 ft
	-7.2	Dark Brown PEAT. (wet) [MEADOWMAT]			25						
		Dark Brown SILT. (wet)			26	S12	SS	6	8 9 9 9	18	SS 27 ft - 29 ft
					27						
					28						
					29						Drilled to 30 ft.
		Gray SILT, tr. roots. (wet)			30	S13	SS	24	2 3 5 11	8	SS 30 ft - 32 ft
	-11.0				31						
					32						
					33						Drilled to 35 ft. Brown color wash. Easy drilling.
		Brown VARVED CLAY and SILT. (wet)			34						
					35	S14	SS	18	10 11 14 15	25	SS 35 ft - 37 ft q_u = 1.75 tsf
					36						
					37						
					38						Drilled to 40 ft. Brown color wash. Easy drilling.
					39						
		Brown VARVED CLAY and SILT. (wet)			40	S15	SS	24	4 3 4 4	7	SS 40 ft - 42 ft q_u = 0.5 tsf S_u = 0.2 tsf (remolded)
					41						
	-22.0				42						
					43						Inferred transition at 43 ft.
					44						
					45						Drilled to 45 ft. Brown color wash. Easy drilling.

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Log of Boring **B-73** Sheet 3 of 4

Project	Project No.
MEADOWLANDS XANADU	1860001
Location	**Elevation and Datum**
EAST RUTHERFORD, NJ	approximately el 21 NGVD 1929

Material Symbol	Elev (ft)	Sample Description	Core Fissures	Coring Time (min)	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr resist BL/6in	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
		Brown CLAY. (wet)			45	S16	SS	24	WOR WOR WOR WOR	0	SS 45 ft - 47 ft S_u = 0.08 tsf (remolded)
					46						
					47						Drilled to 50 ft. Brown color wash. Easy drilling.
					48						
					49						
		Brown CLAY. (wet)			50	S17	SS	16	WOH WOH 6 5	0	
	-30.0	Reddish brown CLAY, sm. silt. (wet)			51						SS 50 ft - 52 ft
	-31.0				52						
					53						Drilled to 55 ft. Reddish brown color wash.
					54						Moderately difficult drilling beyond 53 ft. Gravel at 53 ft.
		Reddish brown Silty f-c SAND. (wet) [TILL]			55	S18	SS	6	56 102/6"	Refusal	Difficult drilling beyond 54 ft.
					56						SS 55 ft - 57 ft
					57						
					58						Drilled to 60 ft. Reddish brown color wash. Alternate difficult and moderate drilling.
					59						
					60	S19	SS	4	44 34 57 37	91	
		Reddish brown Silty f-c SAND, tr. clay, tr. f-c gravel. (wet) [TILL]			61						SS 60 ft - 62 ft
					62						
					63						Drilled to 65 ft. Reddish brown color wash.
					64						Moderately difficult drilling to 64 ft. Difficult drilling beyond 64 ft.
					65	S20	SS	6	68 101/6"	Refusal	
		Reddish brown Silty GRAVEL, sm. f-c sand, tr. clay. (wet) [TILL]			66						SS 65 ft - 67 ft
	-47.0				67						
					68						Drilled to 70 ft. Reddish brown color wash. Difficult drilling beyond 68 ft.
	-49.0				69						
					70						

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Log of Boring **B-73** Sheet 4 of 4

Project	Project No.
MEADOWLANDS XANADU	1860001
Location	**Elevation and Datum**
EAST RUTHERFORD, NJ	approximately el 21 NGVD 1929

Material Symbol	Elev. (ft)	Sample Description	Core Fissures	Coring Time (min)	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
					70	S21	SS	3	100/4"	Refusal	
		Reddish brown weathered SHALE. (wet)			71						SS 70 ft - 72 ft. Refusal, spoon bouncing.
					72						
					73						Drilled to 75 ft. Difficult drilling. Reddish brown color wash.
					74						
				6:00	75	CORE #1	NX CORE	Rec=60"/60"=100%	RQD= 28"/60" =47%		NX coring 75 ft - 80 ft
				6:30	76						
		Reddish brown SHALE.		6:15	77						
				7:00	78						
				5:45	79						
	-59.0				80						
		End of boring at 80 ft and 13:30			81						Boring grouted after completion.
					82						
					83						
					84						
					85						
					86						
					87						
					88						
					89						
					90						
					91						
					92						
					93						
					94						
					95						

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Log of Boring **B-81** Sheet 1 of 1

Project	MEADOWLANDS XANADU	1860001	
Location	EAST RUTHERFORD, NJ	approximately el. 20 NGVD 1929	
Drilling Agency	JERSEY BORING AND DRILLING CO.	9/24/03	9/24/03
Drilling Equipment	ACKER D-2 DRILL RIG		N/E
Size and Type of Bit	3 7/8" OD ROLLER BIT	Disturbed 6	Undisturbed 0 0
Casing Diameter (in)	4" ID CASING 10	4	
Casing Hammer D; Weight (lbs)	300	MANUEL CARIRE	
Sampler	2" OD STD SPLIT SPOON		
Sampler Hammer S; Drop (in)	30	HIMANSHU TRIPATHI	

MATERIAL SYMBOL	Elev (ft)	Sample Description	Core Recovery	Coring Time (min)	Depth Scale	Sample Data	N Value (Blows/6in)	Remarks
	+20.0	R [F			0			Start at 7:20
		Reddish brown silty f-c SAND, tr. f-c gravel. (moist) [FILL]			1	SS 10	3	SS 0 ft to 2 ft
					2			
					3	S2	10	SS 2 ft to 4 ft
		Bı			4		5	Drilled to 4 ft with water
					5	S3 3	13 29 43	SS 4 ft to 6 ft
		Reddish brown silty f-c SAND, tr. f-c gravel. (moist) [FILL]			6			
					7	S4	64	SS 6 ft to 8 ft
		Bı			8		23	Drilled to 8 ft with mud
					9	S5	17 15	SS 8 ft to 10 ft
		Br tr.			10	SS	10 8	
					11		11 13 45	
	+8.0	E			12			Installed casing to 10 ft (push). Drilled to 12 ft. Lost casing at 12 ft. Boring B-81 shifted 3 ft north-east to B-81A
					13			
					14			
					15			
					16			
					17			
					18			
					19			
					20			

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Log of Boring **B-81A** Sheet 1 of 4

Project: MEADOWLANDS XANADU		Project No.: 1860001	
Location: EAST RUTHERFORD, NJ		Elevation and Datum: approximately el 20 NGVD 1929	
Drilling Agency: JERSEY BORING AND DRILLING CO.		Date Started: 9/24/03	Date Finished: 9/25/03
Drilling Equipment: ACKER D-2 DRILL RIG		Completion Depth: 85 ft	Rock Depth: 75 ft.
Size and Type of Bit: 3 7/8" OD ROLLER BIT		Number of Samples: Disturbed 19	Undisturbed 1 / Core 1
Casing Diameter (in): 4" ID CASING	Casing Depth (ft): 24	Water Level (ft.): First ▽ -	Completion ▼ - / 24 HR. ▼ -
Casing Hammer: DONUT	Weight (lbs): 300 / Drop (in): 24	Drilling Foreman: MANUEL CARIRE	
Sampler: 2" OD STD SPLIT SPOON		Inspecting Engineer: HIMANSHU TRIPATHI	
Sampler Hammer: SAFETY	Weight (lbs): 140 / Drop (in): 30		

Material Symbol	Elev. (ft)	Sample Description	Core Fissures	Casing blws/ft or Cor. Time	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
	+20.0	For sample descripion from 0 ft to 12 ft, see log of boring B-81			0						
					1						
					2						
					3						
					4						
					5						
					6						
					7						
					8						
					9						
					10						
					11						Start drilling at 8:35
	+8.0	Gray Gravelly f-c SAND, tr. silt. (wet) [FILL]		8	12	S7	SS	3	3 7 18 16	25	Drilled to 12 ft using water. SS 12 ft to 14 ft
		Reddish brown Silty f-c SAND, tr. f-c gravel (wet) [FILL]		9 6	13 14	S8	SS	8	18 15 30 25	45	SS 14 ft to 16 ft
		Gray f-c SAND, tr. f-c gravel. (wet) [FILL]		10 12	15 16	S9	SS	8	12 27 28 14	55	Installed casing to 15 ft. Drilled to 16 ft SS 16 ft to 18 ft
		Black PEAT, tr. wood, tr. glass, tr. f-c gravel. (wet) [FILL]		11 9	17 18	S10	SS	10	10 11 16 13	27	SS 18 ft to 20 ft
				10	19 20						

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Log of Boring **B-81A** Sheet 2 of 4

Project	Project No.
MEADOWLANDS XANADU	1860001
Location	**Elevation and Datum**
EAST RUTHERFORD, NJ	approximately el 20 NGVD 1929

Material Symbol	Elev (ft)	Sample Description	Core Fissures	Casng blws/ ft or Csr, Time	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
		Black PEAT, sm. silt, tr. f-c gravel. (wet) [FILL]			20	S11	SS	8	12 7 8 9	15	Installed casing to 20 ft. Drilled to 20 ft
					21						SS 20 ft to 22 ft
		No Recovery			22	S12	SS	0	6 5 7 6	12	
					23						SS 22 ft to 24 ft
		Black PEAT, sm. f-c sand. (wet) [FILL]			24	S13	SS	8	4 4 5 17	9	Installed casing to 24 ft (push). Drilled to 24 ft
					25						SS 24 ft to 26 ft
		Gray f-c SAND. (wet) [FILL]			26	S14	SS	10	26 24 12 10	36	
					27						SS 26 ft to 28 ft
		Brown to Gray Silty f-c SAND, tr. wood. (wet) [FILL]			28	S15	SS	20	5 8 9 10	17	Drilled to 28 ft
					29						SS 28 ft to 30 ft
	-10.2	Reddish brown PEAT. (wet) [MEADOWMAT]			30	S16	SS	24	17 15 13 18	28	
					31						SS 30 ft to 32 ft
	-12.8	Reddish brown PEAT. (wet) [MEADOWMAT]			32	SHELBY #1	UNDIST	16	PUSH		Drilled to 32 ft
					33						Shelby Tube 32 ft to 34 ft.
		Gray VARVED SILT and CLAY, tr. f-c sand. (wet)			34	S17	SS	22	6 5 5 9	10	
					35						SS 34 ft to 36 ft
					36						Drilled to 40 ft. Brown color wash.
					37						
					38						
					39						
	-20.0	Brown CLAY. (wet)			40	S18	SS	24	3 4 5 6	9	
					41						SS 40 ft to 42 ft
					42						Drilled to 45 ft. Brown color wash.
					43						
					44						
					45						

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Log of Boring **B-81A** Sheet 3 of 4

Project	Project No.
MEADOWLANDS XANADU	1860001
Location	**Elevation and Datum**
EAST RUTHERFORD, NJ	approximately el 20 NGVD 1929

Material Symbol	Elev. (ft)	Sample Description	Core Fissures	Casing blws/ft or Cor. Time	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist. BL/6in	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
		Brown CLAY. (wet)			45	S19	SS	24	WOR WOR WOR WOR	0	SS 45 ft to 47 ft
					46						
					47						Drilled to 50 ft. Brown color wash
					48						
					49						
	-30.2	Reddish brown Silty f-m SAND, sm. clay. (wet) [TILL]			50	S20	SS	18	WOR 3 4 5	7	SS 50 ft to 52 ft
					51						
					52						Drilled to 55 ft. Reddish brown color wash.
					53						
					54						
		Reddish brown Silty f-m SAND, sm. clay. (wet) [TILL]			55	S21	SS	8	15 9 11 18	20	SS 55 ft to 57 ft
					56						
					57						Drilled to 60 ft. Reddish brown color wash. Moderate difficulty in drilling.
					58						
					59						
		Reddish brown Silty f-m SAND, sm. clay. (wet) [TILL]			60	S22	SS	14	35 42 51 91	93	SS 60 ft to 62 ft
					61						
					62						Stop drilling at 62 ft at 12:30 on 9/24/03
					63						Start drilling at 6:45 at 62 ft on 9/25/03. Drilled to 65 ft. Reddish brown wash.
					64						
		Reddish brown Silty f-m SAND, sm. clay. (wet) [TILL]			65	S23	SS	16	18 41 58 70	99	SS 65 ft to 67 ft
					66						
					67						Drilled to 70 ft. Reddish brown color wash.
					68						
					69						
					70						

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Log of Boring **B-81A** Sheet 4 of 4

Project	Project No.
MEADOWLANDS XANADU	1860001
Location	**Elevation and Datum**
EAST RUTHERFORD, NJ	approximately el 20 NGVD 1929

Material Symbol	Elev (ft)	Sample Description	Core Fissures	Casing blws/ ft or Cor. Time	Depth Scale	Sample Data: Number	Type	Recov (in)	Penetr resist BL/6in	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
		Reddish brown Silty f-m SAND, sm. clay. (wet) [TILL]			70	S24	SS	1	100/2"	Refusal	SS 70 ft to 70.2 ft
					71						Drilled to 75 ft. Reddish brown color wash. Difficult drilling 73 ft to 75 ft.
					72						
					73						
					74						
	-55.0				75	S25	SS	0	50/0"	Refusal	SS 75 ft to 77 ft Spoon bouncing. Drilled to 80 ft. Very hard drilling
		No Recovery			76						
					77						
					78						
					79						
					80	CORE #1	NX CORE	Rec=56"/60"=93%	RQD= 16"/60" =27%		NX Core at 80 ft.
				3:35	81						
				4:20	82						
		Reddish brown SHALE		4:50	83						NX Core 80 ft to 85 ft
				6;10	84						
				6:20	85						
	-65.0	End of boring at 85 ft at 9:20 on 9/25/03			86						Boring grouted upon completion.
					87						
					88						
					89						
					90						
					91						
					92						
					93						
					94						
					95						

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Log of Boring **B-84** Sheet 1 of 4

Project: MEADOWLANDS XANADU	Project No.: 1860001
Location: EAST RUTHERFORD, NJ	Elevation and Datum: approximately el 17.5 NGVD 1929
Drilling Agency: JERSEY BORING AND DRILLING CO.	Date Started: 9/9/03 — Date Finished: 9/10/03
Drilling Equipment: A-300 INGERSOLL-RAND DRILL RIG	Completion Depth: 80 ft — Rock Depth: 75 ft.
Size and Type of Bit: 3 7/8" O.D. ROLLER BIT	Number of Samples: Disturbed 19, Undisturbed 0, Core 1
Casing Diameter (in): 4" ID CASING — Casing Depth (ft): 15	Water Level (ft.): First ▽ 4, Completion ▼ -, 24 HR ▼ -
Casing Hammer: DONUT — Weight (lbs): 300 — Drop (in): 24	Drilling Foreman: CEMMIE HARTLEY
Sampler: 2" OD STD SPLIT SPOON	Inspecting Engineer: HIMANSHU TRIPATHI
Sampler Hammer: DONUT — Weight (lbs): 140 — Drop (in): 30	

Material Symbol	Elev. (ft)	Sample Description	Core Fissures	Casing blws/ft or Cor. Time	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
	+17.5	Brown f-c SAND, tr. f-c gravel. (moist) [FILL]		5, 6	0, 1	S1	SS	10	6, 8, 7, 7	15	Start drilling at 7:50 am SS 0 ft - 2 ft
		Brown to Lt. Gray f-c SAND, tr, f-c gravel. (moist) [FILL]		8, 8	2, 3	S2	SS	12	7, 25, 22, 30	47	SS 2 ft - 4 ft
		Lt. Gray to Brown Gravelly f-c SAND. (wet) [FILL]		10, 12	4, 5	S3	SS	10	10, 16, 17, 15	33	Drilled to 4 ft using water SS 4 ft - 6 ft
		Gray to Lt. Brown f-c SAND, tr. cloth (wet). [FILL]		13, 12	6, 7	S4	SS	10	12, 18, 24, 17	42	SS 6 ft - 8 ft
		Brown to Reddish brown Silty fc SAND, tr. f-c gravel. (wet) [FILL]		13, 14	8, 9	S5	SS	12	70, 42, 55, 26	97	Drilled to 8 ft SS 8 ft - 10 ft
	+6.5	Brown to Gray Gravelly f-c SAND. (wet) [FILL]		18, 19	10, 11	S6	SS	10	26, 35, 40, 41	75	SS 10 ft - 12 ft
		Black PEAT, tr. cloth. (wet) [FILL]		20, 20, 21	12, 13, 14						Installed casing to 10 ft. Drilled to 15 ft Brown color wash
		Lt . Gray f-c SAND. (wet) [FILL]			15, 16, 17	S7	SS	4	8, 5, 11, 22	16	SS 15 ft - 17 ft Installed casing to 15 ft Drilled to 20 ft Dk. Brown color wash
	-2.5				18, 19, 20						

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Log of Boring **B-84** Sheet 2 of 4

Project	Project No.
MEADOWLANDS XANADU	1860001
Location	**Elevation and Datum**
EAST RUTHERFORD, NJ	approximately el 17.5 NGVD 1929

Material Symbol	Elev. (ft)	Sample Description	Core Fissures	Casing blws/ ft or Cor. Time	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/foot)	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
		Reddish brown PEAT. (wet) [MEADOWMAT]			20						
					21	S8	SS	1	3 2 6 4	8	SS 20 ft - 22 ft
					22						
	-5.5				23						Drilled to 25 ft Dk. Brown color wash Brown color wash at 23 ft
		Brown to Dk. Gray VARVED CLAY and SILT, tr. f-c sand. (wet)			24						
					25						
					26	S9	SS	4	3 2 7 10	9	SS 25 ft - 27 ft
					27						
					28						Drilled to 30 ft Dk. Brown color wash
					29						
					30						
		Brown to Reddish brown VARVED CLAY and SILT. (wet)			31	S10	SS	24	6 12 16 18	28	SS 30 ft - 32 ft
					32						
	-15.5				33						Drilled to 35 ft Dk. Brown color wash Brown color wash at 33 ft
					34						
					35						
		Brown CLAY. (wet)			36	S11	SS	24	1 1 1 1	2	SS 35 ft - 37 ft
					37						
					38						Drilled to 40 ft Brown wash
					39						
					40						
		Brown CLAY. (wet)			41	S12	SS	24	WOR WOR WOR WOR	0	SS 40 ft - 42 ft
					42						
					43						Drilled to 45 ft Brown color wash
					44						
					45						

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Log of Boring **B-84** Sheet 3 of 4

Project	Project No.
MEADOWLANDS XANADU	1860001
Location	**Elevation and Datum**
EAST RUTHERFORD, NJ	approximately el 17.5 NGVD 1929

Material Symbol	Elev. (ft)	Sample Description	Core Fissures	Casing blws/ ft or Cor. Time	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
		Brown CLAY. (wet)			45	S13	SS	24	WOR WOR WOR WOR	0	SS 45 ft - 47 ft
					46						
					47						
					48						Drilled to 50 ft Brown wash
					49						
		Brown CLAY. (wet)			50	S14	SS	24	WOR WOR WOR WOR	0	SS 50 ft - 52 ft
					51						
					52						
					53						Drilled to 55 ft Reddish brown wash at 54 ft
	-36.5				54						
		Reddish brown Silty f-c SAND, sm. clay, tr. f-c gravel (wet) [TILL]			55	S15	SS	2	4 9 13 14	22	SS 55 ft - 57 ft
					56						
					57						
					58						Drilled to 60 ft
					59						
		Reddish brown Silty f-c SAND, sm. f-c gravel, tr. clay (wet) [TILL]			60	S16	SS	12	12 27 18 19	45	SS 60 ft - 62 ft
					61						
					62						
					63						Drilled to 65 ft
					64						
		Reddish brown Silty f-c SAND, sm. f-c gravel, tr. clay (wet) [TILL]			65	S17	SS	12	28 19 24 32	43	SS 65 ft - 67 ft
					66						
					67						Drilled to 70 ft Very hard drilling at 68 ft Reddish brown wash End of day's work at 70 feet at 1:00 pm on 9/9/03 Restart on 9/10/03 at 7:55 am
					68						
					69						
					70						

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Log of Boring **B-84** Sheet 4 of 4

Project	Project No.
MEADOWLANDS XANADU	1860001
Location	**Elevation and Datum**
EAST RUTHERFORD, NJ	approximately el 17.5 NGVD 1929

Material Symbol	Elev (ft)	Sample Description	Core Fissures	Casing blws/ft or Cor. Time	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist Bl./6in	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
		Reddish brown Silty f-c SAND, sm. f-c gravel, tr. clay (wet) [TILL]			70	S18	SS	11	34 54 27 50	81•	SS 70 ft - 72 ft Drilled to 75 ft. Reddish brown color wash.
	-57.5	Reddish brown weathered SHALE		4:20	75	S19	S	1	100/2"	Refusal•	SS at 75 ft NX coring 75 ft - 80 ft
		Reddish brown SHALE		4:35 5:10 5:20 6:10	80	CORE #1 NX CORE	Rec=39"/57.96"=67%		RQD= 6"/57.96" =10%		
	-62.5	End of boring at 80 ft at 11:20 am on 9/10/03.			95						Boring grouted upon completion

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Log of Boring **B-85** Sheet 1 of 4

Project: MEADOWLANDS XANADU		Project No.: 1860001	
Location: EAST RUTHERFORD, NJ		Elevation and Datum: approximately el 18 NGVD 1929	
Drilling Agency: JERSEY BORING AND DRILLING		Date Started: 9/15/03	Date Finished: 9/17/03
Drilling Equipment: ACKER D-2 DRILL RIG		Completion Depth: 90 ft	Rock Depth: 80 ft.
Size and Type of Bit: 3 7/8" O.D. ROLLER BIT		Number of Samples: Disturbed 25	Undisturbed 0 / Core 1
Casing Diameter (in): 4"/3" ID CASING	Casing Depth (ft): 19/75	Water Level (ft.): First ▽ 6	Completion ▼ - / 24 HR. ▼ -
Casing Hammer: DONUT	Weight (lbs): 300 / Drop (in): 24	Drilling Foreman: CARLOS TIRADO	
Sampler: 2" OD STD SPLIT SPOON		Inspecting Engineer: SETH VAIDYA	
Sampler Hammer: SAFETY	Weight (lbs): 140 / Drop (in): 30		

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Core Fissures	Casing blws/ ft or Cor. Time	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
	+18.0	Brown f-m SAND, tr. f-c gravel, tr. roots. (dry) [FILL]			0	S1	SS	14	9 16 11 20	27	Start at 7:00am.
					1						SS 0 ft - 2 ft
					2	S2	SS	12	18 9 7 5	16	
					3						SS 2 ft - 4 ft
		Brown f-c SAND, tr. silt, tr. f-c gravel. (moist) [FILL]		14	4	S3	SS	18	9 12 22 16	34	Drilled to 4 ft using water.
				17	5						SS 4 ft - 6 ft
				20	6	S4	SS	4	18 12 11 13	23	
		Brown f-c SAND, sm. geofabric. (wet) [FILL]		18	7						SS 6 ft - 8 ft
				0	8	S5	SS	6	7 8 8 6	16	Pushed casing to 4 ft. Drove casing to 8 ft. Drilled to 8 ft.
		Gray - Brown f-c SAND, tr. f-c gravel. (wet) [FILL]		0	9						SS 8 ft - 10 ft
				0	10	S6	SS	14	9 7 6 4	13	
		Gray - Brown f-c SAND, sm. f-c gravel. (wet) [FILL]		0	11						SS 10 ft - 12 ft
				0	12	S7	SS	3	4 4 6 6	10	Drilled to 12 ft using mud.
		Dark Gray Silty f-c SAND, tr. organics, tr. f-c gravel, tr. glass. (wet) [FILL]		0	13						SS 12 ft - 14 ft
				19	14	S8	SS	8	6 6 14 26	20	
		Brown f-m SAND, tr. f-c gravel. (wet) [FILL]		16	15						SS 14 ft - 16 ft
				21	16	S9	SS	6	10 30 17 24	47	Pushed casing to 14 ft. Drilled to 16 ft.
		Dark Brown Silty f-m SAND, tr. glass, tr. organics. (wet) [FILL]		19	17						SS 16 ft - 18 ft
				18	18	S10	SS	8	10 12 14 13	26	
		Dark Gray f-m SAND. (wet) [FILL]			19						SS 18 ft - 20 ft
					20						

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Log of Boring **B-85** Sheet 2 of 4

Project	Project No.
MEADOWLANDS XANADU	1860001
Location	**Elevation and Datum**
EAST RUTHERFORD, NJ	approximately el 18 NGVD 1929

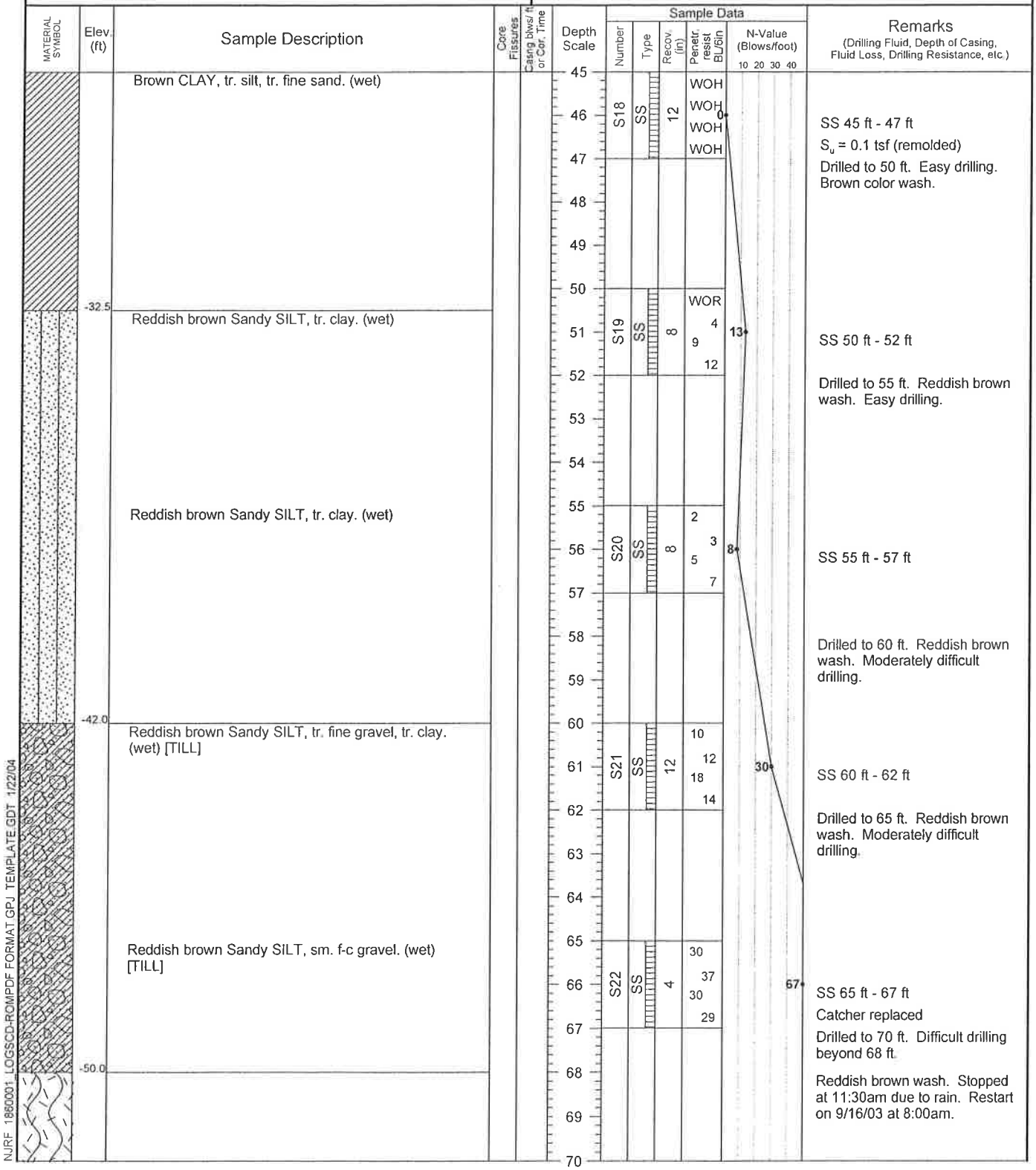
Material Symbol	Elev (ft)	Sample Description	Core Fissures	Casng blws/ft or Cor. Time	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist. BL/6in	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
					20						Drove casing to 19 ft. Drilled to 20 ft.
		Gray f-m SAND. (wet) [FILL]			21	S11	SS	8	4 4 6 6	10	SS 20 ft - 22 ft
	-5.0				22						
		Dark Brown PEAT. (moist) [MEADOWMAT]			23	S12	SS	18	6 5 9 11	14	SS 22 ft - 24 ft
					24						Drilled to 24 ft
		Brown SILT and PEAT. (wet) [MEADOWMAT]			25	S13	SS	14	3 4 4 3	8	SS 24 ft - 26 ft
	-8.0	Gray SILT. (wet)			26	S14	SS	24	6 6 13 11		q_u = 1.25 tsf, S_u = 0.5 tsf
	-9.0	Brown and Gray VARVED SILT and CLAY, sm. reddish f-m sand. (wet)			27					19	SS 26 ft - 28 ft q_u = 1.25 tsf, S_u = 0.9 tsf
					28						
					29						Drilled to 30 ft. Brown wash. Easy drilling.
		Brown VARVED CLAY and SILT. (wet)			30						
					31	S15	SS	15	7 11 16 18	27	SS 30 ft - 32 ft q_u = 2.25 tsf, S_u = 1.0 tsf
					32						Drilled to 35 ft. Brown wash. Easy drilling.
					33						
					34						
		Brown VARVED CLAY and SILT. (wet)			35						
					36	S16	SS	24	1 2 3 5	5	SS 35 ft - 37 ft q_u = 0.5 tsf, S_u = 0.2 tsf
	-20.0				37						
					38						Drilled to 40 ft. Easy drilling. Brown wash. Inferred transition at 38 ft.
					39						
		Brown CLAY, tr. silt, tr. fine sand. (wet)			40				WOR		
					41	S17	SS	6	WOR WOR	0	SS 40 ft - 42 ft S_u = 0.12 tsf (remolded)
					42				WOR		Drilled to 45 ft. Brown wash. Easy drilling.
					43						
					44						
					45						

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Log of Boring **B-85** Sheet 3 of 4

Project	Project No.
MEADOWLANDS XANADU	1860001
Location	**Elevation and Datum**
EAST RUTHERFORD, NJ	approximately el 18 NGVD 1929



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Log of Boring **B-85** Sheet 4 of 4

Project	Project No.
MEADOWLANDS XANADU	1860001
Location	**Elevation and Datum**
EAST RUTHERFORD, NJ	approximately el 18 NGVD 1929

Material Symbol	Elev (ft)	Sample Description	Core Fissures	Casing blws/ ft or Cor. Time	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist Bl./6in	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
		Reddish brown decomposed SHALE. (wet)			70	S23	SS	7	31 62 50/1"	Refusal	SS 70 ft - 72 ft
					71						
					72				29		Drilled to 75 ft. Moderately difficult drilling. Reddish brown wash. Hole caving in.
					73						
					74						Downtime: 9:00-10:00. Rig broke down.
					75				45		Drilled to 75 ft with mud.
					76	S24	SS	8	47 62	109	SS 75 ft - 77 ft
					77				50		Drilled to 80 ft. Reddish brown wash. Moderately difficult to difficult drilling.
					78						
					79						
	-62.0	Reddish brown weathered SHALE. (wet)			80	S25	SS	2	100/2"	Refusal	SS 80 ft - 82 ft
					81						
					82						Drilled to 83 ft. Loosing drilling fluid. Hole caving in. Installed 3" ID casing to 75 ft. End of day's work @ 13:30. Restart 9/17/03 at 7:00am. Installed 3" ID casing to 84 ft. Drilled to 85 ft. Drilling very difficult beyond 83 ft.
	-65.0				83						
					84						
		Reddish brown SHALE.		3:30	85	CORE #1	NX CORE	Rec=60"/60"=100%	RQD= 58"/60" =97%		NX CORING 85 ft - 90 ft
				2:00	86						
				3:15	87						Reddish brown wash.
				2:30	88						
				3:00	89						
	-72.0	End of boring at 90 ft at 12:30pm.			90						Boring grouted at completion.
					91						
					92						
					93						
					94						
					95						

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Log of Boring **B-86** Sheet 1 of 4

Project: MEADOWLANDS XANADU	Project No.: 1860001
Location: EAST RUTHERFORD, NJ	Elevation and Datum: approximately el 15.5 NGVD 1929
Drilling Agency: JERSEY BORING AND DRILLING	Date Started: 9/18/03 — Date Finished: 9/18/03
Drilling Equipment: ACKER D-2 DRILL RIG	Completion Depth: 75 ft — Rock Depth: 63 ft.
Size and Type of Bit: 3 7/8" O.D. ROLLER BIT	Number of Samples: Disturbed 21, Undisturbed 0, Core 1
Casing Diameter (in): 4" ID CASING — Casing Depth (ft): 19	Water Level (ft.): First ▽ 4, Completion ▼ -, 24 HR. ▼ -
Casing Hammer: DONUT — Weight (lbs): 140/300 — Drop (in): 30/24	Drilling Foreman: CARLOS TIRADO
Sampler: 2" OD STD SPLIT SPOON	Inspecting Engineer: SETH VAIDYA
Sampler Hammer: SAFETY — Weight (lbs): 140 — Drop (in): 30	

Material Symbol	Elev. (ft)	Sample Description	Core Fissures	Coring Time (min)	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
	+15.5	Brown f-c SAND, tr. roots. (dry) [FILL]			0	S1	SS	12	2 8 13 17	21	Start: 7:10 am SS 0 ft - 2 ft
		Brown f-c SAND, tr. f-c gravel, tr. silt. (moist) [FILL]			1						
					2	S2	SS	12	21 13 11 11	24	SS 2 ft - 4 ft
					3						
					4						Drilled to 4 ft with mud.
		Brown and Gray Silty f-c SAND, tr. roots, tr. organics. (wet) [FILL]			5	S3	SS	8	11 9 17 13	26	SS 4 ft - 6 ft
		Brown Gravelly f-c SAND, sm. silt. (wet) [FILL]			6	S4	SS	6	6 32 21 14	53	SS 6 ft - 8 ft
	+6.5	Dark Brown organic Silty f-m SAND, tr. vegetation. (wet) [FILL]			7						Drilled to 8 ft.
		Brown f-c SAND, sm. f-c gravel, tr. silt. (wet) [FILL]			8	S5	SS	18	5 7 16 45	23	SS 8 ft - 10 ft
		Dark Greenish gray f-c SAND. (wet) [FILL]			9						
					10	S6	SS	14	24 21 32 25	53	SS 10 ft - 12 ft
		Greenish gray f-m SAND. (wet) [FILL]			11						Pushed casing to 10 ft. Drilled to 12 ft.
		Greenish gray f-m SAND. (wet) [FILL]			12	S7	SS	10	7 9 11 16	20	SS 12 ft - 14 ft
	0.0	Brown Gravelly f-c SAND, tr. silt. (wet) [FILL]			13						
					14	S8	SS	14	16 24 14 20	38	SS 14 ft - 16 ft
		Brown f-c SAND, tr. silt, tr. f-c gravel. (wet) [FILL]			15						Drove casing to 14 ft with 140 lb hammer. Drilled to 16 ft.
	-2.5				16	S9	SS	3	16 29 16 7	45	SS 16 ft - 18 ft
		Dark Brown PEAT, tr. black peat, tr. f-m sand. (wet) [MEADOWMAT]			17						
					18	S10	SS	12	5 6 5 4	11	SS 18 ft - 20 ft
					19						
					20						

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Log of Boring **B-86** Sheet 2 of 4

Project	Project No.
MEADOWLANDS XANADU	1860001
Location	**Elevation and Datum**
EAST RUTHERFORD, NJ	approximately el 15.5 NGVD 1929

Material Symbol	Elev. (ft)	Sample Description	Core Fissures	Coring Time (min)	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
					20						Drove casing to 19 ft. Drilled to 20 ft.
		Dark Brown PEAT. (wet) [MEADOWMAT]			21	S11	SS	24	2 3 6 6	9	SS 20 ft - 22 ft
					22						SS 22 ft - 24 ft
		Dark Brown PEAT. (wet) [MEADOWMAT]			23	S12	SS	12	9 11 9 8	20	Drilled to 25 ft.
	-8.3	Gray SILT, tr. organics. (wet)			24						
					25				WOR		
		Gray SILT, tr. fine sand. (wet)			26	S13	SS	6	WOR WOR WOR	0	SS 25 ft - 27 ft
	-11.5				27						Drilled to 30 ft. Brown color wash. Easy drilling.
					28						Inferred transition at 27 ft.
					29						
					30						
		Brown VARVED CLAY and SILT. (wet)			31	S14	SS	20	2 5 8 7	13	SS 30 ft - 32 ft
	-16.5				32						q_u = 1.25 tsf S_u = 0.6 tsf Drilled to 35 ft. Brown colored wash. Easy drilling.
					33						
					34						
					35				WOR		
		Brown CLAY. (wet)			36	S15	SS	24	WOR WOR WOR	0	SS 35 ft - 37 ft
					37						S_u= 0.08 tsf (remolded)
					38						Drilled to 40 ft. Brown color wash. Easy drilling.
					39						
					40				WOR		
		Brown CLAY. (wet)			41	S16	SS	20	WOR WOR WOR	0	SS 40 ft - 42 ft
					42						S_u = 0.06 tsf (remolded)
					43						Drilled to 45 ft. Brown color wash. Easy drilling.
	-28.5				44						Slightly difficult drilling beyond 44 ft.
					45						

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Log of Boring **B-86** Sheet 3 of 4

Project	Project No.
MEADOWLANDS XANADU	1860001
Location	**Elevation and Datum**
EAST RUTHERFORD, NJ	approximately el 15.5 NGVD 1929

Material Symbol	Elev. (ft)	Sample Description	Core Fissures	Coring Time (min)	Depth Scale	Sample Data: Number	Type	Recov. (in)	Penetr. resist BL/6in	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
		Reddish brown fine SAND and SILT. (wet)			45	S17	SS	12	10 10 10 8	20	SS 45 ft - 47 ft
	-32.5				46						
					47						Drilled to 50 ft. Reddish brown color wash. Easy drilling to 48 ft. Moderately difficult drilling beyond 48 ft.
		Reddish brown Sandy SILT, tr. f-c gravel, tr. clay, (wet) [TILL]			48						
					49						
					50	S18	SS	12	10 16 60 36	76	SS 50 ft - 52 ft
					51						
					52						
					53						Drilled to 55 ft. Reddish brown color wash. Moderately difficult drilling.
		Reddish brown Sandy SILT, tr. f-c gravel, tr. clay, (wet) [TILL]			54						
					55	S19	SS	.4	16 12 18 17	30	SS 55 ft - 57 ft
					56						
					57						Drilled to 60 ft. Reddish brown color wash. Moderately difficult drilling beyond 58 ft.
					58						
					59						
		Reddish brown Sandy SILT, tr. f-c gravel, tr. clay, (wet) [TILL]			60	S20	SS	9	15 32 46 53	78	SS 60 ft - 62 ft
					61						
	-47.5				62						
					63						Drilled to 65 ft. Reddish brown color wash. Difficult drilling beyond 63 ft.
		Reddish brown SHALE fragments at 65 ft			64						
					65	S21	SS	2	100/3"	Refusal	SS 65 ft - 67 ft
					66						
					67						
					68						Drilled to 70 ft. Reddish brown color wash. Very difficult drilling throughout to 70 ft.
					69						
					70						

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Log of Boring **B-86** Sheet 4 of 4

Project	Project No.
MEADOWLANDS XANADU	1860001
Location	**Elevation and Datum**
EAST RUTHERFORD, NJ	approximately el 15.5 NGVD 1929

MATERIAL SYMBOL	Elev. (ft)	Sample Description	Core Fissures	Coring Time (min)	Depth Scale	Sample Data: Number	Type	Recov (in)	Penetr. resist BL/6in	N-Value (Blows/foot) 10 20 30 40	Remarks (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.)
					70						NX coring 70 ft to 75 ft
				3:30	71						
				4:00	72						
		Reddish brown SHALE.		3:45	73	CORE #1	NX CORE	Rec=60"/60"=100%	RQD= 28"/60" =47%		
				3:40	74						
				4:00	75						
	-59.5	End of boring at 75 ft at 13:15 pm.			76						Boring grouted at completion.
					77						
					78						
					79						
					80						
					81						
					82						
					83						
					84						
					85						
					86						
					87						
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					89						
					90						
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					93						
					94						
					95						

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APPENDIX D

ANNOTATED BIBLIOGRAPHY

Author:	Michael Audin, RPA
Title:	PHASE IA ARCHAEOLOGICAL SURVEY FOR BLOCK 107.02, LOT 3 BOROUGH OF EAST RUTHERFORD, BERGEN COUNTY, NEW JERSEY
Location:	Borough of East Rutherford
Drainage Basin:	Hackensack River
U.S.G.S. Quad:	Weehawken, NJ
Project:	Amusement Park development
Level of Survey:	Phase IA Background research and Pedestrian Survey
Cultural Resources:	None

APPENDIX F

TRAFFIC IMPACT ASSESSMENT

TRAFFIC IMPACT ASSESSMENT

NEW JERSEY DEPARTMENT OF TRANSPORTATION
MAJOR ACCESS PERMIT APPLICATION

NJ ROUTE 120
Borough of East Rutherford, Bergen County, New Jersey

Prepared for

TRIPLE FIVE WORLDWIDE
8882 170th Street
Edmonton, Alberta, Canada

Prepared by

TRC Engineers, Inc.
7 Skyline Drive
Hawthorne, New York
Tel: (914) 592-4040

October 25, 2011
TRC Project No. 181990

Kenneth Mackiewicz, P.E.
New Jersey P.E. #GE28060
Principal, Land Development

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LIST OF APPENDICES

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- Permit No. A-120-N-N033-2004

Appendix B — Site Plans
- Meadowlands Xanadu Site Plan
- American Dream Meadowlands Site Plan

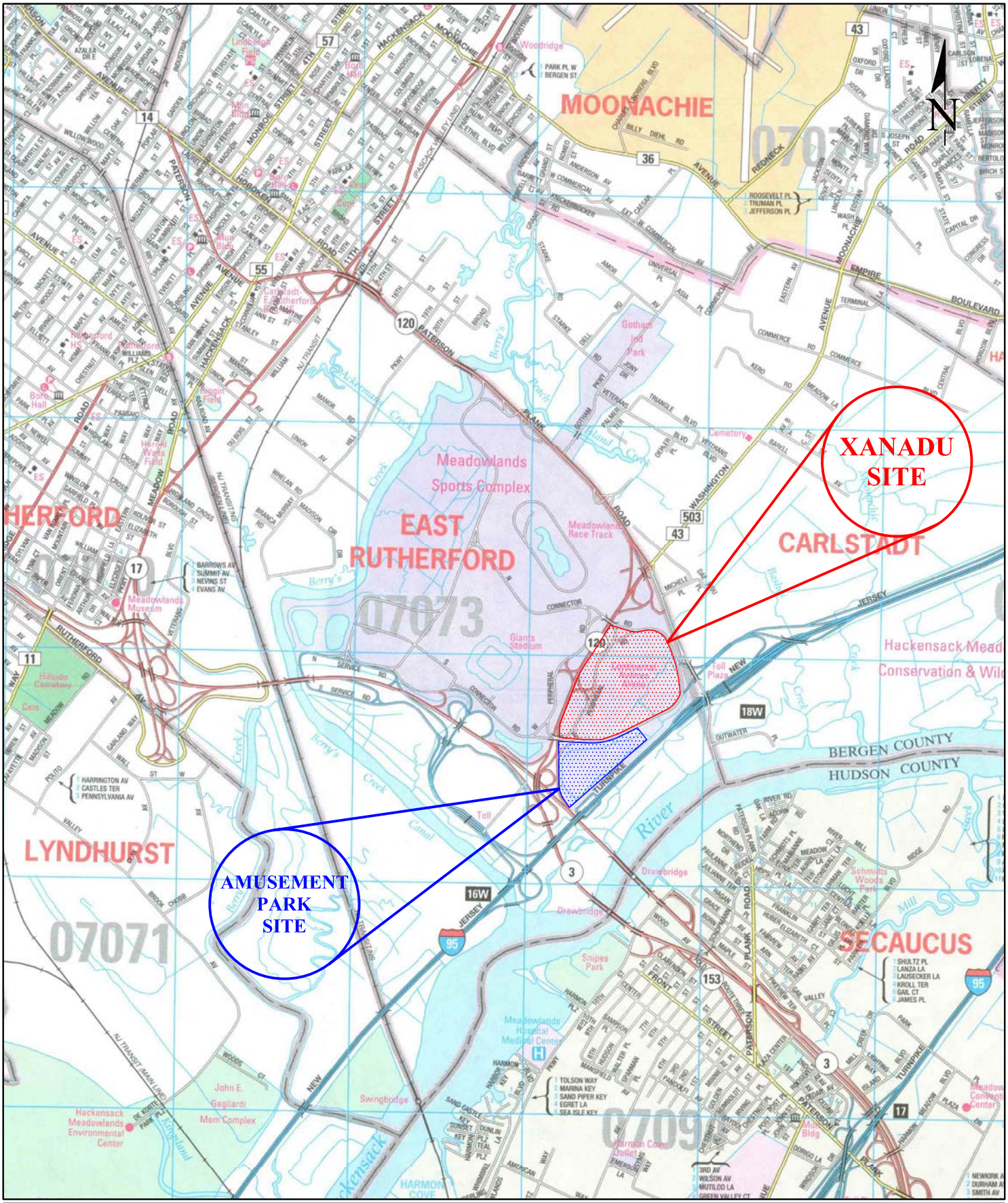
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- Pass-By Trips
- Additional Trip Generation Analysis
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- Meadowlands Racetrack Downsizing
- Bergen County Blue Laws
- NJTPK Interchange 18W Ramps
- Variable Message Signs & On-Site Operations
- Meadowlands Adaptive Signal System for Traffic Reduction
- Background Traffic Levels

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- NJTPK Interchange 18W Sports Complex Ramp Improvements
- NJTPK Interchange 16W/NJ Route 3 Improvements
- NJDOT Paterson Plank Road (NJ Route 120) Improvements
- NJDOT NJ Route 3 Passaic River Crossing Improvements
- NJ Transit Meadowlands Rail Line & Station
- Meadowlands Adaptive Signal System for Traffic Reduction

SECTION 1 – INTRODUCTION

1.1 PROJECT BACKGROUND

In 2003, The Mills Corporation proposed the Meadowlands Xanadu project for a tract of land surrounding the IZOD Center at the Meadowlands Sports Complex located in East Rutherford, New Jersey and owned by the New Jersey Sports & Exposition Authority (NJSEA). The site location of the Xanadu development is shown in **Figure No. 1**. For the Xanadu development, TRC Engineers, Inc. (TRC) complied with the Pre-Application Meeting process with representatives of the New Jersey Department Of Transportation (NJDOT). Subsequent to that meeting, TRC submitted a Scope of Study Report (dated September 29, 2003) to NJDOT. The Scope of Study outlined the methodologies used to calculate the trip generations and distributions for the Xanadu project and identified the required study locations. A detailed Traffic Impact Study (TIS), in conjunction with a Major With Planning Review Permit Application, was submitted to NJDOT on March 30, 2004. Although not required per NJDOT's study location criteria, several additional locations were analyzed as part of the TIS as these locations were thought to be significant to the overall access to the Meadowlands Sports Complex and to the adjacent roadway network. Concept Approval was granted by NJDOT and on March 24, 2006, the NJDOT granted a Major Access (With Planning) Permit, Permit No. A-120-N-N033-2004 attached herein in **Appendix A**, to the NJSEA for the Xanadu development.



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Site Location Map

American Dream Meadowlands
East Rutherford, Bergen County, New Jersey

Project No. 181990
Not To Scale
October 2011

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Figure No. 1

Q:\Acad180\181990\dwg\Exhibits\Site Location Map.dwg

The proposed American Dream Meadowlands project will replace the Entertainment Retail Complex (ERC) portion of the previously approved and permitted Xanadu development. The Office, Hotel and Ballpark component will remain the same as envisioned in the Meadowlands Xanadu project. The Xanadu ERC was partially constructed, however, more importantly, all roadway improvements and access for the Xanadu development were installed per the Access Permit. This entailed over $60 million in roadway improvements. The location of American Dream will remain the same as the Xanadu development as will the size of the project, except that the American Dream development will now also consist of a 14.7 acre Amusement Park, which includes an indoor amusement park, indoor water park and associated common areas. The site location of the Amusement Park is also shown in **Figure No. 1**. The Amusement Park component is compromised of approximately 7.3 acres of Gross Buildable Area (GBA), while the Water Park component and common area consist of approximately 5.4 acres GBA and 2 acres GBA, respectively. There will be no change in access to the site and there will be no additional modifications to NJ Route 120. All parking for the Amusement Park will be accommodated by the existing parking facilities and no new parking is planned at the Meadowlands Sports Complex.

1.2 ADDITIONAL STUDIES

As some of the improvements proposed for the Xanadu development included New Jersey Turnpike (NJTPK) ramps, the NJTPK Authority requested a separate study to analyze impacts at Interchanges 16W & 18W and items under NJTPK jurisdiction. As

part of the review process, TRC prepared a detailed memorandum in August 2004 and subsequently prepared a "Transportation Management Plan", dated June 2006, to address the impacts to NJTPK Interchanges 16W and 18W.

In December 2004, the NJSEA, in consultation with NJDOT, prepared a separate study entitled "Meadowlands Regional Transportation Analysis" which evaluated regional transportation issues and addressed study locations that were outside the scope of the Xanadu Traffic Impact Study prepared by TRC. The regional study addressed future 2025 AM and PM peak hour traffic volumes, taking into consideration background traffic growth and traffic generated from ten (10) major regional development proposals, including the Meadowlands Xanadu Project.

Based upon the results of this study, a recommended Plan of Action, above and beyond those improvements proposed for the Xanadu project under the State Highway Access Management Code, was identified that further enhances the transportation system to provide for improved regional traffic flow. Roadway improvements constructed as a result of the regional study recommendations include the NJTPK Interchange 16W/NJ Route 3 improvements, Paterson Plank Road (NJ Route 120) improvements, and NJ Route 17 intersection improvements. These improvements are discussed in more detail in Section 5 of this report.

1.3 REGIONAL IMPROVEMENTS

Significant modifications and improvements have been performed to the roadway network since the original Traffic Impact Study for Meadowlands Xanadu. As a result of the Xanadu project, over $60 million worth of developer funded roadway improvements were constructed in the vicinity of NJ Route 3, NJ Route 120 and the New Jersey Turnpike. These improvements included widening the State Highway (NJ Route 120), new ramps, and a new flyover bridge spanning NJ Route 3.

In addition to the improvements from the Xanadu project, several other roadway improvement projects totaling over $300 million have been constructed or are currently being implemented. These projects, listed in detail in Section 5 entitled "Roadway & Transit Improvements", include the various improvements constructed by the NJDOT including along NJ Route 3 and NJ Route 120, among others. In addition, the NJTPK Authority has also performed roadway improvements in the area, including at Interchanges 16W and 18W. With the implementation of these roadway improvements that were beyond what was studied in the Xanadu Traffic Impact Study, the traffic operating conditions and roadway capacity in the area is improved over the earlier analysis.

In addition to the roadway improvements, the new $144 million Meadowlands Rail Line & Station, constructed by New Jersey Transit, as well as other public transportation options, will further reduce automobile traffic volumes in the area.

SECTION 2 – CURRENT DEVELOPMENT-AMERICAN DREAM

2.1 PROJECT DESCRIPTION

The Xanadu project is located just east of NJ Route 120, west of the New Jersey Turnpike Western Spur, north of NJ Route 3 and south of Paterson Plank Road in the NJSEA tract of land (Block 107.02, Lot 1) which holds the IZOD Center (to remain). Xanadu was planned and approved to consist of a Family Entertainment/Retail Component (ERC) containing approximately 2.7 million square feet (sf) of family entertainment and retail space, up to approximately 1.76 million sf of office space, a hotel with up to approximately 520 rooms and a minor league ballpark. A copy of the Site Plan for Xanadu is attached in **Appendix B**.

American Dream is to consist of the same approximate 2.7 million sf of ERC space, with the addition of a 14.7 acre Amusement Park, which includes an indoor amusement park, indoor water park and associated common areas. The office space, hotel and ballpark will remain as envisioned in the Meadowlands Xanadu project. A copy of the Site Plan for the Amusement Park is contained in **Appendix B**.

The American Dream project will be located at the same location as the Xanadu project. The Amusement Park is proposed to be located in a lot (Block 107.02, Lot 3) located in

the southeast portion of the project site. The access for the Amusement Park will be provided through the previously approved access. Pedestrian access to the Amusement Park will be provided via a connection to the existing ERC building. No new vehicular access from the State Highway System is proposed in conjunction with this added use.

2.2 PROJECT ACCESS

Access to Xanadu was to be provided via the existing Meadowlands Sports Complex and Arena Site access roadways from NJ Route 120, NJ Route 3, Paterson Plank Road and the New Jersey Turnpike (Interchange Nos. 16W and 18W). The Xanadu Site Plan, contained in **Appendix B**, illustrates the site access and surrounding roadways. As part of the Xanadu development, the existing northbound and southbound New Jersey Turnpike Interchange 18W On/Off-ramps to the Sports Complex would remain open continuously. Previously, these ramps were closed at all times except for a few hours before and after a major event at the Sports Complex. The NJTPK has installed E-ZPass on the lanes entering the site from Interchange 18W and modifications were performed in conjunction with Xanadu to provide full-time access to the site.

As part of its Master Planning for the Meadowlands Sports Complex, the NJSEA had identified several on-site and off-site transportation improvements to improve ingress and egress to the different venues. To improve the weaving area on Route 120 northbound for vehicles destined to the Arena entrance ramp, the NJSEA had proposed a new flyover

that would direct vehicles from Route 3 eastbound to a new "Service Road" along Route 120 northbound thereby providing dedicated access to the Arena. Vehicles from Route 3 westbound are now also able to access the Service Road. In addition, the NJSEA had proposed a new entrance ramp to the Arena from Route 120 northbound, on the northern portion of the Arena parcel.

These improvements were constructed in conjunction with the approved Access Permit, and fully funded by the developer. There are no proposed changes to any State Highway Access Points in association with the updated American Dream project. All parking for the Amusement Park will be accommodated by the existing parking facilities and no new parking is planned at the Arena Site. Vehicular access to the existing parking facilities will be provided by the existing roadways. Emergency and maintenance access will be provided to the Amusement Park site through the existing NJSEA/Arena circulation ring road. Pedestrian access to the Amusement Park will be provided via a connection to the existing ERC building on the 2nd level spanning the ring road. Amusement Park visitors will be able to access the Meadowlands Rail Station through connections with the ERC facility.

SECTION 3 – NJDOT PERMITTING REGULATIONS

3.1 CURRENT NJDOT PERMIT

In order to determine the need and/or type of new Access Permit, the permitted traffic volumes during the critical time periods must be compared to the newly proposed trip generation of the Amusement Park. Access Permit No. A-120-N-N033-2004, and the associated roadway improvements totaling over $60 million, allowed for the following traffic volumes, shown in Table No. 1 below:

TABLE NO. 1
PRIMARY ACCESS DRIVEWAY (NJ ROUTE 120) PERMITTED/ALLOWABLE VOLUMES

	TOTAL ENTERING & EXITING TRIPS					
	PEAK AM HOUR	**PEAK PM HOUR**	**PEAK PM EVENT HOUR**	**PEAK SAT HOUR**	**WEEKDAY DAILY**	**SATURDAY DAILY**
XANADU						
PERMITTED VOLUMES [(1)] (Entertainment/Retail, Office, Hotel)	-	10,038	11,757	16,007	127,474	201,499
PERMIT VOLUME VIOLATION THRESHOLD [(1)]	-	10,138	11,857	16,107	140,221	221,649
ALLOWABLE INCREASE	100	100	100	100	12,747	20,150

NOTES
(1) Permitted Volumes and Allowable Increase are as shown in NJDOT Permit No. A-120-N-N033-2004

3.2 SIGNIFICANT TRAFFIC INCREASE DETERMINATION

When determining whether a new Permit Application is required for an expansion on an existing lot per the New Jersey State Highway Access Management Code (N.J.A.C. 16:47), it first must be determined whether the expansion generates a "Significant Increase in Traffic" for the lot. The Access Code, in section N.J.A.C. 16:47-1.1, defines a "significant increase in traffic" as a change in use which results in 100 additional vehicular movements generated by a lot during any Peak Hour AND 10% of the previously-anticipated Daily Traffic during a Weekday or Saturday.

TABLE NO. 2
PRIMARY ACCESS DRIVEWAYS (NJ ROUTE 120) VOLUME INCREASE

		TOTAL ENTERING & EXITING TRIPS					
		PEAK AM HOUR	PEAK PM HOUR	PEAK PM EVENT HOUR	PEAK SAT HOUR	WEEKDAY DAILY	SATURDAY DAILY
AMERICAN DREAM							
Amusement Park [1]	14.7 acres	10	58	60	277	1,114	2,649
Alternative Access (30%) [2]	-	-3	-17	-18	-83	-334	-795
Increase in Trips		7	41	42	194	780	1,854
NJDOT "Significant Increase in Trips" Criteria [3]		100	100	100	100	12,747	20,150
Exceeds Threshold?		No	No	No	Yes	No	No

NOTES

(1) Hourly and Daily Trip Generation Rates for American Dream Amusement Park based on rates contained in ITE Trip Generation, 8th Ed. for "Amusement Park" (LU 480), and calculated per Acre (14.7 acres)

(2) Composite 30% Alternative Access via NJTPK 18W Ramps (Projected to be 28% Entering, 35% Exiting via NJTPK 18W Ramps as contained in the NJDOT-approved Xanadu Traffic Impact Study prepared by TRC)

(3) NJDOT State Highway Access Management Code (N.J.A.C. 16:47-1.1) defines a "significant increase in traffic" as vehicular use exceeding the previously anticipated two-way traffic generated by a lot by: 1) 100 movements during the peak hour of the highway or the development; and 2) 10 percent of the previously anticipated daily movements.

As can be seen in Table No. 2 above, the proposed expansion would not result in a "significant increase in traffic", as the 10% Daily Trip criteria is not met. The daily traffic increases amount to less that 1% of the previously permitted traffic volumes for the Xanadu development.

Therefore, as the previous Permit volumes are not exceeded, a new permit is technically not required per the guidelines set forth in the Access Code. However, as one of the Peak Hours would exceed 100 new trips, the applicant has agreed with the NJDOT to file for a new Major Permit. It should be noted that the Amusement Park trip generation does not take into account any trip credits such as mass transit use or internal trips, and thus represents a conservative approach.

3.3 PERMIT APPLICATION TYPE DETERMINATION

Once it is determined whether a "significant increase in traffic" occurs, it must then be determined whether a Major Permit Application or a Major With Planning Review Permit Application is required. When determining the type of Permit Application that is required, only the traffic volume directly accessing the State highway via the State highway access points is considered, per N.J.A.C. 16:47-4.4(b). Therefore, the type of Permit required is based upon the traffic utilizing the NJ Route 120 access.

N.J.A.C. 16:47-4.4 states that a **Major (Without Planning Review) Permit Application** is required when the proposed expansion generates 500 or more new Daily Trips and less

than 200 new Peak Hour trips directly accessing the State highway. A **Major (With Planning Review) Permit Application** is required when the proposed expansion generates 500 or more new Daily trips AND 200 or more new Peak Hour trips directly accessing the State highway. Based upon the trip generation illustrated in Table No. 3 below, the NJ Route 120 access will experience greater than 500 new Daily trips, however, it will experience less than 200 new Peak Hour trips. **Therefore, the proposed expansion requires a Major (Without Planning Review) Permit Application.**

TABLE NO. 3
PRIMARY ACCESS DRIVEWAYS (NJ ROUTE 120) VOLUME INCREASE

		TOTAL ENTERING & EXITING TRIPS					
		PEAK AM HOUR	PEAK PM HOUR	PEAK PM EVENT HOUR	PEAK SAT HOUR	WEEKDAY DAILY	SATURDAY DAILY
AMERICAN DREAM							
Amusement Park [1]	14.7 acres	10	58	60	277	1,114	2,649
Alternative Access (30%) [2]	-	-3	-17	-18	-83	-334	-795
Increase in Trips		7	41	42	194	780	1,854
NJDOT "Permit Determination" Criteria [3]		200	200	200	200	500	500
Exceeds Threshold?		No	No	No	No	Yes	Yes

NOTES

(1) Hourly and Daily Trip Generation Rates for American Dream Amusement Park based on rates contained in ITE Trip Generation, 8th Ed. for "Amusement Park" (LU 480), and calculated per Acre (14.7 acres)

(2) Composite 30% Alternative Access via NJTPK 18W Ramps (Projected to be 28% Entering, 35% Exiting via NJTPK 18W Ramps as contained in the NJDOT-approved Xanadu Traffic Impact Study prepared by TRC)

(3) NJDOT State Highway Access Management Code (N.J.A.C.) 16:47-4.4(a)2 states "Any use generating 500 or more vehicle trips directly accessing a State highway per day and less than 200 peak-hour vehicle trips to and from the lot requires a major application."

Although the Major (Without Planning Review) Permit Application does not require a detailed traffic impact study, due to the unique characteristics of the development, the developer has agreed to provide this Traffic Impact Assessment to document the additional trips generated by the Amusement Park and to provide further evidence that the minimal increase in trips associated with the expansion traffic will be more than accommodated by the current Arena Site access roadways and improvements.

SECTION 4 –TRIP MITIGATION AND VOLUME REDUCTION

4.1 ADDITIONAL TRIP MITIGATING FACTORS AND AREA VOLUME REDUCTIONS

Additional trip mitigation factors were **not considered** when calculating the additional trips generated by the Amusement Park development in order to provide the most conservative analysis. The following is a list of the trip mitigation factors and volume reductions **not considered** in this assessment, however which will certainly be recognized at the site and on the surrounding roadway system due to the nature of the development. A more detailed description of each of these factors and reductions is contained in **Appendix C**.

Trip mitigating factors and area volume reductions **not considered** in this assessment include:

- Mass Transit
- Internal Trips
- Event "Stay-Away" Factor
- Pass-By Trips
- Additional Trip Generation Analysis
- MetLife Stadium improvements
- Meadowlands Racetrack downsizing

- Bergen County Blue Laws
- New Jersey Turnpike Interchange 18W Ramps
- Variable Message Signs and On-Site Operations
- Meadowlands Adaptive Signal System for Traffic Reductions (MASSTR)
- Background Traffic Levels

SECTION 5 –ROADWAY & TRANSIT IMPROVEMENTS

5.1 LOCAL & REGIONAL ROADWAY/TRANSIT IMPROVEMENTS

Since the Approvals were received for the Xanadu Development, there have been several significant roadway infrastructure improvements. As part of the Xanadu Development, there were over $60 million of roadway improvements funded by the developer and constructed in accordance with Access Permit No. A-120-N-N033-2004. In addition, there have also been over $300 million of improvements constructed or currently being implemented by various governmental agencies including the NJSEA, NJDOT and the NJTPK Authority, among others. In addition, the new $144 million rail line and station was constructed by New Jersey Transit. Copies of the roadway and rail improvement plans are contained in **Appendix D**. The following is a listing of some of the major infrastructure improvements performed recently.

5.2 DEVELOPER COMPLETED – ON-SITE IMPROVEMENTS

- Cost: Approximately $34 million
- Additional access ramps and lanes
- Comprehensive signing (static and variable message)
- Traffic signals to better control traffic flow throughout the Arena Site
- Multiple parking ingress/egress points to reduce vehicular circulation throughout the Arena Site

5.3 DEVELOPER COMPLETED – OFF-SITE IMPROVEMENTS

- Cost: Approximately $30 million
- New service road along Route 120 Northbound
- New Flyover ramp from Route 3 Eastbound to Route 120 Northbound Service Road
- New ramp from Route 120 Northbound to northern portion of site*
  (*Planned; All work for this improvement within the NJDOT Right-Of-Way has been completed; only on-site construction remains and will be completed prior to the opening of American Dream Meadowlands)
- Additional lane on ramp from Route 120 Southbound to Route 3 Westbound
- Additional lane on Route 120 Southbound
- Additional lanes on New Jersey Turnpike 18W Sports Complex Access
- Comprehensive signing (static and variable message)

5.4 NJTPK – INTERCHANGE 18W SPORTS COMPLEX ACCESS RAMP IMPROVEMENTS

- Cost: Approximately $18 million
- Additional lanes and signage on NJTPK mainline and 18W Meadowlands Sports Complex Access Ramp
- Express E-ZPass gantry installed

5.5 NJTPK – INTERCHANGE 16W/NJ ROUTE 3 IMPROVEMENTS

- Cost: Approximately $62 million
- Complete reconstruction of New Jersey Turnpike 16W/NJ Route 3 Interchange, with additional lanes and accel/decel ramps
- Reconstruction of Route 3 Westbound Sports Complex Access Ramps, with additional lanes and accel/decel ramps
- Additional lane on Route 3 Eastbound Sports Complex Access Ramp
- New flyover from Route 120 Southbound to Route 3 Eastbound

5.6 NJDOT – PATERSON PLANK ROAD (NJ ROUTE 120) AND NJ ROUTE 17 IMPROVEMENTS

- Cost: Approximately $56 million
- Additional lanes, widening and shoulders
- Intersection upgrades

5.7 NJDOT –NJ ROUTE 3 PASSAIC RIVER CROSSING IMPROVEMENTS

- Cost: Approximately $148 million
- Replacement of Route 3 structure over the Passaic River
- Additional lanes, shoulders and acceleration/deceleration lanes

5.8 NJDOT –NJ ROUTE 3 HACKENSACK RIVER CROSSING REHABILITATION

- Cost: Approximately $50 million
- Rehabilitation of both the Eastbound and Westbound Route 3 structures over the Hackensack River

5.9 NJ TRANSIT – NJ TRANSIT MEADOWLANDS RAIL LINE & STATION

- Cost: Approximately $144 million
- New Jersey Transit has recently constructed a NJ Rail link providing direct access to the Sports Complex. Currently this link is only be utilized for professional football games and other large events at the Sports Complex. In the future, the Rail link will also provide access to and from the American Dream project.

5.10 NJ MEADOWLANDS COMMISSION – MEADOWLANDS ADAPTIVE SIGNAL SYSTEM FOR TRAFFIC REDUCTION (MASSTR)

- Cost: Approximately $10 million
- The New Jersey Meadowlands Commission (NJMC) is incorporating 128 existing traffic signals in Meadowlands region into a network of self-adaptive traffic signals which will help traffic flow in the area through the ability to immediately adapt to current traffic conditions. This signal system is currently being performed and will be completed over the next few years.

SECTION 6 – CONCLUSIONS

6.1 CONCLUSIONS

The more than $60 million of roadway improvements constructed as part of the Xanadu development, in conjunction with over $300 million of significant improvements constructed or currently being implemented by the NJSEA, NJDOT, the NJTPK Authority, and others, as well as the new $144 million rail line, have improved traffic conditions in the area.

Pursuant to the New Jersey State Highway Access Management Code guidelines, no additional modifications are required for the Access Driveways and adjacent roadways, and subsequently, no additional construction will occur within the NJDOT Right-of-Way. Based on the conservative approach taken in Section 3 when evaluating the 14.7 acre Amusement Park, which does not take into consideration any trip mitigating factors or volume reductions, with the volumes approved by NJDOT in 2004 (Major with Planning Review Access Permit No. A-120-N-N033-2004), the issuance of a Major Access Permit without Planning Review would be appropriate.

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APPENDIX A

NJDOT APPROVED MAJOR ACCESS (WITH PLANNING) PERMIT

– PERMIT NO. A-120-N-N033-2004

FORM MT-32A ACCESS CONFORMING LOT PERMIT NUMBER A-120-N-N033-2004

The rights accorded and obligations imposed by this permit are binding upon all successors in interest in the lot referenced below.

PERMITTOR: NEW JERSEY DEPARTMENT OF TRANSPORTATION
1035 Parkway Avenue
Trenton, NJ 08625

PERMITTEE: Mr. George R. Zoffinger
N.J Sports and Exposition Authority
50 State Route 120
East Rutherford, NJ 07073

PERMIT TYPE: Commercial Use

ACCESS TYPE: Major/PLN

LOCATION: MUNICIPALITY: East Rutherford
ROUTE: 120
BLOCK: 107.02 LOT: 1

COUNTY: Bergen
DIRECTION: NB MILEPOST: .45
CONTROL SECTION: 0219

The Permittee is hereby granted the right to construct, maintain, and use access connecting to a state highway under the terms and conditions of this permit and attached plan, which is made a part hereof entitled:

This is for 3 driveway(s) which provides access to this site:
Description: Meadowlands Xanadu & Existing Arena - Size: 1760000 SQ. FEET (Meadowlands Xanadu only) (5)

TRAFFIC VOLUMES: This permit is valid for two-way traffic volumes which follow. These traffic volumes are based upon the ITE (5th Edition) average trip generation or Land Use Code Y35 or superseding rates adopted or approved by the Department. The actual traffic volumes generated by this lot for this use may differ from those listed. This permit addresses traffic which directly access the State highway.

PEAK HOUR VOLUME:	10038	AM	11757	PM 16007	WEEKEND
DAILY TRAFFIC VOLUME:	127474		WEEKDAY 201499		WEEKEND

A violation of this permit will occur if there is an expansion or change this use which will result in the traffic volumes exceeding one of the peak hour and one of the daily volumes listed below:

PEAK HOUR VOLUME:	10138	AM	11857	PM 16107	WEEKEND
DAILY TRAFFIC VOLUME:	140221		WEEKDAY 221649		WEEKEND

CONDITIONS: Additional conditions are attached hereto and incorporated herein. ✓

George R. Zoffinger — 3/22/06 — President & CEO

** George R. Zoffinger — Date — Title

[ ] Power of Attorney (check here) Include copy of Department POWER OF ATTORNEY DECLARATION (Form MT-156)

(Do Not Write Below) DEPARTMENT USE ONLY

PREPARED AND APPROVED BY: Charles R. Miller Date: 3/24/06

** Charles Miller **
** Supervising Eng. 2 **

Permit Number: A-120-N-N033-2004

Permit Expiration

This Permit shall expire if;

1. the Permittee violates any permit condition;

2. the Permittee:

   A. changes the number of driveways,
   B. changes the width of any driveway by more than 5 feet,
   C. changes the location of any driveway by more than 10 feet,
   D. locates any driveway within 12 feet of the extended property line,
   E. locates any driveway within 24 feet of another driveway,
   F. changes the materials which comprise the driveway;

3. the use of the lot served by the permit is expanded or changed resulting in a significant increase in traffic;

4. the lot covered by the permit is subdivided or consolidated with another lot;

5. work is not started within two years of the date this pernit was issued unless stated otherwise in this permit.

When the construction work under this permit is started within two years of the date of permit issuance but cannot be completed in the indicated time, the permit shall expire or the Permittee shall request an extension of time in writing from the appropriate Regional Maintenance Office and submit the required renewal fee in the form of a check or money order. The Department may approve one one-year extension.

This permit is issued in accordance with the State Highway Access Code, and is based upon the information submitted by Permittee. Any changes in traffic volumes, drainage, type of traffic or other operational aspects may cause this permit to expire, requiring a new permit to be issued based upon existing conditions. This permit is only for the use and purpose stated in the application and permit.

Access Construction

All work shall be done to the satisfaction of the Department.

No work in connection with this permit shall be started until the permit is effective.

The Permittee shall notify the Department's Regional Permits Office at least 72 hours prior to beginning any work authorized by this permit.

The Permittee shall complete the access in an expeditious and safe manner and according to the terms and conditions of this permit.

After the Permittee constructs the access and meets all conditions of the permit, the Permittee shall notify the Regional Maintenance Office, in writing. Within 30 calendar days of its receipt of the notice, the Regional Maintenance Office will notify the Permittee if any corrective action is required by the Permittee.

Permit Scope

This permit is for only the lot noted above. The Permittee is responsible for all traffic crossing the frontage of the lot regardless of the origin or

destination of the traffic. This includes all traffic crossing the lot frontage over an easement.

The Permittee agrees to comply with the rules and regulations of the New Jersey Department of Transportation as set forth in the State Highway Access Code, N.J.A.C. 16:47, and the conditions included on this permit. This permit is only for the use and purpose stated in the application and permit. In addition, the Permittee understands N.J.S.A. 27:7-44.1 makes any violation of the provisions of this permit subject to a fine (not exceeding $100 per day) and civil action for the costs of prosecution as well as civil action for trespass to remove any access which does not meet these requirements.

This permit is granted subject to the covenants, premises, terms and conditions set forth herein and made a part of this revocable permission or privilege.

This permit cancels and supersedes any and all permits that may have been previously issued for this lot.

This permit does not relieve the Permittee from obtaining necessary permits from other agencies or governments.

All conditions of this permit are subject to modification by the Department to suit any unforeseen traffic and/or field conditions.

When work authorized herein is not performed in conformance with the required conditions of this permit, the Department may order the Permittee and his contractor to cease work and remove his equipment from Department right of way.

Access Maintenance

The Permittee may perform maintenance and in-kind replacement of the driveways.

Maintenance work may be done anytime within daylight hours as long as no interference to traffic is caused.

No changes or alterations to driveways may be made at any time without permission from the Department.

The Permittee shall be responsible for perpetual maintenance of curb and sidewalk and for landscape maintenance including irrigation, litter removal, weed control and mowing from edge of pavement to the right-of-way line.

Traffic Protection

Adequate advance warning for motorists approaching the construction site is required at all times during access construction, in conformance with the "Manual on Uniform Traffic Control Devices for Streets and Highways". This may include the use of signs, flashers, barricades, drums, and flaggers.

Permit Display

The Permittee shall make a copy of this permit available for review at the construction site.

Department Authority

The Department may revoke this permit; reconstruct, remove, or replace the access; and then issue a new permit, all without cost to the lot owner.

MHOUK ACCESS PERMITS FAX:609 [illegible]

Costs

The cost of construction work and material shall be entirely at the Permittee's expense. The Department will not share in any expense whatsoever or do any construction work pertaining to access driveways.

Protection From Suits

The Permittee shall defend, indemnify, protect and save harmless the State and its agents, servants, and employees from and against any and all suits, claims, losses, demands, or damages of whatever kind or nature arising out of or claimed to arise out of, any negligent act, error, or omission of the Permittee, its agents, servants, and employees in the performance of the work covered by this permit.

Protection of the General Public

The Permittee shall properly safeguard all work performed under this permit and when necessary, maintain sufficient warning lights, and Department approved signs and safety devices for the protection of the general public until all work has been completed.

Protection of Structures and Drainage

There shall be no interference with structures on, over, or under the highway. Interference with drainage installations shall be avoided. The existing cross section and drainage of the highway shall not be disturbed. The longitudinal flow of water along the gutter line shall not be interrupted. The Permittee is responsible to make adequate provision for all transverse, lateral, and longitudinal drainage affected by construction.

Curb Depressions

Where it is necessary to depress existing curbs for the purpose of constructing access, the full section of curb shall be entirely removed and a depressed curb constructed in accordance with Department and standards. The top of the depressed section shall be 1-1/2 inches higher than, and parallel to, the established gutter grade. The dimensions shall be 4" x 9" x 16" and the concrete proportions shall consist of one part Portland cement, one and three-fourths parts sand, and three and one-half parts crushed stone or washed gravel. Curved sections of existing curbs shall not be broken or depressed except under very exceptional conditions.

Depressed curb shall be constructed as a continuation of the concrete vertical curb. Driveway curb returns (radii) shall be separated from the highway curb by means of a piece of 1/2" thick preformed expansion joint filler butting to the back of the longitudinal curb.

All existing curb depressions other than those covered by this permit shall be closed by the construction of standard (9" x 16") white concrete vertical curb, in accordance with the Department's specifications and attached details.

Driveways

Driveways shall be constructed in accordance with locations, dimensions, and materials shown on the attached plans.

Parking

There shall be no parking on any unpaved portions of Department right of way.

Materials and Workmanship

Materials and workmanship used in construction within Department right of way shall be in accordance with the Department's Standard Specifications and are subject to inspection and approval of the Department. Where conditions warrant, the Department may assign an inspector to the project at the expense of the Permittee. The Department shall reserve the right to demand from the Permittee as a condition of this permit, a bond or certified check in an amount sufficient to guarantee or insure the proper maintenance or restoration of the area disturbed.

Traffic Signals

All equipment shall be installed in accordance with the Department Standards and Specifications under Department supervision. At the request of the Permittee, the Department may perform the signal modification. The cost of the signal modification work and all electrical equipment will be entirely at the Permittee's expense.

Any damages to Department traffic signal detection equipment or other electrical facilities will be repaired by the Department and the Permittee shall pay for the costs of the repairs.

Advertising Structures

Advertising signs shall not be erected on or overhang any portion of the Department right of way. Small signs with the message "Enter", "In", "Exit", "Out", designating access are permitted if shown on the attached plans. Signs shall be in accordance with all Department regulations including those for size, shape, color, and height.

Right of Entry

The Permittee authorizes Department representatives to enter upon the lot for the purpose of performing a site investigation. Furthermore, there are no objections in parking of a Department vehicle on the lot if necessary while taking field measurements and other data.

Landscape

Ground cover within Department right of way shall consist of topsoil, fertilizer, and seeding or topsoil and sodding. No shrubs, gravel, or railroad ties are permitted.

Curb

The Permittee shall remove all existing curb to the nearest expansion joint and replace it with new standard and depressed curb conforming to the approved plan. Curb, apron, gutter or sidewalk shall not be poured monolithically. Depressed curbing shall not be constructed as an integral part of concrete ramps.

When transition from 8" to 6" curb face is required, this will be accomplished within not less than 10', but not more than 20', as field conditions permit, or as directed by the permit inspector.

Curb, sidewalk, and other concrete facilities shall not be constructed within the Department right of way between November 1st and March 15th.

Sidewalk

When proposed sidewalk is to be placed adjacent to areas that have 8" curb face, the transition of the sidewalk will be at the same rate as the transition from the 8" to

6" curb face, or as directed by the permit inspector.

Sidewalk shall be Class B air entrained concrete, four inches thick, except at the driveway apron. This concrete shall be six inches thick on a properly prepared subbase and in accordance with Department specifications and the attached detail.

Sidewalk disturbed by work related to this permit shall be replaced to match the adjacent existing sidewalk in width and color, and shall be Class B concrete at a minimum of four inches thick.

Drainage

No additional surface water will be accepted on the Department right of way. Surface water shall continue to follow its existing flow pattern.

Pavement Excavations

Excavations within the existing roadway or shoulder shall be sawcut on a line parallel to the curb prior to final restoration.

Pavement Grades

Existing cross slopes and gutter grades shall be maintained except where specifically approved to be changed.

Pavement Surface

All bituminous surfaces disturbed during the construction of curb shall be restored to original conditions or better.

Snow

In the event of a snow alert, the Permittee shall be required to take whatever steps are necessary to secure the traveled way for snow removal operations.

Work hours

The Department may restrict the hours of work on or immediately adjacent to a State highway due to peak-hour traffic demands or other pertinent roadway operations.

The Permittee shall not interfere with the normal flow of traffic, reduce the number of traffic lanes, or change any traffic pattern prior to 9:00 AM or beyond 3:30 PM on weekdays and all day on weekends and holidays. If work is performed during other than the normal weekday working day (8 am to 4:30 pm), the Permittee shall deposit sufficient funds with the Department to pay all costs for the time that is required to be spent on the job by the Department's Permit Inspector.

Traffic Directors

Competent uniformed traffic directors shall be employed at every location where equipment is working immediately adjacent to, or is entering, leaving, or crossing active traffic lanes. Traffic directors shall be utilized while all such conditions exist. Uniformed trained traffic directors are to be provided, as required or requested by Department Representatives.

Curb Ramps

Access Points with radius curbing within an area which has existing or proposed

MAJOR ACCESS PERMITS FAX:609 300 3254

sidewalks shall be constructed or reconstructed to provide ramps for the handicapped conforming the Department's standard detail _____.

Utilities

The Permittee shall reimburse the Department for all costs incurred for the relocation and/or replacement of its utility lines and equipment.

Safety

The Permittee shall provide sufficient advance warning signs, lights, cones, barricades, and other approved safety devices in accordance with "The Manual on Uniform Traffic Control Devices."

Two-way traffic shall be maintained at all times.

Not more than one-half of the State highway shall be occupied at any time.

No portion of trench over 2 inches in depth shall be left open overnight, or weekends, or holiday. Any trench or excavation within 30 feet of the traveled way shall have escape ramps at 6:1 slope provided overnight.

Uniformed trained traffic directors are to be provided, as required or requested by Department representatives.

Tree Removal

The Department has no objection to the removal of the tree(s) as shown on the plans at the Permittee's cost and expense.

Two-Year Restoration Guarantee

The Permittee will properly restore to the satisfaction of the Department any portion of the State highway which it may have disturbed, and will maintain it to the satisfaction of the Department from any settlement or depression resulting from this work for a period of one year after approval of such restoration by the Department. If settlement occurs during the one-year period of time the Department will require that the necessary restoration be made by the Permittee.

Trees

The Department will hold the Permittee responsible for a period of two years to guarantee the life of the trees which are encountered within the limits of construction. Any tree that is destroyed shall be replaced by type of species. The size of the tree will be determined by the Department landscape forces.

Maintenance of Access Points

The Permittee is responsible for maintenance of the access point to the longitudinal gutterline of the State highway.

Maintenance of Drainage Facilities

The Permittee shall maintain any drainage facilities outside the Department right of way.

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Additional Traffic Safety Conditions

The Permittee will not be permitted to store material or park equipment within Department right of way or within 30 feet of the edge of the traveled way except as necessary during actual working operations and then only by permission of the Permit Inspector.

All work is subject to inspection by Department personnel to insure that adequate traffic protection devices are being used and are properly placed and maintained. If it is found that insufficient traffic protection is provided, the Permit Inspector will advise the Permittee of the deficiencies. If the deficiencies are not immediately corrected, the Permit Inspector will advise the Permittee that he is prohibited from further work within the Department's jurisdiction until such time as approved and adequate traffic protection is provided.

Trenches shall not be left open overnight. Steel plating shall not be utilized between November 1st and April 30, inclusive.

The Permittee shall contact all utilities for location and mark out.

Plan Errors

All work shall conform to the plans on file with the Department (if discrepancies arise, this permit shall take precedence over plans). The Department plan review is only for the general conformance with the Department design and Access Code requirements. The Department is not responsible for errors, omissions, or the accuracy adequacy of the design, of dimensions, and elevations which shall be confirmed and correlated at the site. The Department through the approval of the permit, assumes no responsibility other than stated above and completeness and/or accuracy of the plans.

Specifications

The work shall follow the applicable construction specifications set forth by the Department in the latest "Standard Specifications for Road and Bridge Construction", and the M.U.T.C.D.

Construction signs, when not in use, shall be covered as specified in the Standard Specifications.

Damages

Any damage to any present highway facilities shall be repaired immediately and prior to continuing other work. Any mud or other material tracked or otherwise deposited on the roadway shall be removed daily or as ordered by the Inspector.

Future Traffic Signal

If, at any time after the date of issuance of this permit, the Commissioner, in his sole discretion, determines that public safety or highway efficiency warrants the installation of a traffic signal at any access point that is the subject of the permit, the Permittee shall allow the placement of any component associated with such a traffic signal on the lot to which this permit pertains. If any such components are placed on the subject lot, the Permittee shall maintain its roadway pavement and property in a manner conducive with the satisfactory operation of the components and the signal. Further, prior to the installation of any such signal, the Permittee shall enter into an agreement with the Department incorporating other conditions pertaining to the cost, installation, and maintenance.

Maintenance Guarantee

The Permittee shall provide a bond or certified check to New Jersey Department of Transportation in the amount of $.00 to guarantee or to insure proper maintenance or restoration of the area disturbed by the Permittee for a period of one year after the Department's acceptance of the construction. If it becomes necessary for Department forces or contractors to make such repairs, for any reason, the cost of such work shall be borned by the Permittee.

Restoration Guarantee

A certified check, money order, or bond, in the amount of $.00, shall be secured in the name of the New Jersey Department of Transportation to guarantee that all work (including restoration) will be in accordance with Department specifications. The Restoration Guarantee will be released upon the Department's acceptance of the construction.

Utility Poles

All utility poles shall be relocated behind the proposed curbline prior to the construction of new curb.

Traffic Stripe Removal

All traffic stripes to be removed or changed are to be removed by the grinding method only. Blacking out with paint is unacceptable.

Raised Pavement Marker

If traffic is diverted from normal travel lanes during the hours of darkness, raised pavement markers within the limits of the diversion shall be deactivated.

Additional Traffic Safety Conditions

The Permittee shall maintain the uninterrupted flow of traffic at all times and no operation which will interfere with traffic or restrict the available pavement width shall be performed. On roadway widths of 40 feet or greater, two lanes of traffic will be maintained at a minimum of 10 feet each.

On roadway widths of less than 40 feet, when construction work necessitates the closing of one lane of traffic, thereby causing vehicles travelling in both directions to alternately use one lane, the Permittee shall insure that said vehicles will be delayed for a period not to exceed five minutes.

The Permittee shall be responsible for maintaining approved construction warning signs in each direction of travel. All signs and other protective devices provided by the Permittee, unless otherwise directed by the permit inspector, shall comply with the requirements of the "Manual on Uniform Traffic Control Devices for Streets and Highways", published by U.S.D.O.T, Federal Highway Administration. Competent uniformed traffic directors shall be employed at every location where the Permittee's equipment is working immediately adjacent to, where entering, leaving or crossing active traffic lanes. The traffic directors shall be employed continuously for the full time such conditions exist. Should it become necessary to leave a project unfinished, it shall be protected during the hours of darkness by flashing warning lights to be maintained by the Permittee at each location where it is necessary to warn oncoming traffic of any existing danger area. Lights shall also be used to define the edge of usable pavement throughout the construction area.

In addition, standard barricades or drums shall be utilized as required. When battery operated flashing warning lights are used, they shall conform to Department Standard Specifications. Inspection and cleaning shall be conducted daily to provide for optimum efficiency. When work is in progress during hours of darkness, special traffic protection precautions shall be in effect as deemed necessary by the permit inspector. In substance, the Permittee shall provide special signs approved by the permit inspector with a legend warning motorists that night work is in progress, and such shall be displayed in conjection with high intensity flashing warning lights. Special signs applying only to night time work shall be covered during the daytime hours.

If future traffic volumes could warrant installing a traffic signal at an access point covered by this permit and signalized spacing requirements cannont be met, the Department may, at such time as future traffic volumes are reached, close the left-turn access in accordance with N.J.A.C. 16:47-4.33(b).

If an undivided highway becomes divided, the Department may at such time close the left-turn in accordance with N.J.A.C. 16:47-4.33(b).

MAJOR HOLLESS FLEMING FAX:609-530-5294 MAR 24 2006 10:20 P.12

APPENDIX B

SITE PLANS

– MEADOWLANDS XANADU SITE PLAN

– AMERICAN DREAM MEADOWLANDS SITE PLAN



Legend

- Bus Routes
- Public Bus Stops
- Xanadu Charter/Coach Bus Stop
- WD Wannado Bus Stop
- Fence
- T Truck Docks
- Vehicular Access
- Vehicular Roadway Travel
- Parking Garages
- ERC
- Restricted Roadways (see drawing notes)
- Temporary Parking
- NJSEA 24/7 Parking
- Police Parking
- Valet Parking

Perimeter Control (Max. 5'-0" Opening)

- Post
- May consist of any of the following:
  - Bollards
  - Dense Landscaping
  - Highway Guardrail
  - Pony Rails

Sheet Notes:

Waste receptacles shall be provided along pedestrian walkways, at stairs, at pedestrian ramps, sitting areas, places where patrons congregate, at entrances/exits/vestibules for the ERC and Parking Decks.

Street lighting levels will be in conformance with Applicable Codes.

Features for handicapped persons shall be in compliance with ADA and State of New Jersey regulations.

Signs identifying Lots and Toll Plazas to be provided.

PROJECT

MEADOWLANDS XANADU

MEADOWLANDS SPORTS COMPLEX, NEW JERSEY

LAND OWNER

NEW JERSEY SPORTS AND EXPOSITION AUTHORITY

PROJECT TEAM

Executive Architect: ADAMSON ARCHITECTS, INC.
55 Port Street East
Mississauga, Ontario, L5G 4P3
Phone: (905) 891-8666 Fax: (905) 891-1403

Design Architect: ROCKWELL GROUP PLANNING AND DESIGN, P.C.
5 Union Square West, 8th Floor
New York, New York, 10003
Phone: (212) 463-0334 Fax: (212) 463-0335

Structural Engineer: MCNAMARA SAL IA, INC.
160 Federal Street, 16th Floor
Boston, Massachusetts, 02110
Phone: (617) 737-0040 Fax: (617) 737-0042

Mechanical Plumbing Engineer: ES CONSTRUCTION EN INEERS, INC.
4326 Mountain Road
Pasadena, Maryland, 21122
Phone: (410) 360-2280 Fax: (410) 360-2290

Electrical Engineer: BR ELECTRICAL SERVICES
502 McCormick Drive, Suite M
Glen Burnie, Maryland, 21061
Phone: (410) 761-9600 Fax: (410) 761-9603

Fire Protection Engineer/Code Consultant: SCHIRMER ENGINEERING CORPORATION
6305 Ivy Lane, Suite 220
Greenbelt, Maryland, 20770
Phone: (301) 220-1212 Fax: (301) 220-2256

Civil Engineer: T NASSOCIATES
Eleven Tindall Road
Middletown, New Jersey, 07748
Phone: (732) 671-6400 Fax: (732) 671-7365

Geotechnical Engineer: LANGAN ENGINEERING AND ENVIRONMENTAL SERVICES INC.
River Drive Center 1
Elmwood Park, New Jersey, 07407-1338
Phone: (201) 794-6900 Fax: (201) 794-0366

Landscape Architect: EDAW
104 West 27th Street, 4th Floor
New York, New York, 10001
Phone: (917) 339-3000 Fax: (917) 339-3303

19	PROGRESS PRINT	12/27/07
18	PROGRESS PRINT	11/01/07
17	BUS DROP MODIFICATIONS BLDG D	9/13/07
16	REVISED	8/24/07
15	TITLE 39	7/11/07
14	UPDATE PER SKW147	6/29/07
13	UPDATE PER LP9	2/14/07
12	UPDATE ROADWAY CROSSWALKS	4/11/06
11	UPDATE PER CURRENT PLANS	3/16/06
10	CLARIFICATIONS TO E NORTH EXPANSION	12/06/05
9	UPDATE PER CURRENT PLANS	12/02/05
8	UPDATE PER CURRENT PLANS	11/29/05
7	UPDATE PER LP7	11/11/05
6	UPDATE PER LP6	10/24/05
5	REVISED PER MILLS/NJSEA COMMENTS	6/24/05
4	REVISED PER MILLS/NJSEA COMMENTS	6/23/05
3	REVISED PER MILLS/NJSEA COMMENTS	6/17/05
2	REVISED PER MILLS/NJSEA COMMENTS	6/7/05
1	REVISED PER MILLS/NJSEA COMMENTS	4/1/05

REVISIONS

Discrepancies must be reported immediately to the Architect prior to proceeding with the Work. Only figured dimensions shall be used. The Contractor shall verify all dimensions on site. This drawing is protected by copyright.

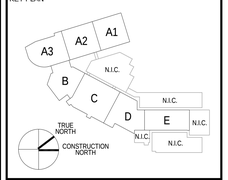
ALL DIMENSIONS ARE SHOWN IN IMPERIAL.

STAMP

LEASE PLAN BASIS: LP04

EDMS ID:

KEY PLAN



DRAWING TITLE

CIRCULATION & MASS-TRANSIT FULL BUILDOUT (PHASE IV)

DRAWN	CHECKED
EJR	MSS
SCALE: 1" = 100'	DATE: FEB. 14, 2005

PROJECT NO. 0431-00

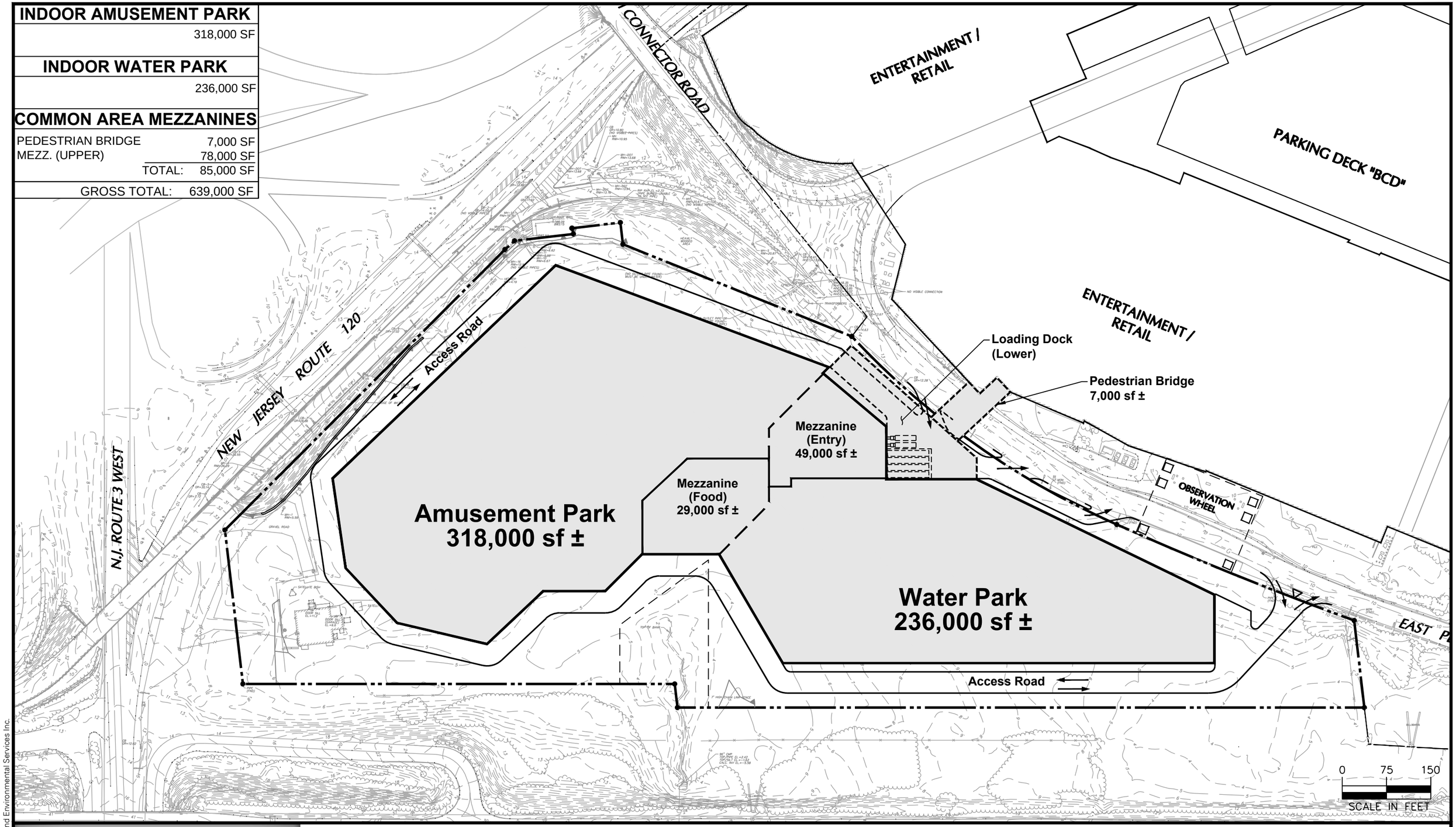
DRAWING NO. CIRC-2

REVISION NO. 19

G:\14-3070-04_MX-AdamsonWalker\Current_Pkng Plans\Circ-02_FullBuild.dwg JUN 23, 2005 12:08 p.m. user:rehme

FILENAME: G:\14-3070-04_MX-AdamsonWalker\Current_Pkng Plans\Circ-02_FullBuild.dwg
PLOT DATE: Dec 27, 2007 - 11:18am

INDOOR AMUSEMENT PARK	
	318,000 SF
INDOOR WATER PARK	
	236,000 SF
COMMON AREA MEZZANINES	
PEDESTRIAN BRIDGE	7,000 SF
MEZZ. (UPPER)	78,000 SF
TOTAL:	85,000 SF
GROSS TOTAL:	639,000 SF



AMERICAN DREAM MEADOWLANDS

Conceptual Site Plan

Amusement Park / Water Park

NJSEA Master Plan Major Modification

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES
NJ Certificate of Authorization No: 24GA27996400

27 September 2011

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Filename: \\langan.com\data\EP\data2\100234201\Cadd Data – 100234201\Conceptual layout\Radio Site Conceptual Mass Layout CMP-4A – NJSEA Master Plan.dwg Date: 9/26/2011 Time: 09:22 User: joldenburger Style Table: Langan.stb Layout: NJSEA MASTER PLAN

APPENDIX C

TRIP MITIGATION AND VOLUME REDUCTIONS NOT CONSIDERED IN ASSESSMENT

– MASS TRANSIT

– INTERNAL TRIPS

– EVENT “STAY-AWAY” FACTOR

– PASS-BY TRIPS

– ADDITIONAL TRIP GENERATION ANALYSIS

– METLIFE STADIUM IMPROVEMENTS

– MEADOWLANDS RACETRACK DOWNSIZING

– BERGEN COUNTY BLUE LAWS

– NJTPK INTERCHANGE 18W RAMPS

– VARIABLE MESSAGE SIGNS & ON-SITE OPERATIONS

– MEADOWLANDS ADAPTIVE SIGNAL SYSTEM FOR TRAFFIC REDUCTION

– BACKGROUND TRAFFIC LEVELS

C-1 MASS TRANSIT

The original Xanadu TIS did not account for any public transportation to and from the site. However, since the TIS, a new rail line was constructed extending from NJ Transit Pascack Valley Line to the Meadowlands Sports Complex, with connections to Secaucus Junction and the Hoboken Train Terminal. From these terminals, riders can connect to New York City Penn Station (with connections to the Long Island Railroad and Amtrak), as well as to 11 of the 12 NJ Transit rail lines servicing most of New Jersey, including Newark Airport, and parts of Pennsylvania. While currently these trains on the new Meadowlands Rail Line only run before and after peak events at the Sports Complex, there is a commitment to serve demand in place by New Jersey Transit to provide daily service to the Meadowlands Rail Station upon opening of the American Dream Meadowlands development.

In addition to the rail use, discussions with New Jersey Transit also indicate that a bus stop will be provided in the vicinity of the American Dream facility along NJ Route 120. Bus service will be provided from the New York City Port Authority Bus Terminal, with a stop at the Union City Transit Hub, directly to the site. The Port Authority Bus Terminal will provide the opportunity for bus service to the American Dream facility for tourists. The Union City Transit Hub is critical, as it provides connection to the New Jersey Transit Hudson-Bergen Light Rail system, which stretches from Union City to Bayonne.

The combination of these two public transportation uses will reduce American Dream vehicular traffic. Preliminary rail and bus estimates, provided by NJ Transit, indicate this usage would be approximately 13% during the peak hours and 11% of the site's daily traffic. A copy of the NJ Transit trip projection information and a memo, prepared by TRC, summarizing the information is attached.

The American Dream developer will also prepare a marketing plan to promote the use of mass transit, as well as provide employee incentives in terms of transit checks and other measures, in an effort to further reduce vehicular traffic to the site. In an effort to be conservative, a transit trip credit was not applied to the Amusement Park trip generation analysis.

C-2 INTERNAL TRIPS

Due to the unique mix of land uses, it is anticipated that some of the generated trips will be drawn from within the development. Internal trip making, which reduces the number of new trips to the site, between the Amusement Park site and the ERC component was not accounted for. Thus, this will further reduce the amount of new vehicular traffic. To be conservative, internal trip making was not factored in the trip generation calculations.

C-3 EVENT "STAY-AWAY" FACTOR

During periods with major events occurring at the Arena and other Sports Complex venues, it is anticipated that the Amusement Park trips will be somewhat reduced, as the public will tend to avoid traveling during the period of peak entering and exiting activity of patrons arriving for an Arena/Stadium event. In addition, the ERC components and restaurants will attract Arena/Stadium attendees both before and after an event, thereby dispersing the Arena/Stadium peak hour traffic over a longer period of time, resulting in a lessening of the peak ingress and egress periods. In an effort to be conservative, an event trip credit was not applied to the additional trips generated by the Amusement Park.

C-4 PASS-BY TRIPS

Pass-by and diverted link trip making was factored for the ERC component of the site in the original Xanadu Traffic Impact Study. However, in an effort to be conservative, pass-by trips were not accounted in estimating Amusement Park trip making.

C-5 ADDITIONAL TRIP GENERATION ANALYSIS

As part of this traffic assessment, additional trip generation resources other than the ITE Trip Generation Manual were investigated. Hourly and Daily Trip Generation Rates were provided by the owners of the Mall of America. The rates were based on trip count data obtained at the 2.8 msf Mall of America in Bloomington, MN and prepared by Westwood Professional Services. The count data was collected daily at all six site access

driveways for several weeks in 2006. A summary of the trip generation rates and count data are attached. As can be seen in the attached summary table, the Mall of America trips rates are much lower than those rates approved for the ERC portion of American Dream Meadowlands.

C-6 METLIFE STADIUM IMPROVEMENTS

Since the preparation of the Xanadu Traffic Impact Study, a new Meadowlands professional football stadium, MetLife Stadium, was constructed on the west side of the Meadowlands Sports Complex site. This project included reconfiguring and improving the on-site roadway network and parking area surrounding the stadium, as well as providing comprehensive traffic signing. Subsequently, these improvements have improved overall traffic circulation throughout the Meadowlands Sports Complex site.

C-7 MEADOWLANDS RACETRACK DOWNSIZING

Since the preparation of the Xanadu Traffic Impact Study, a new Meadowlands Racetrack Grandstand on the west side of the Meadowlands Sports Complex is proposed which will reduce the Grandstand size to approximately 25% of its current size. Subsequently, the roadways servicing the existing Grandstand, which were designed to accommodate a higher attendance level, will provide sufficient capacity to vehicles circulating the Meadowlands Sports Complex site. In addition, due to the reduced interest in horse racing, there is the potential for reduced daily traffic destined for the

Meadowlands Sports Complex site when compared to the traffic volumes analyzed in the Xanadu Traffic Impact Study.

C-8 BERGEN COUNTY BLUE LAWS

The Bergen County Blue Laws, which bans most retail sales on Sundays, will prohibit a portion ERC component from operating on a Sunday and will further reduce the trip generation of the ERC on Sundays.

C-9 NJTPK INTERCHANGE 18W RAMPS

The alternative access ramps from NJTPK Interchange 18W will operate 24 hours a day, 7 days per week upon opening of the American Dream project. The additional lanes and signing, along with E-ZPass tolling, will help alleviate traffic at NJTPK Interchange 16W, NJ Route 3 and NJ Route 120.

C-10 VARIABLE MESSAGE SIGNS & ON-SITE OPERATIONS

The NJTPK Authority has constructed several new Variable Message Signs (VMS) along the NJ Turnpike to assist in re-routing traffic along the highway and connecting roadways. A plan is in place to install additional VMS signing along the NJ Turnpike. In addition to the NJ Turnpike variable message sign plan, numerous static and variable message signs have been installed in and around the Meadowlands Sports Complex site

by the developers of Xanadu and MetLife Stadium which will improve overall traffic circulation throughout the Meadowlands Sports Complex site.

C-11 MEADOWLANDS ADAPTIVE SIGNAL SYSTEM FOR TRAFFIC REDUCTION (MASSTR)

The New Jersey Meadowlands Commission (NJMC) is incorporating 128 existing traffic signals in the Meadowlands region into a network of self-adaptive traffic signals which will help traffic flow in the area through the ability to immediately adapt to current traffic conditions. This signal system is currently being implemented and will be completed over the next few years. The system will help improve traffic flow along signalized corridors such as Paterson Plank Road (NJ Route 120) and NJ Route 17. A more detailed description is provided in Appendix D.

C-12 BACKGROUND TRAFFIC LEVELS

As part of this study, TRC researched traffic count data available on the NJDOT traffic count station website as well as any daily Automatic Traffic Recorder (ATR) counts performed by TRC for the Xanadu Traffic Impact Study in 2003. A figure illustrating average daily traffic experienced on NJ Route 120 and NJ Route 3 for the years 2003 and 2008/2009, the latest data available for the specified count stations, is attached. As seen in the figure, the traffic volumes along NJ Route 120 and NJ Route 3 have actually decreased in the range of 10-12% since the counts used in the Xanadu Traffic Impact Study were performed in 2003.

The reduction in background traffic volumes, in turn with the roadway and mass transit improvements, has gone towards enhancing the overall vehicular operation and safety around the American Dream roadway system.

APPENDIX C ATTACHMENTS

– NEW JERSEY TRANSIT PROJECTIONS

- NJ Transit Trip Projection Data
- Summary Memo Prepared by TRC

– ADDITIONAL TRIP GENERATION ANALYSIS

- Mall of America Trip Generation Count Data
- Mall of America Trip Rate Summary Table

– TRAFFIC VOLUMES

- Average Daily Traffic Figure

XANADU TRANSIT IMPACTS- SUMMARY & METHODS TO DETERMINE TRANSIT RIDESHIP

How Analysis Was Done- Trip Generation

- Total Worker Data from Xanadu for Family Entertainment. Total of 3,800 Xanadu workers and 400 hotel workers for 4,200 typical weekday workers
- Reflects spring/fall conditions, does not account for higher weekend and summer/holiday employment
- Office was assumed to have 250 sq. ft. of space per worker, or about 5,200 workers. Only used in total ridership, we have broken out total office transit trips

- Transit Analysis DOES NOT INCLUDE hotel guests or visitor trips, only workers. Family Entertainment DOES NOT INCLUDE delivery, service or other trips made by workers except to/from work. Office trips DOES NOT INCLUDE any trips except to/from work by workers

How Analysis Was Done- Distribution of Worker Trips

- Used 2000 Census Journey to Work for Retail and Office related trips
- Used Secaucus Harmon Meadow, Rutherford for Retail Workers, and Harmon Meadow and Lyndhurst for Office Workers
- Census adjusted to account for location further west and with somewhat different access by auto and transit. More workers from west, less from South

Distribution of Xanadu Family Entertainment/Retail Trips

- 1995 Distribution Forecast develop by Phillips/Norwalk transmitted to Raymond Keyes used as starting point
- Adjusted based on population shifts with 2000 Census and Access. Primary shift was to change distribution of secondary market (10-40 miles from site) and 40+ miles from site. Revised distribution reflects more patrons from Northwest, Southwest and Southeast. Reductions in Northeast, and reduction in Suburban NY and Outer Boroughs, increase in Manhattan to reflect tourists.
- Primary market (within 10 miles) had minor shifts to reflect increased housing in Jersey City and along Hudson Waterfront
- County level distribution provided
- Entertainment/Retail trips incorporated into model at census tract level within 10 miles and for larger muncipalites. Used municipal level for most other distribution except for external areas

Transit Mode Share

- Worker Mode Share used peak or off-peak highway times in regional NJ TRANSIT model depending on time of day

- Family Entertainment Patron trips considered largely Home Based and used Home Base Other mode share analysis

- Retail/Hotel Workers assumed to park in Sports Complex near Racetrack, and take shuttle bus running every 10-15 minutes. Free parking. This added transfer and use of shuttle adds to regular transit share.

- Office workers assumed to park adjacent to buildings, FREE Parking

- Family Entertainment/Retail Trips assumed to pay $3 per day or per visit and park adjacent to Xanadu

- 2015 Transit Network before THE TUNNEL assumed. Existing Bus service plus Sports Complex Spur in place

- Bus Service Assumptions- 9 routes serving new Bus station area along Route 120 with elevator/stair access to existing Pedestrian overpass over Rt. 120 to Giant Stadium. Minimum of 30 minute frequency on peak services (inbound AM to NY, outbound PM from NY). Not every bus stops, only enough to meet minimum standard. Some minor re-routing of buses.

- Rail service is assumed to be 30 minute peak period (PM) and 30 minute midday. AM Peak about every 40-45 minutes. Rail station location at Sports Complex.

Summary Findings

- **Transit share of about 10.6% for trips analyzed daily. Total of 4,600 daily transit riders (9,200 trips).**

- **86% of transit riders are on Bus, with 3,950 bus riders (7,900 trips). Majority of bus riders are from New York, about 78%. PM Peak Period accounts for almost 40% of bus riders,or about 1,520 riders.**

- **Bus share of worker and Xanadu Entertainment trips is 9.1% daily, and 12.1% PM Peak Period**

- **14% of transit riders use NJT Rail Sports Complex spur. About 640 daily riders (1,280 trips). About 1/3 of rail trips are to NY, rest largely to Hudson county and parts of suburban NJ.**

- **Rail share of worker and Xanadu Entertainment trips is 1.5% daily and 0.8% PM Peak Period. Rail more off-peak oriented**

- **Reduction of Xanadu daily vehicle trips by about 9%, 5,760 vehicles daily**

- **Xanadu FamilyEntertainment/Hotel ITE Trip Generation reduction of 9.3%**

IMPACT OF XANADU TRANSIT RIDERSHIP ON VEHICLE TRIPS-Phase I

DAILY

- Overall for Phase I, weekday highway trips are estimated to be reduced by 9% daily

- Total of 2,880 one –direction or 5,760 daily vehicle trips are removed from the highway system

- Impact on Xanadu Vehicle Trip Generation (From Meadowlands Xanadu Trip Generation)

Family Entertainment has 59,848 vehicle trips generated on a typical weekday, with a reduction of 3,591 vehicle trips for pass-by trips for an increase in primary vehicle trips of 56,257 daily

Hotel generates 4,683 vehicle trips daily

Total of 60,940 vehicle trips daily Phase I XANADU Family Entertainment & Hotel

Transit removes 5,650 vehicle trips daily from ITE Trip Generation estimates, or 9.3%

110 daily vehicle trips that are pass-by trips are removed to transit, at a lower rate

PM Peak Period

- Vehicle Trip Reductions depend on amount of transit usage among employees and Xanadu Patrons. Numbers are for the entire PM Peak Period of four hours and will be converted to PM Peak Hour once work/visit transit market shares are estimated.

- PM Peak Period auto vehicle reduction likely to be in the 12% to 12.5% range

Estimated Transit Mode Share- PM Peak Period

XANADU Phase I- Work & Entertainment/Retail Trips

	TOTAL PM Peak Period Person Trips	TOTAL PM Peak Period Bus Riders	TOTAL PM Peak Period Rail Riders	TOTAL PM Peak Period Transit Riders
Retail/Hotel Workers	1,400	TBD	TBD	
Entertainment/Retail Patrons	11,000	TBD	TBD	
TOTAL	**12,400**	**1497**	**100**	**1597**
Bus Transit Share	**12.1%**			
Rail Transit Share	**0.8%**			
TOTAL Transit Share (Retail/Hotel Workers and Xanadu Patrons	**12.9%**			
Non-Work Retail Persons				
Non-Patron/Work Xanadu Persons				
Total Transit Share				

Estimated Transit Mode Share- Off-Peak

XANADU Phase I- Work & Entertainment/Retail Trips

	TOTAL Off-Peak Person Trips	TOTAL Off-Peak Bus Riders	TOTAL Off-Peak Rail Riders	TOTAL Off-Peak Transit Riders
Retail/Hotel Workers	2,800	TBD	TBD	
Entertainment/Retail Patrons	28,200	TBD	TBD	
TOTAL	**31,000**	**2452**	**540**	**2,992**
Bus Transit Share	**7.9%**			
Rail Transit Share	**1.7%**			
TOTAL Transit Share (Retail/Hotel Workers and Xanadu Patrons	**9.7%**			

Estimated Transit Mode Share- DAILY (Weekday)

XANADU Phase I- Work & Entertainment/Retail Trips

ONE-Direction Persons, Double for Both Directions

	TOTAL Daily Person Trips	TOTAL Daily Bus Riders	TOTAL Daily Rail Riders	TOTAL DAILY Transit Riders
Retail/Hotel Workers	4,200	TBD	TBD	
Entertainment/Retail Patrons	39,200	TBD	TBD	
TOTAL	**43,400**	**3,949**	**640**	**4,589**
Bus vs. Rail Share		86%	14%	
Bus Transit Share	**9.1%**			
Rail Transit Share	**1.5%**			
TOTAL Transit Share (Retail/Hotel Workers and Xanadu Patrons)	**10.6%**			

TOTAL of 8,400 retail/hotel worker Person trips, and
78,400 Entertainment/Retail Person Trips Daily, about 9,200 Transit Person Trips

XANADU WEEKDAY BUS & RAIL RIDERSHIP FULL DEVELOPMENT

PM PEAK PERIOD (3:30 TO 7:30 pm)

TOTAL Riders FROM Xanadu to Following Points

BUS ROUTE	Eastbound to NY PM Peak Period Riders	Eastbound to NJ PM Peak Period Riders	Westbound to NJ PM Peak Period Riders	TOTAL PM Peak Period Riders
144	0	20	1	21
160*	318	20	14	352
161*	360	135	54	549
163*	271		20	291
164*	5		5	10
165*	1		85	86
167*			34	34
703			117	117
772			62	62
TOTAL BUS	**955**	**175**	**392**	**1,522**
RAIL	**40**	**70**		**110**
TOTAL TRANSIT	**995**	**245**	**392**	**1,632**

* Actual NY riders to PABT will be split among these routes, actual numbers shown are from model run and may not reflect actual distribution among routes

Note: Subtract 25 bus and 10 rail riders in peak period for Phase II Office Development

XANADU WEEKDAY BUS & RAIL RIDERSHIP FULL DEVELOPMENT

Off-Peak (Rest Of Day)

TOTAL Riders FROM Xanadu to Following Points

BUS ROUTE	Eastbound to NY Off-Peak Riders	Eastbound to NJ Off-Peak Riders	Westbound to NJ Off-Peak Riders	TOTAL Off-Peak Riders
144				0
160*	946	12	11	969
161*	500	85	20	605
163*	654		7	661
164*	18		12	30
165*				0
167*	36		69	105
703			66	66
772			21	21
TOTAL BUS	**2,154**	**97**	**206**	**2,457**
RAIL	**190**	**350**		**540**
TOTAL TRANSIT	**2,344**	**447**	**206**	**2,997**

* Actual NY riders to PABT will be split among these routes, actual numbers shown are from model run and may not reflect actual distribution among routes

Note: Office space has only 5 bus and 0 rail riders in off-peak

XANADU WEEKDAY BUS & RAIL RIDERSHIP FULL DEVELOPMENT
DAILY RIDERS (Multiply by 2 for Trips

TOTAL Riders FROM Xanadu to Following Points

BUS ROUTE	Eastbound to NY Daily Riders	Eastbound to NJ Daily Riders	Westbound to NJ Daily Riders	TOTAL Daily Riders	**TOTAL NJ Daily Riders**	**Percent NJ Riders**
144	0	20	1	21	**21**	100%
160*	1264	32	25	1321	**57**	4%
161*	860	220	74	1154	**294**	25%
163*	925	0	27	952	**27**	3%
164*	23	0	17	40	**17**	43%
165*	1	0	85	86	**85**	99%
167*	36	0	103	139	**103**	74%
703	0	0	183	183	**183**	100%
772	0	0	83	83	**83**	100%
TOTAL BUS	**3,109**	**272**	**598**	**3,979**	**870**	22%
RAIL	**230**	**420**		**650**	**420**	65%
TOTAL TRANSIT	**3,339**	**692**	**598**	**4,629**	**1,290**	28%

* Actual NY riders to PABT will be split among these routes, actual numbers shown are from model run and may not reflect actual distribution among routes

Double Ridership numbers to get Daily Trips
Subtract out 30 Bus and 10 Rail Riders from Daily Totals for Phase II Office to get Retail Worker/Entertainment trips
A total of 10 Bus and 2 rail riders Daily are from New York to Phase II Office

Meadowlands Region - Bus Service Matrix

Proposed Service Frequency to/from Meadowlands Sports Complex - Xanadu

To/From Meadowlands Sports Complex	NJT Bus Routes in Corridor	To NEW YORK CITY - Eastbound Frequency of Service (in minutes)						To NEWJERSEY - Westbound Frequency of Service (in minutes)					
		Weekday AM Peak	Weekday Mid-Day	Weekday PM Peak	Weekday Evening	Saturday	Sunday	Weekday AM Peak	Weekday Mid-Day	Weekday PM Peak	Weekday Evening	Saturday	Sunday
NJ Route 120 Corridor *(serves Rte. 120 bus station)*	144			30				20-30					
	160	TBD		30				20-30		20	60		
	161	TBD	20-30	10	35-45	30	40	10-15	30	30	30-60	30	40
	163	TBD	15-20	30	60	20-40	60	10-20	20	30	20-60	20-40	60
	164		20-60	60	60	60	60	60	60		30	60	60
	703	10-15	30	30	60	30-60	60	20	30	15	60	30	60
	772	45-60	120	45		60		45-60	120	30-45		60	
NJ TPKE - North Corridor *(proposed to serve Rte. 120 bus station via TPKE Exit 18W)*	163T					5 trips						3 trips	
	164E					3 trips						4 trips	
	165T			30		7 trips		20-30				5 trips	
	167		60	60	60	60	60		60		60	60	60
NJ Route 3 Corridor *(proposed to serve a possible Rte. 3 bus station)*	190		20	15	20	15	20	10-20	20	30	15	15	20
	191		120	60	120	120	120	40-60	120	TBD	70-90	120	120
	192		60	20-30	120	120	120	10-15	60	30	30	120	120
	194		120	120	120	120	120	60	120	TBD	60	120	120
	195		120	120	120	120			120	20	60-120	120	
	197		60	60	120	30	30-60	60	60	TBD	30	30	30-60

Service not proposed to stop at location during time period

Meadowlands Region - Bus Service Matrix

Destinations Served to/from Meadowlands Sports Complex - Xanadu

		New York	Hudson County		Bergen County							Passaic County					
		PABT	Union City	Secaucus	E. Rutherfd	Hackensack	Teaneck	Paramus	Fair Lawn	Ridgewood	Rutherford	Clifton	Lyndhurst	Nutley	Passaic	Paterson	Wayne
Rte. 120 Bus Station Lines	144	X	X		X	X		X	X								
	160	X	X														
	161	X	X														
	163	X	X		X	X		X		X					X	X	
	164	X			X	X		X	X	X							
	703				X												
	772			X		X	X					X			X	X	
Rte. 120 Bus Station Lines (proposed)	163T	X				X		X		X							
	164E	X				X		X	X	X							
	165T	X				X											
	167	X	X				X										
Possible Rte. 3 Bus Station Lines (proposed)	190	X	X	X							X	X			X	X	
	191	X	X									X	X				X
	192	X	X									X	X	X			
	194	X															X
	195	X	X									X	X				X
	197	X															X

X - Indicates service provided to community

32.3

Working Draft - RAIL RIDERSHIP FORECASTS for STADIUM EVENTS

Giant & Jet Games Weekends- Low, Medium, High

BASED ON DIFFERENT FARE, SERVICE, & COST ASSUMPTIONS

Scenario	Fares Event Parking	Service	Riders	Market Share
Base Giant Game (LOW)	Full One-Way Fares, must buy Round Trip fare $15/event parking	No Direct Service exc. Hob/Sec. Jct.	6,500	8.3%
Giant Game Full One-Way Fares and $25 Parking (MEDIUM)	**$25/event parking, Full One-way fares**	**Same As Base**	**8,100**	**10.4%**
Giant Game with RTX Fares, Direct NEC & NJCL & RVL $25 Parking Costs (HIGH)	RTX 15% Discount fares, increase of $10 to $25/event for parking	Direct NEC & NJCL and RVL 1 train each way	10,800	13.9%
Base Jet Game (LOW)	Full ~~One-Way~~ Fares, $15/event parking	No Direct Service exc. Hob/Sec. Jct.	6,350	8.1%
Jet Game Full One-Way Fares with $25 Parking (MEDIUM)	**~~Full One-Way~~, $25 Parking**	**Same as Base**	**7,950**	**10.2%**
JET Game with RTX Fares, Direct NEC & NJCL & RVL $25 Parking Costs (HIGH)	RTX 15% Discount fares, increase of $10 to $25/event for parking	Direct NEC & NJCL and RVL 1 train each way	10,450	13.4%

Key Issues

- **Congestion after Giant game is key driver of ridership, along with travel time and number of transfers (focus group work)**
- **Riders will accept one transfer (with some penalty), but direct service helps and added capacity may need to be provided on some lines for connections to Secaucus Jct.**
- **Modest Cost Sensitivity, but a combination of fares and parking fees, along with promotions can shift some riders to rail**
- **Direct service (one train) also adds significant ridership, and can add capacity to existing weekend trains**

TRC Engineers, Inc.
7 Skyline Drive
Hawthorne, NY 10532

Main 914.592.4040
Fax 914.592.5046

Memorandum

To:	Dan Haggarty	**Date:**	July 9, 2009
From:	Andrea M. Connell	**Project No.**:	39398
Subject:	Meadowlands Xanadu Mass Transit Ridership Estimates		

In 2006, NJ Transit estimated the transit ridership expected due to the new Meadowlands rail spur and enhanced bus service to the Meadowlands Sports Complex/Xanadu. The ridership estimates were made for the Xanadu ERC and Hotel and include separate estimates for workers and ERC patrons (hotel patrons were not included in the transit calculations). The following provides a summary of NJ Transit's rail and bus ridership estimates for Meadowlands Xanadu:

Input Data & Assumptions

NJ Transit's (NJT) ridership estimates reflect spring/fall conditions rather than potentially higher weekend and summer/holiday employment periods. NJT utilized Meadowlands Xanadu trip generation and distribution data provided by TRC. NJT made minor adjustments to the Xanadu trip distributions (worker/patron origins) to reflect population shifts from the 2000 Census.

NJT assumed ERC and hotel workers would park in Yonkers Lot and would take shuttle buses to the ERC (this adds to regular transit share). ERC patrons were assumed to park in ERC parking decks and pay $3 per visit.

NJT assumed that a new bus station along Route 120 would be in place with elevator/stair access to the pedestrian bridge and that 9 bus routes with a 30-minute minimum frequency would be provided during peak service periods.

New rail spur was assumed to have 30-minute service headways during peak PM period and midday period. Morning service would have 40-45 minute headways.

For transit infrastructure, NJT assumed a 2015 Transit network (prior to completion of "THE" Tunnel).

Ridership Estimates

NJT provided weekday ridership estimates for the Peak PM Period (3:30 to 7:30 PM), Off-peak period and for 24-hour (daily). The following summarizes the number of ERC/Hotel riders for each time period and the corresponding percent of all ERC/Hotel workers/patrons using bus and rail:

Transit Mode	**Transit Riders and Percent of Transit Usage**					
	Peak PM Period		*Off-Peak Period*		*Daily (Weekday)*	
	Persons	Percentage*	Persons	Percentage*	Persons	Percentage*
Bus	1,497	12.1%	2,452	7.9%	3,949	9.1%
Rail	100	0.8%	540	1.7%	640	1.5%
Total	**1597**	**12.9%**	**2,992**	**9.7%**	**4,589**	**10.6%**

Note: * Percent of all ERC/Hotel workers/patrons using Bus or Rail.

The Bus share of ERC/Hotel daily transit users was estimated as 86 percent with the majority of bus riders (78 percent) from New York. Rail estimated as 14 percent of transit share. For the ERC/Hotel, weekday daily vehicle trips are expected to be reduced by 9 percent.

Calculations were also made for the full build-out of the development (with Office). Per NJT, the Office will increase the ridership numbers only by a negligible amount.

MALL OF AMERICA

COUNT DATA

All Days:

			Peak Hour Trips			
			AM Street	Midday	PM Street	PM
Date	Day of Week	Daily trips	7:00 AM	Generator	5:00 PM	Generator
2/1/2006	Wednesday				2,667	3,154
2/2/2006	Thursday		443			
2/3/2006	Friday				3,785	4,044
2/4/2006	Saturday	67,097		6,353		
2/5/2006	Sunday	38,913		4,544		
2/6/2006	Monday	34,486	481		2,971	3,022
2/7/2006	Tuesday	33,941	456		2,576	3,121
2/8/2006	Wednesday	36,946	495		2,996	3,268
2/9/2006	Thursday	29,810	485		1,951	2,613
2/10/2006	Friday	45,754	417		3,553	4,072
2/11/2006	Saturday	70,414		6,849		
2/12/2006	Sunday	49,231		5,836		
2/13/2006	Monday	37,141	523		3,379	3,943
2/14/2006	Tuesday	41,498	364		3,650	4,077
2/15/2006	Wednesday	35,085	379		2,567	3,154
7/1/2006	Saturday	59,051		5,610		
7/2/2006	Sunday	48,252		5,118		
7/3/2006	Monday	57,338	504		5,330	5,330
7/4/2006	Tuesday	34,404	218		3,135	3,395
7/5/2006	Wednesday	44,943	434		3,915	3,915
7/6/2006	Thursday	49,092	498		4,102	4,224
7/7/2006	Friday	57,487	518		4,815	4,815
7/8/2006	Saturday	62,985		5,763		
7/9/2006	Sunday	44,316		4,658		
7/10/2006	Monday	47,142	445		3,952	3,952
7/11/2006	Tuesday	50,259	487		4,218	4,218
7/12/2006	Wednesday	48,929	510		4,038	4,158
7/13/2006	Thursday	51,222	834		3,731	6,726
7/14/2006	Friday	70,963	609		5,578	5,631
7/15/2006	Saturday	75,305		6,829		
7/16/2006	Sunday	62,478		6,794		
7/17/2006	Monday	55,729	470		4,468	4,585
7/18/2006	Tuesday	52,303	484		4,217	4,569
7/19/2006	Wednesday	60,341	530		5,126	5,126
7/20/2006	Thursday	53,851	464		4,488	4,488
7/21/2006	Friday	65,169	461		5,262	5,523
7/22/2006	Saturday	65,455		5,987		
7/23/2006	Sunday	49,242		5,276		
7/24/2006	Monday	49,958	537		4,209	4,211
7/25/2006	Tuesday	50,497	478		4,053	4,282
7/26/2006	Wednesday	51,208	479		4,259	4,359
7/27/2006	Thursday	52,815	442		4,327	4,512
7/28/2006	Friday	65,127	445		5,403	5,657
7/29/2006	Saturday	76,370		7,148		
7/30/2006	Sunday	61,464		6,217		
7/31/2006	Monday	58,186	488		4,887	5,270
8/1/2006	Tuesday	67,763	473		4,766	5,069
8/2/2006	Wednesday	76,106	505		4,704	4,704
8/3/2006	Thursday	51,436	415		4,345	4,345
8/4/2006	Friday	61,274	433		5,118	5,118
8/5/2006	Saturday	68,806		6,353		
8/6/2006	Sunday	56,006		5,438		
8/7/2006	Monday	50,424	473		4,189	4,333
8/8/2006	Tuesday	49,851	424		4,075	4,325
8/9/2006	Wednesday	52,321	442		4,336	4,414
8/10/2006	Thursday	54,717	456		4,512	4,512
8/11/2006	Friday	62,529	399		5,217	5,288
8/12/2006	Saturday	69,813		6,411		
8/13/2006	Sunday	63,600		7,047		

MALL OF AMERICA

All Days: COUNT DATA

Totals

Day of Week	Daily trips	Peak Hour Trips			
		AM Street	Midday	PM Street	PM
		7:00 AM	Generator	5:00 PM	Generator
Mean	54,229	472	6,013	4,122	4,388
Median	52,568	473	6,102	4,213	4,339
85th %ile	66,687	512	6,838	5,119	5,273
Min	29,810	218	4,544	1,951	2,613
Max	76,370	834	7,148	5,578	6,726

MALL OF AMERICA

COUNT DATA

Mon-Thurs Only:

Date	Day of Week	Daily trips	Peak Hour Trips			
			AM Street	Midday	PM Street	PM
			7:00 AM	Generator	5:00 PM	Generator
2/1/2006	Wednesday				2,667	3,154
2/2/2006	Thursday		443			
2/6/2006	Monday	34,486	481		2,971	3,022
2/7/2006	Tuesday	33,941	456		2,576	3,121
2/8/2006	Wednesday	36,946	495		2,996	3,268
2/9/2006	Thursday	29,810	485		1,951	2,613
2/13/2006	Monday	37,141	523		3,379	3,943
2/14/2006	Tuesday	41,498	364		3,650	4,077
2/15/2006	Wednesday	35,085	379		2,567	3,154
7/3/2006	Monday	57,338	504		5,330	5,330
7/4/2006	Tuesday	34,404	218		3,135	3,395
7/5/2006	Wednesday	44,943	434		3,915	3,915
7/6/2006	Thursday	49,092	498		4,102	4,224
7/10/2006	Monday	47,142	445		3,952	3,952
7/11/2006	Tuesday	50,259	487		4,218	4,218
7/12/2006	Wednesday	48,929	510		4,038	4,158
7/13/2006	Thursday	51,222	834		3,731	6,726
7/17/2006	Monday	55,729	470		4,468	4,585
7/18/2006	Tuesday	52,303	484		4,217	4,569
7/19/2006	Wednesday	60,341	530		5,126	5,126
7/20/2006	Thursday	53,851	464		4,488	4,488
7/24/2006	Monday	49,958	537		4,209	4,211
7/25/2006	Tuesday	50,497	478		4,053	4,282
7/26/2006	Wednesday	51,208	479		4,259	4,359
7/27/2006	Thursday	52,815	442		4,327	4,512
7/31/2006	Monday	58,186	488		4,887	5,270
8/1/2006	Tuesday	67,763	473		4,766	5,069
8/2/2006	Wednesday	76,106	505		4,704	4,704
8/3/2006	Thursday	51,436	415		4,345	4,345
8/7/2006	Monday	50,424	473		4,189	4,333
8/8/2006	Tuesday	49,851	424		4,075	4,325
8/9/2006	Wednesday	52,321	442		4,336	4,414
8/10/2006	Thursday	54,717	456		4,512	4,512

MALL OF AMERICA

Mon-Thurs Only: COUNT DATA

Totals

Day of Week	Daily trips	Peak Hour Trips			
		AM Street	Midday	PM Street	PM
		7:00 AM	Generator	5:00 PM	Generator
Mean	49,024	472		3,942	4,230
Median	50,424	476		4,146	4,304
85th %ile	56,534	507		4,579	4,832
Min	29,810	218		1,951	2,613
Max	76,106	834		5,330	6,726

MALL OF AMERICA

COUNT DATA

Tues-Thurs Only:

			Peak Hour Trips			
			AM Street	Midday	PM Street	PM
Date	Day of Week	Daily trips	7:00 AM	Generator	5:00 PM	Generator
2/1/2006	Wednesday				2,667	3,154
2/2/2006	Thursday		443			
2/7/2006	Tuesday	33,941	456		2,576	3,121
2/8/2006	Wednesday	36,946	495		2,996	3,268
2/9/2006	Thursday	29,810	485		1,951	2,613
2/14/2006	Tuesday	41,498	364		3,650	4,077
2/15/2006	Wednesday	35,085	379		2,567	3,154
7/4/2006	Tuesday	34,404	218		3,135	3,395
7/5/2006	Wednesday	44,943	434		3,915	3,915
7/6/2006	Thursday	49,092	498		4,102	4,224
7/11/2006	Tuesday	50,259	487		4,218	4,218
7/12/2006	Wednesday	48,929	510		4,038	4,158
7/13/2006	Thursday	51,222	834		3,731	6,726
7/18/2006	Tuesday	52,303	484		4,217	4,569
7/19/2006	Wednesday	60,341	530		5,126	5,126
7/20/2006	Thursday	53,851	464		4,488	4,488
7/25/2006	Tuesday	50,497	478		4,053	4,282
7/26/2006	Wednesday	51,208	479		4,259	4,359
7/27/2006	Thursday	52,815	442		4,327	4,512
8/1/2006	Tuesday	67,763	473		4,766	5,069
8/2/2006	Wednesday	76,106	505		4,704	4,704
8/3/2006	Thursday	51,436	415		4,345	4,345
8/8/2006	Tuesday	49,851	424		4,075	4,325
8/9/2006	Wednesday	52,321	442		4,336	4,414
8/10/2006	Thursday	54,717	456		4,512	4,512

MALL OF AMERICA

Tues-Thurs Only: COUNT DATA

Totals

Day of Week	Daily trips	Peak Hour Trips			
		AM Street	Midday	PM Street	PM
		7:00 AM	Generator	5:00 PM	Generator
Mean	49,102	466		3,865	4,197
Median	50,497	469		4,089	4,304
85th %ile	54,457	502		4,501	4,643
Min	29,810	218		1,951	2,613
Max	76,106	834		5,126	6,726

MALL OF AMERICA
COUNT DATA

Friday:

Date	Day of Week	Daily trips	Peak Hour Trips			
			AM Street	Midday	PM Street	PM
			7:00 AM	Generator	5:00 PM	Generator
2/3/2006	Friday				3,785	4,044
2/10/2006	Friday	45,754	417		3,553	4,072
7/7/2006	Friday	57,487	518		4,815	4,815
7/14/2006	Friday	70,963	609		5,578	5,631
7/21/2006	Friday	65,169	461		5,262	5,523
7/28/2006	Friday	65,127	445		5,403	5,657
8/4/2006	Friday	61,274	433		5,118	5,118
8/11/2006	Friday	62,529	399		5,217	5,288

MALL OF AMERICA

Friday: COUNT DATA

Totals

Day of Week	Daily trips	Peak Hour Trips			
		AM Street	Midday	PM Street	PM
		7:00 AM	Generator	5:00 PM	Generator
Mean	61,186	469		4,841	5,019
Median	62,529	445		5,168	5,203
85th %ile	65,748	527		5,396	5,626
Min	45,754	399		3,553	4,044
Max	70,963	609		5,578	5,657

MALL OF AMERICA
COUNT DATA

Saturday:

Date	Day of Week	Daily trips	Peak Hour Trips			
			AM Street	Midday	PM Street	PM
			7:00 AM	Generator	5:00 PM	Generator
2/4/2006	Saturday	67,097		6,353		
2/11/2006	Saturday	70,414		6,849		
7/1/2006	Saturday	59,051		5,610		
7/8/2006	Saturday	62,985		5,763		
7/15/2006	Saturday	75,305		6,829		
7/22/2006	Saturday	65,455		5,987		
7/29/2006	Saturday	76,370		7,148		
8/5/2006	Saturday	68,806		6,353		
8/12/2006	Saturday	69,813		6,411		

MALL OF AMERICA

Saturday: COUNT DATA

Totals					
		Peak Hour Trips			
		AM Street	Midday	PM Street	PM
Day of Week	Daily trips	7:00 AM	Generator	5:00 PM	Generator
Mean	68,366		6,367		
Median	68,806		6,353		
85th %ile	74,327		6,845		
Min	59,051		5,610		
Max	76,370		7,148		

MALL OF AMERICA
COUNT DATA

Sunday:

Date	Day of Week	Daily trips	Peak Hour Trips			
			AM Street	Midday	PM Street	PM
			7:00 AM	Generator	5:00 PM	Generator
2/5/2006	Sunday	38,913		4,544		
2/12/2006	Sunday	49,231		5,836		
7/2/2006	Sunday	48,252		5,118		
7/9/2006	Sunday	44,316		4,658		
7/16/2006	Sunday	62,478		6,794		
7/23/2006	Sunday	49,242		5,276		
7/30/2006	Sunday	61,464		6,217		
8/6/2006	Sunday	56,006		5,438		
8/13/2006	Sunday	63,600		7,047		

MALL OF AMERICA

Sunday: COUNT DATA

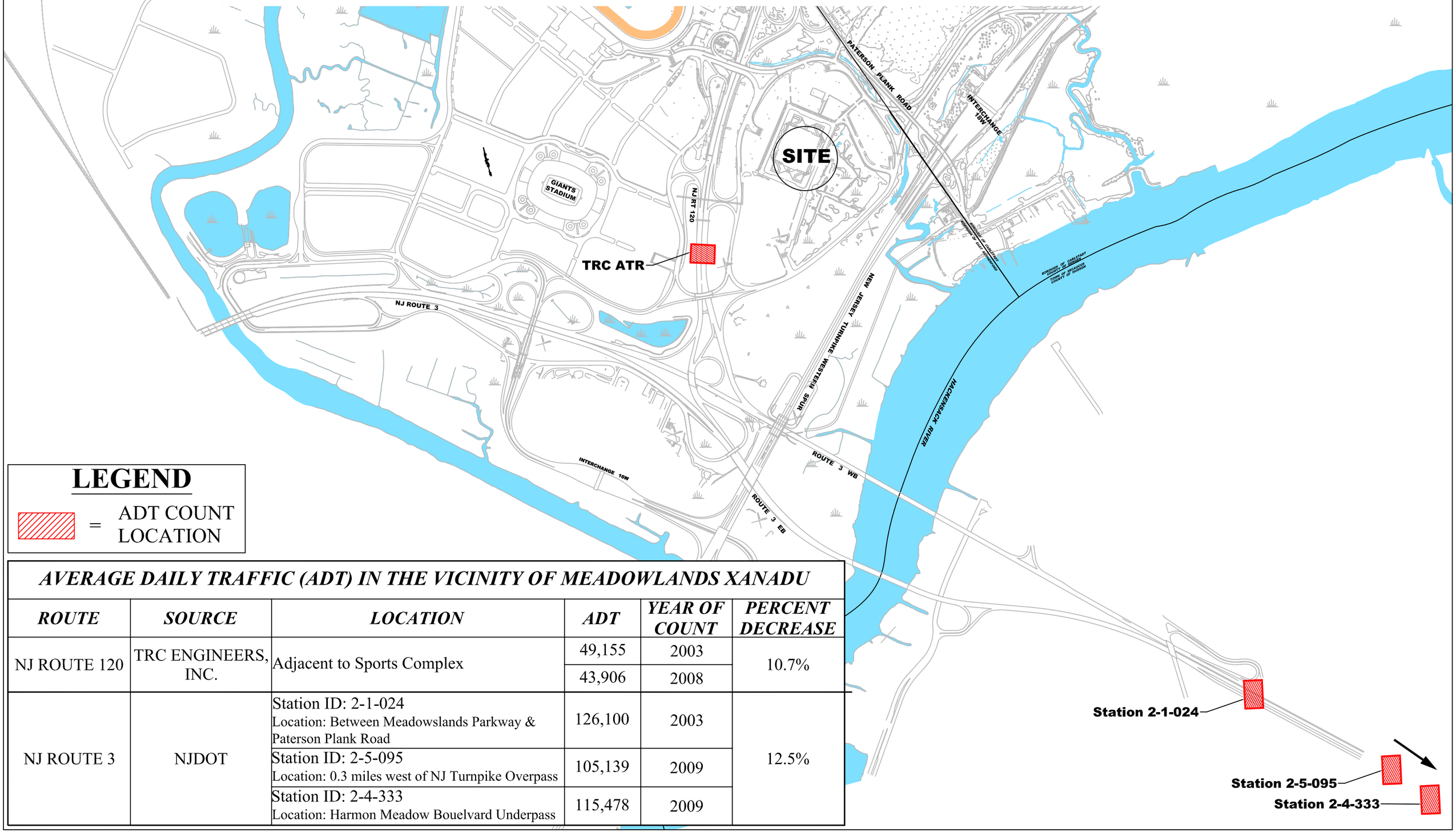
Totals					
		Peak Hour Trips			
		AM Street	Midday	PM Street	PM
Day of Week	Daily trips	7:00 AM	Generator	5:00 PM	Generator
Mean	52,611		5,659		
Median	49,242		5,438		
85th %ile	62,275		6,679		
Min	38,913		4,544		
Max	63,600		7,047		

Mall of America
2006 Trip Rate Calculations

Size: 2,575,000 sf retail (gross leasable area)

TIME PERIOD	MOA COUNT DATA Actual Trips (in+out) (Feb/July 2006 data) (85th Percentile)	MOA TRIP RATE (per 1,000sf)	ITE RATE Trips at ITE 820 Rate per ksf (Trip Gen 8th Ed.)	ITE EQUATION Trips with ITE 820 Equation per ksf (Trip Gen 8th Ed.)
Weekday (Tues-Thurs)	54,457	21.15	110,571	56,097
AM peak hour (Street)	502	0.19	2,575	1,047
PM peak hour (Street)	4,501	1.75	9,605	5,608
PM peak hour (Generator)*	4,643	1.80	*ITE peak hour of generator data not provided for ITE land use 820	
Saturday	74,327	28.86	128,673	71,523
Saturday peak hour (Generator)	6,845	2.66	12,592	7,079
Sunday	62,275	24.18	64,993	44,462
Sunday peak hour (Generator)	6,679	2.59	8,034	n/a

AVERAGE DAILY TRAFFIC VOLUMES (ADT) IN THE VICINITY OF MEADOWLANDS XANADU



LEGEND

= ADT COUNT LOCATION

AVERAGE DAILY TRAFFIC (ADT) IN THE VICINITY OF MEADOWLANDS XANADU					
ROUTE	***SOURCE***	***LOCATION***	***ADT***	***YEAR OF COUNT***	***PERCENT DECREASE***
NJ ROUTE 120	TRC ENGINEERS, INC.	Adjacent to Sports Complex	49,155	2003	10.7%
			43,906	2008	
NJ ROUTE 3	NJDOT	Station ID: 2-1-024 Location: Between Meadowslands Parkway & Paterson Plank Road	126,100	2003	12.5%
		Station ID: 2-5-095 Location: 0.3 miles west of NJ Turnpike Overpass	105,139	2009	
		Station ID: 2-4-333 Location: Harmon Meadow Bouelvard Underpass	115,478	2009	

APPENDIX D

ROADWAY IMPROVEMENTS

– OVERALL MEADOWLANDS PLANNED TRANSPORATION IMPROVEMENTS

– NJTPK INTERCHANGE 18W SPORTS COMPLEX ACCESS RAMP IMPROVEMENTS

– NJTPK INTERCHANGE 16W/NJ ROUTE 3 IMPROVEMENTS

– NJDOT PATERSON PLANK ROAD (NJ ROUTE 120) IMPROVEMENTS

– NJDOT NJ ROUTE 3 PASSAIC RIVER CROSSING IMPROVEMENTS

– NJ TRANSIT MEADOWLANDS RAIL LINE & STATION

– MEADOWLANDS ADAPTIVE SIGNAL SYSTEM FOR TRAFFIC REDUCTION

MEADOWLANDS PLANNED TRANSPORTATION IMPROVEMENTS

LEGEND

- NJTPK Interchange 16W/Route 3 Improvements
- Route 120 SB Flyover Project
- NJTPK Interchange 18W Ramp Improvements
- NJDOT Paterson Plank Road/Rt. 17 Improvements
- Xanadu Off-Site Improvements (Rt. 120/18W Ramps)
- NJ Transit Sports Complex Spur
- Xanadu/Stadium Buildings
- Xanadu/Stadium Parking

NEW JERSEY TURNPIKE AUTHORITY

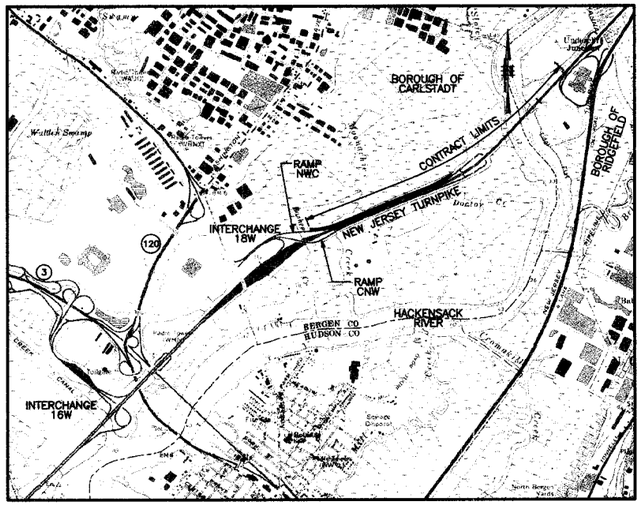
KRIS KOLLURI, ESQ — CHAIRMAN, COMMISSIONER NJDOT
MICHAEL DUPONT — TREASURER
HAROLD HODES — COMMISSIONER
DAVID G. EVANS — COMMISSIONER
RAYMOND M. POCHINO — COMMISSIONER
CLIVE CUMMIS — COMMISSIONER

NEW JERSEY TURNPIKE

CONTRACT NO. T300.064

RAMP NWC IMPROVEMENTS AT INTERCHANGE 18W ROADWAY WIDENING GRADING, DRAINAGE, PAVING & STRUCTURES

BOROUGH OF CARLSTADT AND
BOROUGH OF RIDGEFIELD
BERGEN COUNTY



LOCATION PLAN

SCALE: 1" = 2000'

0 1/2 1 2 3 4

ORIGINAL SIZE IN INCHES

THE RBA GROUP
ENGINEERS, PLANNERS, LAND SURVEYORS
SEVEN CAMPUS DRIVE, SUITE 300
PARSIPPANY, NEW JERSEY 07054

STANDARD DRAWINGS

SHEET NO.	DWG. NO.	DESCRIPTION
192	CU-1	CONCRETE CURB AND NOSE DETAILS
193	DE-1	DELINEATOR AND MONUMENT DETAILS
194	DE-2	DELINEATOR AND MILE MARKER DETAILS
195	DR-1	DROP INLET DETAILS
196	DR-2	CAST FRAME AND GRATING DETAILS
197	DR-3	MANHOLE AND PIPE PLACEMENT DETAILS
198	DR-4	ALTERATIONS OF MANHOLES AND INLETS & MISCELLANEOUS DETAILS
199	DR-6	HEADWALLS - I
200	DR-10	EROSION CONTROL DETAILS
201	E-2	40 FT. LIGHTING STANDARDS - I
202	E-3	40 FT. LIGHTING STANDARDS - II
203	E-6	CONCRETE JUNCTION BOX AND ROADWAY LIGHTING MANHOLE
204	E-7	LIGHTING STANDARD BASES
205	E-8	JUNCTION BOX FOUNDATIONS
206	E-9	ROADWAY LIGHTING INSTALLATION DETAILS - I
207	E-10	ROADWAY LIGHTING INSTALLATION DETAILS - II
208	E-11	ROADWAY LIGHTING INSTALLATION DETAILS - III
209	E-12	CUTOFF LUMINAIRE PHOTOMETRICS - I
210	E-13	CUTOFF LUMINAIRE PHOTOMETRICS - II
211	E-14	CUTOFF LUMINAIRE PHOTOMETRICS - III
212	E-15	CUTOFF LUMINAIRE PHOTOMETRICS - IV
213	E-21	SIGN LIGHTING DETAILS - I
214	E-22	SIGN LIGHTING DETAILS - II
215	FE-1	CHAIN LINK FENCE AND FARM FENCE DETAILS
216	FE-2	CHAIN LINK FENCE AND FARM FENCE DETAILS
217	GR-1	GUARD RAIL DETAILS
218	GR-2	TYPICAL GUARD RAIL INSTALLATION DETAILS
219	GR-3	GUARD RAIL ANCHORAGE & MONUMENT DETAILS
220	GR-5	END TREATMENTS AND DETAILS
221	GR-11	SLOTTED RAIL TERMINAL - 350
222	MB-1	MEDIAN BARRIER DETAILS
223	MB-2	MEDIAN BARRIER PROTECTION DETAILS
224	MF-2	MEDIAN BARRIER FENCING DETAILS
225	PM-1	PAVEMENT MARKING DETAILS
226	SI-8	SIGN PANEL LAYOUTS STANDARD SIGNS 33-43
227	SI-13	GROUND MOUNTED SIGN DETAILS
228	SI-16A	SPAN TYPE SIGN STRUCTURE (STEEL) TRUSS DETAILS - 1
229	SI-16B	SPAN TYPE SIGN STRUCTURE (STEEL) TRUSS DETAILS - 2
230	SI-17A	SPAN TYPE SIGN STRUCTURE (STEEL) END FRAME DETAILS - 1
231	SI-17B	SPAN TYPE SIGN STRUCTURE (STEEL) END FRAME DETAILS - 2
232	SI-19	HANDRAIL AND GRATING DETAILS
233	SI-20	TYPICAL OVERHEAD SIGN STRUCTURE SECTIONS
234	SI-21	MAINTENANCE LADDER INSTALLATION DETAILS
235	SI-22	OVERHEAD AND GROUND MOUNTED FOUNDATION DETAILS
236	SI-23	SPEED LIMIT SIGN INSTALLATION DETAILS
237	SI-24	EMERGENCY SPEED WARNING SIGN
238	SI-25	CHANGEABLE MESSAGE SIGN
239	TP-1	TRAFFIC PROTECTION SIGN DETAILS - I
240	TP-2	TRAFFIC PROTECTION SIGN DETAILS - II
241	TP-7	TRAFFIC PROTECTION LANE CLOSING DETAILS
242	TP-8	MISCELLANEOUS TRAFFIC PROTECTION DETAILS
243	TP-12	SIGN STAND TYPE III FOR MOUNTING ON GUARD RAIL OR CONCRETE MEDIAN BARRIER
244	TP-13	PRECAST CONCRETE CONSTRUCTION BARRIER - TYPE 4 - ALTERNATE A
245	TP-14	PRECAST CONCRETE CONSTRUCTION BARRIER - TYPE 4 - ALTERNATE B

INDEX OF DRAWINGS

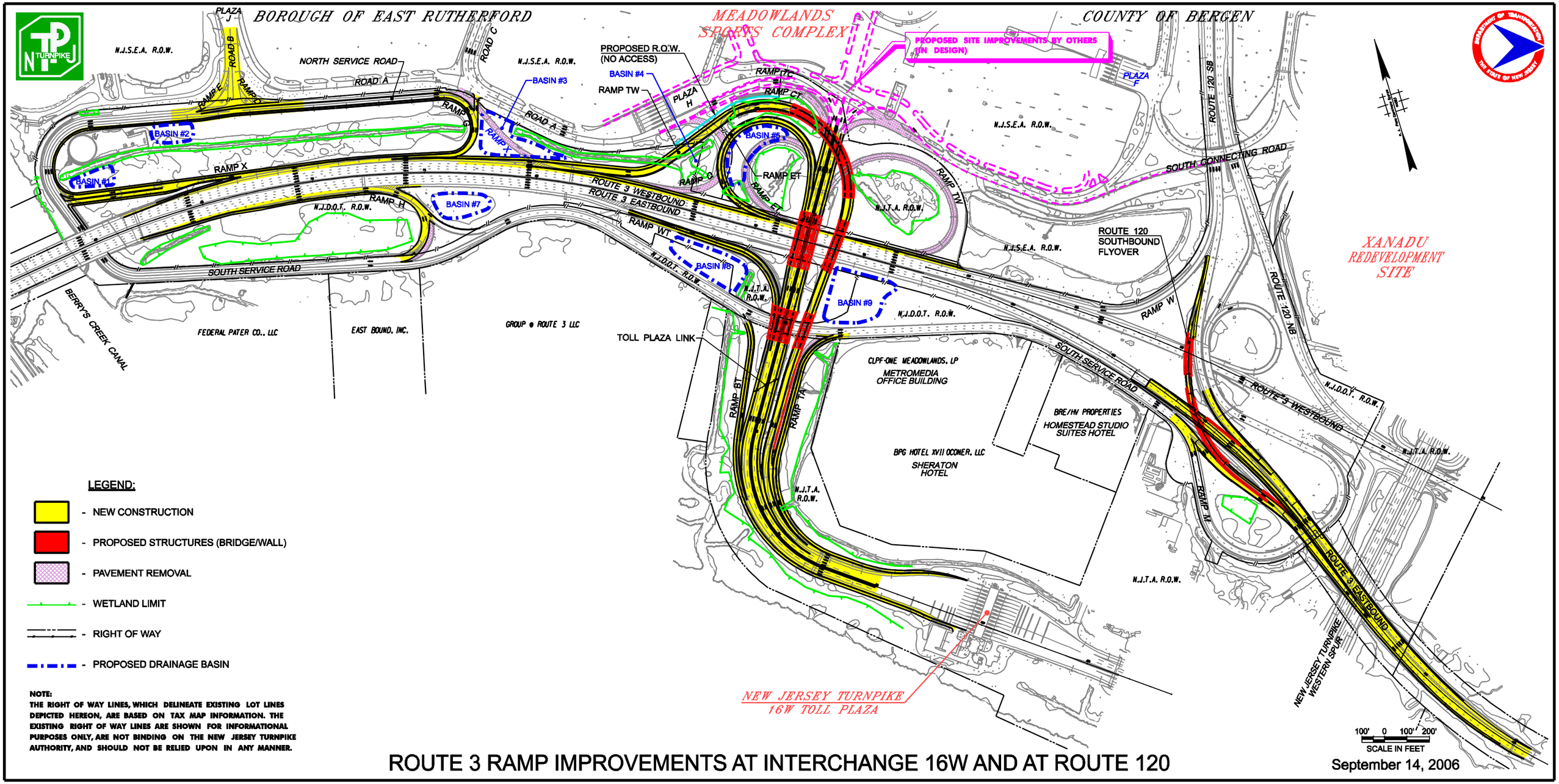
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	LEGEND AND GENERAL NOTES
3-4	TABLE OF QUANTITIES
5	PLAN REFERENCE & BORING LOCATION SHEET
6-7	TIE & ALIGNMENT DATA SHEETS
8-19	MAINTENANCE & PROTECTION OF TRAFFIC PLANS
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115-118	GEOTECHNICAL & INSTRUMENTATION PLANS
119-124	CONSTRUCTION DETAILS
125-126	KEY TO CROSS SECTIONS
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156-191	STRUCTURAL PLANS
192-245	STANDARD DRAWINGS
246-253	REFERENCE DRAWINGS

REFERENCE DRAWINGS

SHEET NO.	REF. CONT. NO.	REF. CONT. SHT. NO.	DESCRIPTION
246-253	--	--	BORING LOGS

RECOMMENDED _____ DATE April 9, 2008
THE RBA GROUP N.J.P.E. No. 24GE02949900

APPROVED _____ DATE _____
CHIEF ENGINEER
NEW JERSEY TURNPIKE AUTHORITY



LEGEND:

- NEW CONSTRUCTION
- PROPOSED STRUCTURES (BRIDGE/WALL)
- PAVEMENT REMOVAL
- WETLAND LIMIT
- RIGHT OF WAY
- PROPOSED DRAINAGE BASIN

NOTE:
THE RIGHT OF WAY LINES, WHICH DELINEATE EXISTING LOT LINES DEPICTED HEREON, ARE BASED ON TAX MAP INFORMATION. THE EXISTING RIGHT OF WAY LINES ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY, ARE NOT BINDING ON THE NEW JERSEY TURNPIKE AUTHORITY, AND SHOULD NOT BE RELIED UPON IN ANY MANNER.

ROUTE 3 RAMP IMPROVEMENTS AT INTERCHANGE 16W AND AT ROUTE 120

September 14, 2006

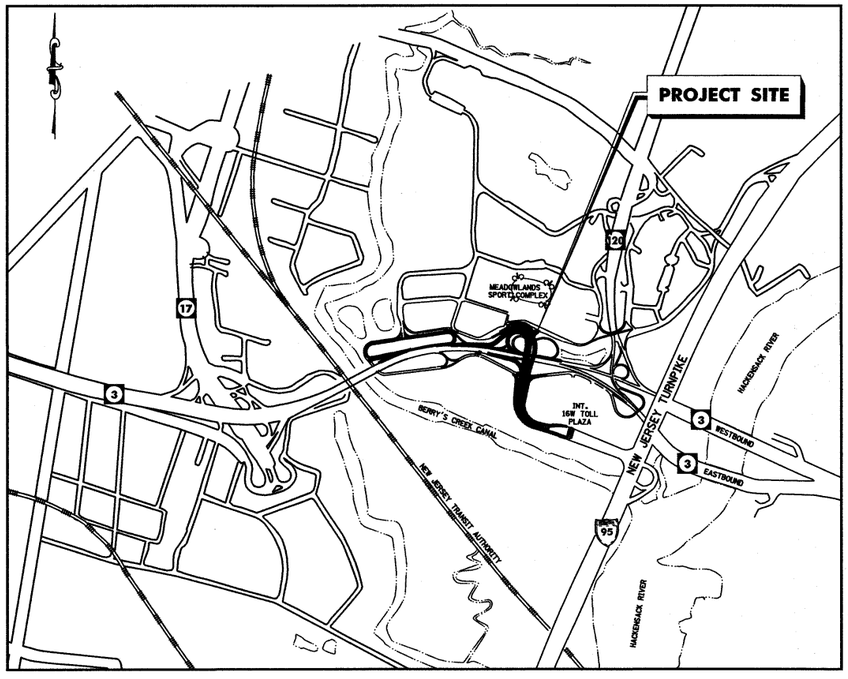
NEW JERSEY TURNPIKE AUTHORITY

KRIS KOLLURI, ESQ. — CHAIRMAN
JOSEPH P. MIELE — VICE CHAIRMAN
MICHAEL DU PONT — TREASURER
RAYMOND M. POCINO — COMMISSIONER
HAROLD HODES — COMMISSIONER
DAVID G. EVANS — COMMISSIONER

INTERCHANGE 16W / ROUTE 3 RAMPS IMPROVEMENTS
CONTRACT NO. T200.017

BOROUGH OF EAST RUTHERFORD
BERGEN COUNTY

PART A



LOCATION PLAN
SCALE 1" = 1,500'

0 1/2 2 3 4
ORIGINAL SIZE IN INCHES

DMJM HARRIS | AECOM
CONSULTING ENGINEERS
ISELIN, NEW JERSEY

INDEX OF DRAWINGS

SHEET NO.	DESCRIPTION
	PART A
1	TITLE SHEET
2	TABULATION OF STANDARD AND REFERENCE DRAWINGS
3	LEGEND AND GENERAL NOTES
4-6	TABLE OF QUANTITIES
7	PLAN REFERENCE SHEET
8-11	TIE SHEETS
12	CURVE DATA SHEET
13	MAINTENANCE AND PROTECTION OF TRAFFIC GENERAL NOTES AND LEGEND
14-48	CONSTRUCTION SEQUENCE
49-59	TYPICAL SECTIONS
60-74	HIGHWAY PLANS
75-89	PAVEMENT AND RESURFACING PLANS
90-104	GRADING PLANS
105	NOSE GRADING PLAN
106-119	PROFILES
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153-159	SIGN TEXT DATA
160	HIGHWAY LIGHTING LEGEND AND GENERAL NOTES
161-162	HIGHWAY LIGHTING KEY PLAN
163-177	HIGHWAY LIGHTING PLANS
178-191	HIGHWAY LIGHTING DETAILS
192-205	EXCAVATION LIMITS & WICK DRAIN AREA PLANS
206-207	INSTRUMENTATION PLANS
208-247	BORING LOGS
248-254	CONSTRUCTION DETAILS
255-256	KEY TO CROSS SECTIONS
257-339	CROSS SECTIONS
	PART C
340	TITLE SHEET
341-505	STRUCTURAL PLANS
506-579	NJDOT STANDARD DRAWINGS
580-644	NJTA STANDARD DRAWINGS
645-675	REFERENCE DRAWINGS

RECOMMENDED _____ DATE 7/17/07
CHRISTOPHER M. WOOD
VICE PRESIDENT
DMJM HARRIS, INC.
N.J. PROFESSIONAL ENGINEER, LICENSE NO. 29160

APPROVED _____ DATE _____
CHIEF ENGINEER
NEW JERSEY TURNPIKE AUTHORITY

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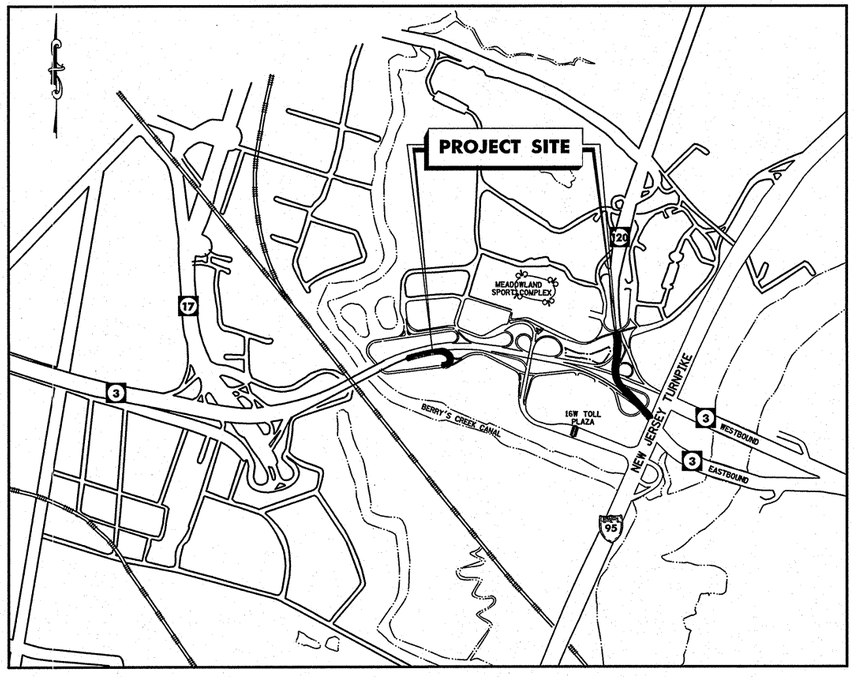
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NEW JERSEY TURNPIKE AUTHORITY

KRIS KOLLURI, ESQ. CHAIRMAN | JOSEPH P. MIELE VICE CHAIRMAN | MICHAEL DU PONT TREASURER | RAYMOND M. POCINO COMMISSIONER | HAROLD HODES COMMISSIONER | DAVID G. EVANS COMMISSIONER

ROUTE 3, ROUTE 120 S.B. TO ROUTE 3 E.B. RAMP
CONTRACT NO. T200.018

BOROUGH OF EAST RUTHERFORD
BERGEN COUNTY



LOCATION PLAN
SCALE 1" = 1,500'

0 1/2 2 3 4
ORIGINAL SIZE IN INCHES

DMJM HARRIS | AECOM
CONSULTING ENGINEERS
ISELIN, NEW JERSEY

INDEX OF DRAWINGS

SHEET NO.	DESCRIPTION
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2&3	TABLE OF QUANTITIES
4-7	TYPICAL SECTIONS
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10-18	CONSTRUCTION PLANS
19-21	ENVIRONMENTAL PLAN SHEET INDEX
22-31	ENVIRONMENTAL PLANS
32-34	PROPOSED SOIL AND GROUNDWATER SAMPLES
35-40	SURCHARGE AND INSTRUMENTATION PLANS
41-44	PROFILES
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47-54	GRADES
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63-83	TRAFFIC CONTROL AND STAGING PLANS
84-106	HIGHWAY LIGHTING PLANS AND DETAILS
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148	KEY PLAN TO STRUCTURES
149	ESTIMATE OF QUANTITIES-BRIDGE
150-188	BRIDGE PLANS
189-203	RETAINING WALL PLANS
204-215	OVERHEAD SIGN SUPPORT STRUCTURES

RECOMMENDED _____ DATE 7/17/07

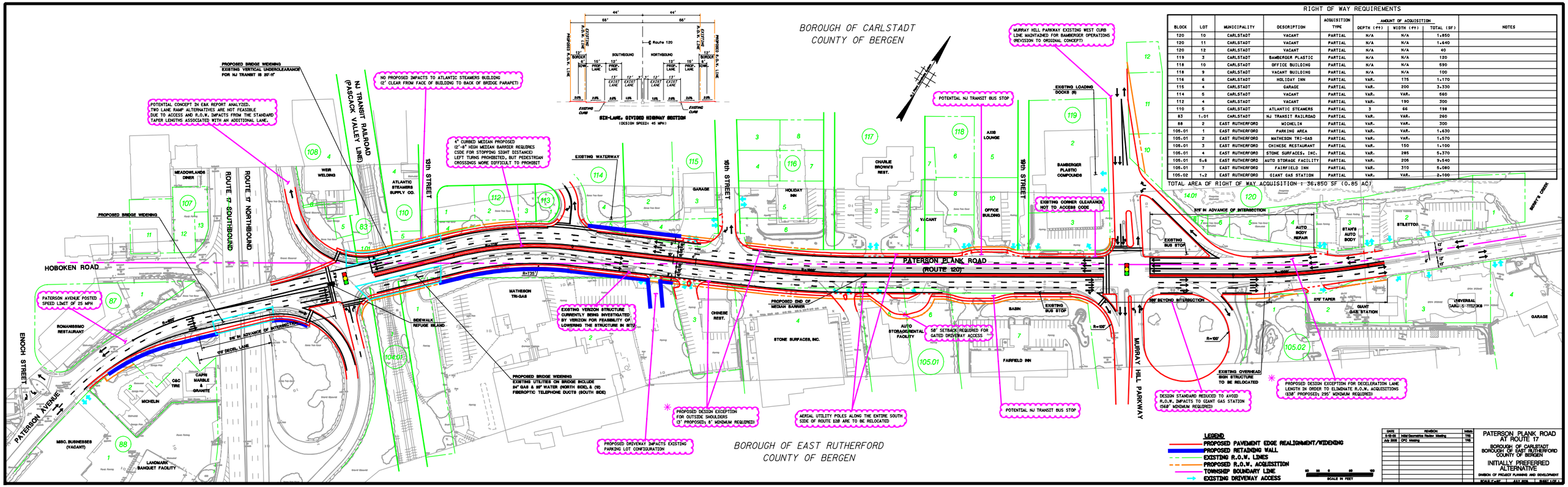
CHRISTOPHER M. WOOD
VICE PRESIDENT
DMJM HARRIS, INC.
N.J. PROFESSIONAL ENGINEER, LICENSE NO. 29160

APPROVED _____ DATE _____

CHIEF ENGINEER
NEW JERSEY TURNPIKE AUTHORITY

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DATE: 7/17/2007 TIME: 10:34:25 AM USERNAME: Balmater-M

FILE NAME: CVDH01NJDOT.dgn



RIGHT OF WAY REQUIREMENTS

BLOCK	LOT	MUNICIPALITY	DESCRIPTION	ACQUISITION TYPE	AMOUNT OF ACQUISITION			NOTES
					DEPTH (ft)	WIDTH (ft)	TOTAL (SF)	
120	10	CARLSTADT	VACANT	PARTIAL	N/A	N/A	1,850	
120	11	CARLSTADT	VACANT	PARTIAL	N/A	N/A	1,640	
120	12	CARLSTADT	VACANT	PARTIAL	N/A	N/A	40	
119	3	CARLSTADT	BAMBERGER PLASTIC	PARTIAL	N/A	N/A	120	
118	10	CARLSTADT	OFFICE BUILDING	PARTIAL	N/A	N/A	590	
118	9	CARLSTADT	VACANT BUILDING	PARTIAL	N/A	N/A	100	
116	6	CARLSTADT	HOLIDAY INN	PARTIAL	VAR.	175	1,170	
115	4	CARLSTADT	GARAGE	PARTIAL	VAR.	200	3,330	
114	5	CARLSTADT	VACANT	PARTIAL	VAR.	VAR.	560	
112	4	CARLSTADT	VACANT	PARTIAL	VAR.	190	300	
110	5	CARLSTADT	ATLANTIC STEAMERS	PARTIAL	3	66	198	
83	1.01	CARLSTADT	NJ TRANSIT RAILROAD	PARTIAL	VAR.	VAR.	260	
88	2	EAST RUTHERFORD	MICHELIN	PARTIAL	VAR.	VAR.	300	
105.01	1	EAST RUTHERFORD	PARKING AREA	PARTIAL	VAR.	VAR.	1,630	
105.01	2	EAST RUTHERFORD	MATHESON TRI-GAS	PARTIAL	VAR.	VAR.	1,570	
105.01	3	EAST RUTHERFORD	CHINESE RESTAURANT	PARTIAL	VAR.	150	1,100	
105.01	4	EAST RUTHERFORD	STONE SURFACES, INC.	PARTIAL	VAR.	285	5,370	
105.01	5+6	EAST RUTHERFORD	AUTO STORAGE FACILITY	PARTIAL	VAR.	205	9,140	
105.01	7	EAST RUTHERFORD	FAIRFIELD INN	PARTIAL	VAR.	310	5,080	
105.02	1+2	EAST RUTHERFORD	GIANT GAS STATION	PARTIAL	VAR.	VAR.	2,100	

TOTAL AREA OF RIGHT OF WAY ACQUISITION = 36,850 SF (0.85 AC)

DATE	REVISION	INITIALS
5-18-06	Initial Geometrics Review Meeting	TRB
July 2006	CPC Meeting	TRB

BOROUGH OF CARLSTADT
COUNTY OF BERGEN

AERIAL UTILITY POLES ALONG THE NORTH SIDE OF ROUTE 120 ARE TO BE RELOCATED

EPA SUPERFUND SITE
OWNED BY BOROUGH OF CARLSTADT
(PREVIOUSLY SCIENTIFIC CHEMICAL PROCESSING)

GOTHAM PARKWAY

ABLE TRUCKING REPAIR

BANK OF AMERICA

HAMPTON INN

ABF SHIPPING

R=50'

380' AUXILIARY LANE

180' TAPER

FIELD TRAILER

PATERSON PLANK ROAD
(ROUTE 120)

EXISTING BUS STOP

BOROUGH OF EAST RUTHERFORD
COUNTY OF BERGEN

NEW JERSEY SPORTS & EXPOSITION COMPLEX

PROPOSED R.O.W. ACQUISITION
APPROX. AREA = 5,900 SF

LEGEND

- PROPOSED PAVEMENT EDGE REALIGNMENT/WIDENING
- EXISTING R.O.W. LINES
- PROPOSED R.O.W. ACQUISITION
- TOWNSHIP BOUNDARY LINE
- EXISTING DRIVEWAY ACCESS

50 25 0 50 100
SCALE IN FEET

DATE	REVISION	Initials
July 2005	CPC Meeting	TRS

PATERSON PLANK ROAD AT GOTHAM PARKWAY

BOROUGH OF CARLSTADT
BOROUGH OF EAST RUTHERFORD
COUNTY OF BERGEN

INITIALLY PREFERRED ALTERNATIVE

DIVISION OF PROJECT PLANNING AND DEVELOPMENT

SCALE: 1" = 50' | JUNE 2005 | SHEET 1 OF 1

ROUTE 3
SMART SOLUTION ALTERNATIVE

CITY OF CLIFTON
COUNTY OF PASSAIC

MAIN AVENUE
THIRD RIVER
RIVERFRONT CENTER
SHELL GAS STATION
OAK STREET
RIVER ROAD
NJ TRANSIT
FROM ROUTE 21
ROUTE 3 WESTBOUND
ROUTE 3 EASTBOUND
CLIFTON COMMONS
LA QUINTA INN
MYRTLE AVENUE
PAVAN ROAD
TO ROUTE 21 SB

MATCH LINE A-A

CITY OF CLIFTON
COUNTY OF PASSAIC

FROM ROUTE 21 NB
FROM ROUTE 21 SB
TO ROUTE 21 NB
TO ROUTE 21 SB
ROUTE 21 SB
ROUTE 21 NB
AT&T CELL TOWER
BOROUGH OF RUTHERFORD
COUNTY OF BERGEN
PASSAIC RIVER
RIVERSIDE AVENUE
GOUVERNEUR AVENUE
PREBLE PLACE
STUYVESANT AVE.
EDGEWOOD PLACE
BOROUGH OF RUTHERFORD
COUNTY OF BERGEN
PARK AVENUE
COLLEGE PLACE
PROPOSED TRAFFIC SIGNAL
EAST GOUVERNEUR AVENUE
DELAFIELD AVENUE
DANIEL AVE.
WHEATON PLACE
LINCOLN AVE.
MARGINAL ROAD
ROUTE 3 WESTBOUND
ROUTE 3 EASTBOUND
RUTHERFORD AVENUE
KINGSLAND AVENUE
NJ TRANSIT
RELOCATED KINGSLAND AVENUE
CITY OF CLIFTON
COUNTY OF PASSAIC
TOWNSHIP OF LYNDHURST
COUNTY OF BERGEN
KEARNEY STREET
PARK AVENUE
STUYVESANT AVE.
MODIFY EXISTING TRAFFIC SIGNAL
LIVINGSTON AVENUE
DELAFIELD AVENUE
LAFAYETTE AVENUE
TOWNSHIP OF LYNDHURST
COUNTY OF BERGEN

MATCH LINE B-B

WILSON AVE.
RIDGE RD
PROPOSED TRAFFIC SIGNAL
SYLVAN ST.
SUMMIT AVE.
MOUNTAIN AVE.
ORIENT WAY
MODIFY EXISTING TRAFFIC SIGNAL
FERONIA WAY
BOROUGH OF RUTHERFORD
COUNTY OF BERGEN
ROUTE 17 NB
ROUTE 17 SB
BARROWS AVENUE
THOMAS E. DUNN MEMORIAL HIGHWAY
ROUTE 3 WESTBOUND
ROUTE 3 EASTBOUND
JACKSON PLACE
MODIFY EXISTING TRAFFIC SIGNAL
SUMMIT AVE.
RUTHERFORD AVENUE
MODIFY EXISTING TRAFFIC SIGNAL
RENAISSANCE HOTEL
TOWNSHIP OF LYNDHURST
COUNTY OF BERGEN

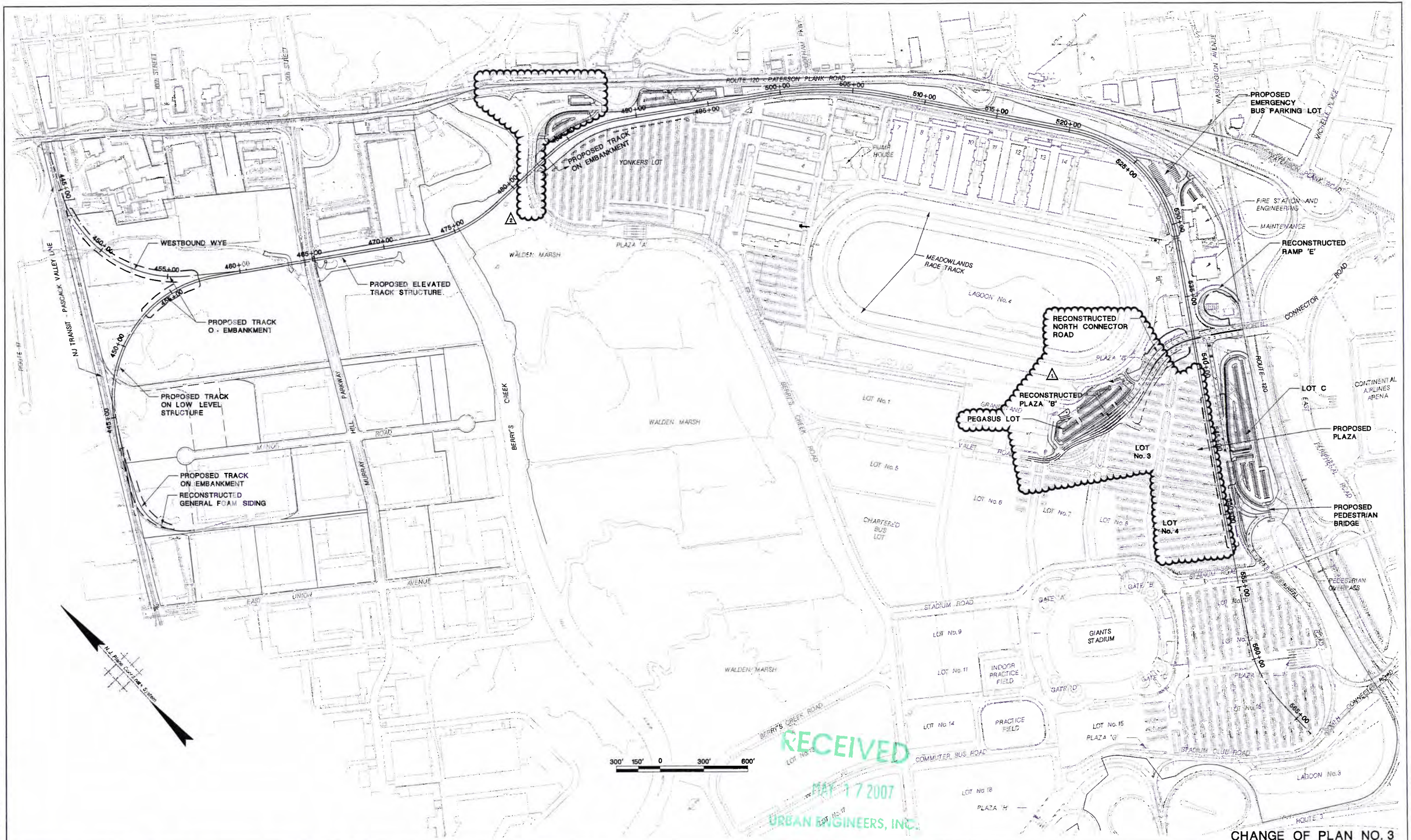
MATCH LINE A-A

MATCH LINE B-B

LEGEND:

- PROPOSED ROADWAY
- PROPOSED MILL AND OVERLAY
- PROPOSED SHOULDER
- PROPOSED BRIDGE AND WALL LIMITS
- PROPOSED BRIDGE REHABILITATION LIMITS
- BRIDGE TO BE CONSTRUCTED UNDER EARLIER CONTRACT
- ACCESS REVISION
- PROPOSED CONCRETE SIDEWALK OR ISLAND
- PROPOSED LANDSCAPE AREA
- EXISTING WATERWAY
- RECOMMENDED NOISE WALL LOCATIONS
- APPROXIMATE SLOPE LIMITS

OCTOBER 18, 2007



RECEIVED
MAY 17 2007
URBAN ENGINEERS, INC.

CHANGE OF PLAN NO. 3

New Jersey Sports & Exposition Authority

NJTRANSIT
ONE PENN PLAZA EAST
NEWARK, NEW JERSEY 07105

NEW JERSEY DEPARTMENT OF TRANSPORTATION

No.	DATE	REVISION
2	04/10/07	REVISED ROADWAY DESIGN
1	03/01/07	REVISED ROADWAY DESIGN

DESIGNER: MJB
DRAFTER: WS
CHECKER: MJB
IN CHARGE: NCT
ISSUE DATE: 03/10/06

MICHAEL J. BINKERT
N.J. PROFESSIONAL ENGINEER LIC. No. 27387

PRIME CONSULTANT:
Edwards AND Kelcey
299 Madison Avenue
Morristown, New Jersey 07962
Tel. 973-267-0555
NJ CERTIFICATE OF AUTHORIZATION No. 24GA28040500

MEADOWLANDS RAILROAD AND ROADWAY IMPROVEMENT PROJECT

GENERAL PLAN

CONTRACT NO.: CN-156
SCALE: 1"=300'
DRAWING NO.: G-06
SHEET NO.: 6

03-MAY-2007 15:10
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MASSTR

Meadowlands Adaptive Signal System for Traffic Reduction

TIGER 2

The objective of the MASSTR project is to efficiently reduce roadway congestion, delays, travel time, fuel consumption, and airborne emissions in the Meadowlands region. These goals will be accomplished through advanced, proven, and cost-effective technologies. The project will be completed without sprawl-inducing roadway widening, significant infrastructure spending, or additional right-of-way.

The project will incorporate 128 existing traffic signals in the Meadowlands region into a network of self-adaptive traffic signals. A reduction in congestion will be realized by adjusting the signal timings based upon the flow of traffic instead of utilizing fixed or actuated timings.



Signals along multi-jurisdictional boundaries will be continuously coordinated for optimal operation. Traffic conditions and traffic signal operations will also be monitored and controlled in real-time at the NJMC Complex.

All project systems will utilize state-of-the-art components including advanced adaptive traffic signal control software, wireless communications, and image-based vehicle detection devices.



This intelligent transportation system will benefit more than 400,000 private, public, and commercial vehicles daily. The project is expected to reduce vehicle delays by 1.2 million hours per year, gasoline consumption by more than 1.2 million gallons per year, and greenhouse gas emission by more than 11,000 tons per year.

The NJMC was recently awarded a highly competitive $10 Million Tiger 2 grant from the U.S. Department of Transportation to install the system on 128 traffic signals in the Meadowlands region. An interactive map of the locations is available at www.MASSTR.com



Installation of the system is predominantly limited to adding advanced traffic signal control components to existing signal cabinets, hanging wireless radios and antennas on traffic signal poles, and, in some limited locations, traffic signal pole height extensions and new antenna poles.

The system will be constructed in four phases as follows:
Phase I – Secaucus area
Phase II – Southwest Meadowlands Region, Harmon Meadow area, & Westside Avenue
Phase III – Northwest Meadowlands Region
Phase IV – US Routes 1&9



Procurement of the project's advanced systems is expected in summer 2011, followed by the first construction phase in fall 2011. Installation of the first phase is expected to begin in fall/winter 2011, and all phases are anticipated to be completed by winter 2013.

The MASSTR project is an ideal opportunity to update existing outdated traffic control mechanisms and integrate them with an advanced intelligent transportation system that provides for sustainable transportation improvements and significant regional benefits within a complex region. Area businesses and residents will continuously benefit from a reduction in signal delays, travel time, fuel consumption, and airborne emissions.

For additional information, please contact David Liebgold, NJMC Chief of Transportation, at: (201)777-2414 or david.liebgold@njmeadowlands.gov

May 2011

New Jersey Meadowlands Commission
One DeKorte Park Plaza ≋ Lyndhurst, NJ ≋ 07071 ≋ Phone: 201-460-1700 ≋ Fax: 201-460-1722
www.njmeadowlands.gov

Meadowlands Adaptive Signal System for Traffic Reduction (MASSTR)

MASSTR will incorporate all of the Meadowlands region's traffic signals into a network of self-adaptive traffic signals to efficiently reduce roadway congestion, delay, travel time, fuel consumption, and airborne emissions. MASSTR is an intelligent transportation system that integrates adaptive traffic signal control software, vehicle detection, and wireless communication technology to optimize the operating efficiency of existing roadway infrastructure. The system will adjust the traffic signal timings based upon the real-time flow of traffic instead of utilizing fixed or actuated signal timing plans. Signals along multi-jurisdictional boundaries will be continuously coordinated for optimal operation, which allows for maximum roadway capacity while avoiding unnecessary roadway widening.

http://overview.MASSTR.com

Any questions may be directed to:
David Liebgold, P.E., P.P.
Chief of Transportation
New Jersey Meadowlands Commission
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- 103 Polito and Wall
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- 300 NJ 120 and Murray Hill
- 301 NJ 120 and NJSEA
- 302 NJ 120 and Gotham
- 303 NJ 120 and Hampton Inn
- 304 Washington and Veterans
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- 602 Park Plaza and Harmon Meadow

603 Park Plaza and Mill Creek

604 Mill Creek and Lighting

605 Paterson Plank and Plaza
Phase 1

606 Paterson Plank and Harmon Meadow
Phase 1

607 Paterson Plank and County
Phase 1a

608 Paterson Plank and Roosevelt
Phase 1a

609 Paterson Plank and Plaza
Phase 1a

610 Paterson Plank and Flanagan Way
Phase 1a

611 Paterson Plank and First
Phase 1a

612 Paterson Plank and Maple
Phase 1a

613 Paterson Plank and Huber
Phase 1a

614 Meadowlands and NJ 3 East
Phase 1

701 New County and Seaview Drive
Phase 1a

702 Seaview and North Road / South Rd
Phase 1a

703 County and Jefferson
Phase 1

704 County and Secaucus
Phase 1

705 County and UPS
Phase 1

706 County and Meadowview
Phase 1a

707 County and Dorigo
Phase 1a

708 Meadowlands and Seaview
Phase 1a

709 Meadowlands and American Way
Phase 1

710 Meadowlands and Panasonic Way
Phase 1

711 Meadowlands and Panasonic Dwy
Phase 1

712 Meadowlands and Harmon
Phase 1

713 American and Hartz
Phase 1

714 American and Enterprise
Phase 1

716 Secaucus and Entreprise

719 Secaucus and Old Secaucus
Phase 1a

720 Secaucus and Penhorn


Phase 1a


800 Newark and Bergen


801 Newark Jersey City and US Post Office


802 Newark Jersey City and Driveway


803 NJ 7 and Barszcewski
(Proposed Signal)


804 County and Post Office


805 County and 6th


806 Secaucus and 5th
Phase 1a


808 Bergen and Driveway


900 Schuyler and Harrison


901 Schuyler and Hamilton


902 Schuyler and Dukes/Woodland


903 Schuyler and Hoyt


904 Schuyler and Bergen


905 Schuyler and Quincy


906 Schuyler and Oakwood


907 Schuyler and Midland


908 NJ 7 and Schuyler


909 Schulyer and Park


910 Schuyler and Canterbury


911 Orient and Page
(Proposed Signal)


912 Orient and Marin
(Proposed Signal)


913 Orient and Valley Brook


914/915 Rutherford/Barrows & Orient


916/917 Rutherford/Barrows & Ridge


918/919 Rutherford/Marginal & Park


920 NJ 17 and Highland Cross


921 NJ 17 and Union


922 NJ 17 and Paterson Plank


923 NJ 17 and Moonachie


924 NJ 17 and Jughandle


925 NJ 17 and Franklin/Malcolm


926 NJ 17 and Williams


930 US 46 and Green

(Proposed Signal)

931 US 46 and Green
(Proposed Signal)

932 US 46 and Industrial

933 US 46 and Hulyer

934 US 46 and Phillips

935 US 46 and Liberty

936 US 46 and Grand

937 US 46 and Bergen

938 Bergen and Lakeview

939 US 46 and Ridgefield

940 US 46 and Laurel

950 US 1&9 (Broad) and US 46 (Columbia)

951 US 1&9 and NJ 5

952 US 1&9 and River

953 US 1&9 and Edgewater/Hendricks

954 US 1&9 and Marion

955 US 1&9 and Pleasant View

956 US 1&9 and Shaler

957 US 1&9 and Franklin

958 US 1&9 and Probst

959 US 1&9 and Fairview

960 US 1&9 and 91st

961 US 1&9 and 88th

962 US 1&9 and 85th

963 US 1&9 and 83rd

964 US 1&9 and 81st

965 US 1&9 and 79th

966 US 1&9 and 76th

967 US 1&9 and 74th

968 US 1&9 and 70th

969 US 1&9 and 69th

970 US 1&9 and 61st

971 US 1&9 and 51st

972 US 1&9 and Bergen/46th

973 US 1&9 and 43rd

- 974 US 1&9 and Paterson Plank
- 975 Union and Liberty
- 976 US 1&9 and NJ 3 Ramp
- 977 US 1&9 and Jughandle
- 978 US 1&9 and Secaucus
- 979 US 1&9 and County
- 980 US 1&9 and Manhattan
- 981 US 1&9 and Carlton
- 982 US 1&9 and Tonnelle
- 983 US 1&9 and Charlotte
- 984 US 1&9 and Newark
- 985 US 1&9 and Broadway
- 986 US 1&9 and Halleck


Garden State Pkwy
Interstate 80 Express
New Jersey Turpike
Englewood
Teaneck
Englewood Cliffs
Hackensack
Garfield
Lodi
Bogota
Clifton
Passaic
Hasbrouck Heights
South Hackensack
Leonia
Palisades Park
Fort Lee
Wallington
Little Ferry
Wood-Ridge
Carlstadt
Allwood
East Rutherford
Rutherford
Delawanna
Nutley
Meadowlands Sports Complex
Hackensack Meadowlands Conservation and Wildlife Area
Edgewater
Cliffside Park
Fairview
Lyndhurst
Belleville
Ridge Rd
James L Braddock North Hudson County Park
West New York
Union City
Manhattan
Broadway
Arlington
Richard w De Korte Park
North Broadway
Branch Brook Park
Kearny
Weehawken
Mt Pleasant
Lower Broadway
East Newark
Harrison
Hoboken
Midtown East
Newark
Pulaski Skyway
US-1 Truck
Jersey City
North Ironbound
West Side
Historic Downtown
SoHo
Bowery
New York
Hackensack
2 mi
2 km
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APPENDIX G

REDEVELOPMENT OF RADIO TOWER SITE ALTERNATIVES ANALYSIS – RETAIL FEASIBILITY OPINION

McMillanDoolittle LLP
THE RETAIL EXPERTS

American Dream Meadowlands Project

Redevelopment of the Radio Tower Site

Alternatives Analysis--Retail Feasibility Opinion

October 3, 2011

Background

In early 2011, an affiliate of Triple Five Development (Triple Five) entered into an agreement to purchase the main component (Entertainment/Retail Component (ERC)) of the Meadowlands Xanadu Redevelopment Project and have renamed the project “American Dream Meadowlands.” Triple Five intends to complete the ERC building, with minor modifications, and build a new “Entertainment Component” (EC) consisting of an integrated indoor Amusement Park and Water Park (AP/WP) facility immediately adjacent to and connecting to the ERC, similar to the entertainment format provided at Triple Five’s other destination facilities located in Bloomington, Minnesota (Mall of America) and Edmonton, Alberta, Canada (West Edmonton Mall). The Entertainment Component and associated perimeter road has a footprint of approximately nineteen (19) acres. It is proposed to be built on an adjacent property to the south of the ERC, known as the radio tower site. The radio tower transmission operation on this property was moved to another location. With the cessation of radio tower transmission activities and purchase of the property by Triple Five, redevelopment of the property is now feasible. Triple Five anticipates that the radio tower property will be transferred to the New Jersey Sports and Exposition Authority (NJSEA), incorporated into those lands comprising the Meadowlands Sports Complex, and leased to Triple Five.

Due to the presence of several regulated wetland features on portions of the radio tower property, EC is anticipated to impact a portion of regulated wetlands.

In connection with Triple Five’s due diligence, McMillanDoolittle LLP was hired to conduct a comprehensive assessment of I) the viability of the existing ERC without a major entertainment component and II) the location and size of the proposed EC. McMillanDoolittle LLP is a consultancy specializing in retail strategy and concept development. For over twenty five years, we have worked with retailers and shopping center developers on strategy and development issues. We have extensive experience on what makes a center successful and what elements are needed to attract both retailers and consumers to a location.

Methodology

Prior to writing this opinion, we conducted the following diligence steps:

- We have extensively studied the history of the project site and corresponding planning documents
- We have reviewed provided written documentation of the site, site plans and have spoken with American Dream management and its consultants
- We physically toured the site and we considered several alternatives options
- We have looked at competition in the immediate area. This includes both shopping centers and other entertainment options.
- Additionally, we have been involved in the redevelopment of the Amusement Park at Mall of America, conducted feasibility analyses for further growth at Mall of America and have worked on strategic planning assignments with several other large scale mixed-use regional centers. This experience helps us to understand what drives overall retail success at these types of projects.

Our focus is on what makes the most sense to ensure overall project success: what creates the biggest draw and drives the necessary synergy between the retail and entertainment components. The overall goal of American Dream Meadowlands is to create a world class tourist destination that will become a successful national and international draw while meeting the objectives of the NJSEA.

Alternatives Analysis

There are three main alternatives to be examined from a project standpoint:

1. **Can the project proceed without the new Entertainment Component (EC)?**

2. **Can the EC of the American Dreams Meadowland Project be successfully moved to another site?**

3. **Could the scale of the EC be reduced to the degree that it would not adversely impact, or have less impact, on the wetlands?**

In each alternative, we have been asked to examine whether there is a practicable alternative that would still allow for overall project success.

Key Criteria

We view the following elements as essential to the success of the project:

- **Synergy and convenient access to the retail component.** This is essential from both a consumer and business standpoint. For the consumer, convenient access to both the attractions and retail options are critical. The ability to park in one spot and then have access to a variety of options is critical to developing a world class destination attraction. Both Mall of America and West Edmonton work from a consumers' standpoint because of the entertainment attractions' close proximity to, and integration with, the retail component. Visitors can easily move from one attraction to another and find a variety of options to choose from that meet the needs of a range of ages and tastes. From a business standpoint, Amusement Park and Water Park attractions create customers but are not necessarily economical as stand-alone components. Those customers need to be directed into retail where the economics are more suitable. The most significant criteria for the Amusement and Water Park attraction are direct and convenient access to retail. Any alternative must offer this synergy.

- **The EC must serve as a destination draw to attract customers in a competitive market.** The EC must be significant enough in scale to draw national and International visitors against a competitive backdrop of New Jersey/New York metropolitan area attractions. To that degree, the entertainment components need to be of a significant enough scale to attract customers, offer alternatives to a broad variety of ages and interests, have the capacity to service such customers and be comprehensive enough to drive repeat visits. Mall of America and West Edmonton Mall both generate a significant amount of visitors and

revenues (in excess of 40%) outside the immediate trade area, proving their success in drawing from broad trade areas.

- **Alternatives must meet the criteria of creating a World Class Tourist Destination with enough synergies to be a national and International draw.** Triple Five has unique experience with creating destination tourist destinations that significantly out-perform and out-draw traditional shopping centers and even related mixed used developments. The unique combination of features (retail, dining, entertainment, etc) that go into a Triple Five facility must be replicated and surpassed (given the intensely competitive nature and demographics of the New York metro area market).

In addition to the need to offer consumers an attractive destination, alternatives must also be practicable to execute based on current plans and conditions. This includes their economic viability, access and visibility, etc.

Each alternative is viewed under these criteria.

Alternatives Analysis

Alternative 1: Can the project proceed without the EC?

The first alternative would be to not develop the Radio Tower Site, leaving the space as it currently exists.

This alternative would leave the overall project compromised, both economically for Triple Five and from the vision of the project as conceived by the New Jersey Sports and Entertainment Authority (NJSEA):

- **Overall Project Purpose.** In the mid 1990's, the NJSEA states that it undertook a process to expand the Meadowlands Sports Complex entertainment product mix, diversifying its offer through new business development, and increasing site utilization throughout the entire day.

  "The overall project purpose is to redevelop the Continental Airlines Arena site (allowing for the continued use of the arena building), as envisioned and authorized by the NJSEA and in conformance with the NJSEA's strategic planning objectives. The overall project involves construction of a mixed-use commercial Entertainment/Recreation Center development emphasizing sports, recreation and entertainment facilities, including a minor league baseball stadium, office buildings, a hotel, retail space, restaurants, required parking, and improvements to the transportation network at and near the Meadowlands Sports Complex."

- **World Class Tourist Destination.** The overall goal remains to create a world class tourist destination along the lines of Mall of America and West Edmonton Mall. Without the EC, it would not meet the spirit of similar Triple Five projects and would not be capable of being a viable overall economic and tourist draw. The existing planned entertainment attractions for the project do not have the projected drawing power of proven Amusement Park and Water Park attractions. Without the EC, the existing project is closer in nature to a regional shopping center and is not capable of fulfilling Triple Five's objective of creating a world class tourist destination or NJSEA's objective of emphasizing "sports, entertainment and recreational features".

- **Obtaining Critical Mass.** According to The Urban Land Institute's (ULI's) *Mixed-Use Development Handbook (*ULI), the components of a mixed use center "act as one to create a greater single destination, unlike enclosed shopping malls, strip malls, or single use destinations". ULI at page 84 explains that in order to be successful, a mixed use project must be of "sufficient size, diversity and impact such that it is no longer a collection of buildings, but rather a new product in itself". Without these added entertainment elements, the overall project will not have sufficient draw to

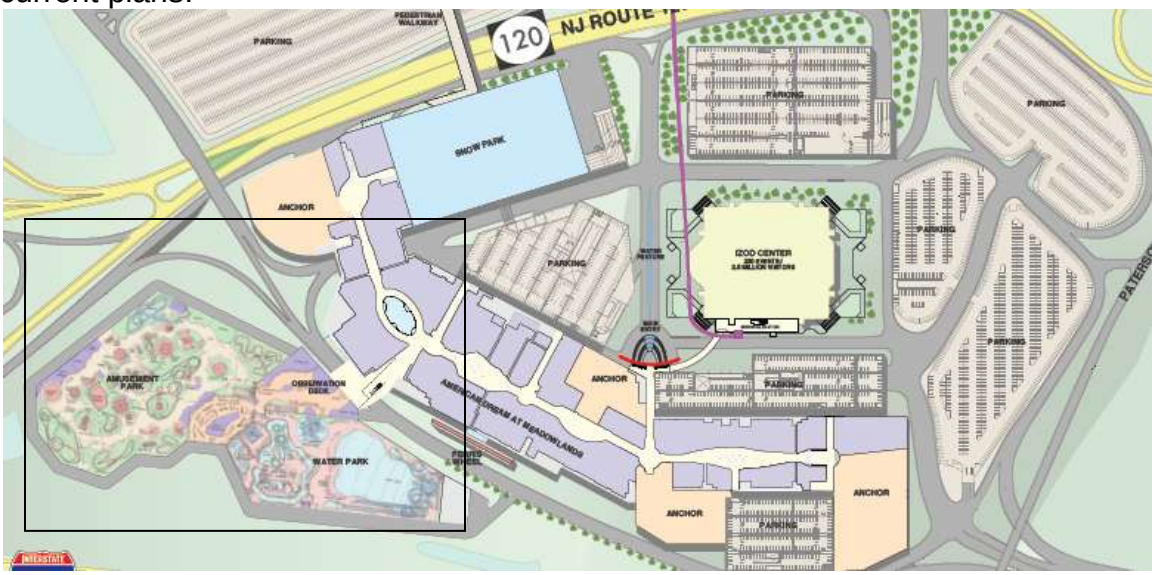
compete against extremely successful neighboring regional shopping centers in the area. In mixed use retail and entertainment developments, the notion of critical mass is vital in creating a substantial enough draw (the right retail, the right entertainment, the right dining) to lead to overall success. Each component builds upon one another to make the overall project a success.

Not building on the Radio Tower site does not allow for overall critical mass to elevate American Dream beyond being a regional shopping center facility and is, therefore, not a practicable alternative.

Alternative 2: Can EC of the American Dreams Meadowland Project be successfully moved to another site?

There are no feasible offsite alternative sites for the construction and operation of the EC component of the American Dream Meadowlands Project based on our study of the plans and physical site analysis.

Based upon our knowledge of prior successful projects, the most important criteria is for the Amusement Park and Water Park component to be located immediately adjacent to the existing complex (ERC), as illustrated below in the current plans.



The entertainment uses of the EC must be in close proximity (i.e., easy walking distance) of each other. By locating the Amusement Park and Water Park immediately adjacent to the ERC and connecting each component, patrons of the Amusement Park and Water Park are required to walk through the ERC, which creates the necessary interaction between the entertainment and retail uses of the project. This cross circulation of customers is essential to the project's overall success. Patrons need to be encouraged to circulate through retail for the following consumer and business reasons:

- It enhances the critical mass of the draw to create a world class tourist destination

- It provides more reasons to choose American Dream against competing attractions and malls that do not offer the same combined draw

- It provides necessary cross-traffic for both the entertainment and retail options, allowing customers to flow easily through both. This is particularly important for families, where everyone can find something of interest

- Entertainment provides a significant customer attraction that will provide the attendance necessary for the success of the retail component, which will allow the project to be financed and be ultimately successful.

Triple Five's experience at their other regional facilities clearly shows the importance to patrons and from a business perspective of the interactive nature of the entertainment and retail uses.

Alternative locations large enough to house the Amusement Park and Water Park are not practicable from both a business and consumer standpoint:

- The Urban Land Institute's (ULI's) *Mixed-Use Development Handbook (pages 5-8)* documents that mixed-use development, which co-locates entertainment, retail, office, hotel and sometimes residential uses, has become the predominant form of large scale development in modern America. ULI also documents the numerous reasons supporting this type of large-scale development, including: creation of synergies among multiple uses which produces an induced demand from other onsite uses; creation of a "sense of place" which makes the development a destination for consumers; sharing of infrastructure, such as parking and roads, which reduces project costs and land use impacts; greater financial stability due to diversification of income sources; and a clustering of uses which lead to a reduction of sprawl and promotion of smart growth.

  Any other alternative site would require customers to walk a significant distance to move from the existing complex to the EC, negating the necessary cross traffic synergies. Alternative sites would necessarily need to be situated remotely from the existing mall, and be physically removed from the center. Triple Five has considerable experience in operating these facilities and understands the necessity for synergy and convenience.

- Additionally, other potential locations with sufficient space are not in the control of Triple Five. Alternative locations for the Amusement Park and Water Park around the ERC are not feasible. (The land on the Arena Site located to the north of the eastern end of the ERC is not controlled by Triple Five. This land is limited for use as a hotel and office complex. The land on the Arena Site located to the north of the western end of the ERC is not controlled by Triple Five. This land is proposed for a minor league baseball facility. The land across Route 120 to the west of the ERC is used by the New Meadowlands Stadium Company for surface parking for their facility and is not immediately adjacent to the ERC. This land is also not controlled by Triple Five.)

Even if these off-site alternatives were available, re-zoned and re-permitted, they are not practicable from a business standpoint.

For this alternative, the only viable option from a consumer and business standpoint is the existing Radio Tower location.

Alternative 3: Could the scale of the EC - Amusement Park and Water Park be reduced to the degree that it would not adversely impact, or have less impact, on the aquatic ecosystem?

Triple Five has several regional facilities where the integration of an Amusement Park and Water Park has led to economically successful projects. The size of the water park features and variety and quantity of amusement rides are critical in creating an attractive facility that can succeed in attracting regional, national and international visitors (and repeat visitors) which is necessary for the project's viability.

The Amusement Park and Water Park must have a minimum size of around 20 acres of footprint to achieve the desired scale and diversity of attractions for the American Dream Meadowlands Project. The overall Project footprint comprises of the buildings for the parks and perimeter access roadway as follows:

Amusement Park Building - The minimum footprint of the amusement park is 318,000 square feet of indoor floor space. The amusement park typically includes a wide range of rides and attractions, with different zones for different themes/rides targeted at specific age groups (i.e., toddler, children and teenager). In addition to the indoor floor space of the amusement park, the building also provides for support areas including a food court, restrooms, ticketing booth, information kiosks, guest services, administrative offices and mechanical areas (approximately 50,000 square feet).

Water Park Building - The minimum footprint of the water park is 236,000 square feet indoor floor space. The water park typically includes a main wave pool, large river and water play areas. Similar to the amusement park, the water park also provides for different zones for different rides and age groups. In addition to the indoor floor space for the water park, the building also provides for support areas including a food court, restrooms, changing rooms, ticketing booth, information kiosks, guest services, administrative offices and mechanical areas (approximately 75,000 square feet).

Perimeter Access Corridor Around Buildings - The amusement park and water park buildings require a perimeter access corridor for the constructability and operation of the buildings. The perimeter corridor provides an area during construction of the building outside of the building footprint. After construction, the perimeter corridor provide an area for a road that allows access to the exterior of the buildings for maintenance, emergency access for fire trucks, and a place to direct patrons and

workers should evacuations of the buildings be required in an emergency situation. The perimeter access corridor also provides room for underground utilities, landscaping, grading and stormwater management. A perimeter corridor from the edge of the structure footprint outward to the property boundary was set at 60 feet. Considering that the structure has a perimeter of approximately 3,000 linear feet, the footprint of the perimeter corridor is around 180,000 square feet.

The size of the proposed parks at American Dreams Meadowlands is necessary for several reasons:

- **Operating History of the West Edmonton Water Park.** Triple Five has been operating a successful Water Park at West Edmonton for nearly two decades. The facility often has to turn people away due to demand during peak periods and there are limited areas for seating. The planned space at American Dreams Meadowland is necessary to provide additional space for needed amenities such as seating and cabanas to provide an ideal experience and to make sure that capacity is sufficient to meet demand. At the planned size, the American Dream Water Park would also be able to market itself as the largest indoor water park in North America (that distinction currently exists for West Edmonton), which would create a significant marketing advantage for the American Dream Meadowlands property.

- **The unique nature of an indoor amusement park.** The two parks operated by Triple Five are unique in being the only sizable indoor amusement parks in North America. This allows for year-round usage in seasonal areas. It also creates a marketable advantage against competing destination facilities (Six Flags, Disney, Hershey Park, etc.) that have considerably more space and attractions. In an amusement park, it is necessary to have rides that meet the needs of all ages and interests (thrill rides, kiddie rides, coasters, interactive themes, etc). The park must have enough variety to keep patron's interests and to encourage multiple visits. There must also be adequate amenities on site.

- **Managing Capacity to Create a Positive Experience.** It is also important for the Amusement Park and Water Park to have sufficient capacity for peak times and to keep line waits manageable. The Amusement Park and Water Park, as conceived, need to be at the planned size to compete effectively and offer a superior patron experience, which will enable repeat visits.

- **Significant Area Competition.** There are 41 amusement parks in the surrounding trade area (50 miles) and 27 water parks (see Exhibit 1). Against this backdrop, it is vital to have competitive facilities. The Amusement Park needs to have updated facilities, rides and attractions to

be a significant draw against competing amusement facilities that measure their space in acres, not square feet and have a variety of rides. As a point of comparison, the proposed footage of the parks will allow for approximately 25-30 rides in the Amusement Park feature and 11-12 water slide rides in the Water Park. Competitive area amusement parks have significantly more rides—Six Flags The Great Escape has 48 rides and Hershey Park has 68 rides (though these attractions are only open seasonally). The larger outdoor water parks in the area have 20 rides (Mountain Creek and Raging Waters) while American Dream would be larger any than indoor water park in the area (CoCo Key, Great Wolf Lodge)

Triple Five is able to build off of over two decades of experience in operating similar facilities. The present planned size is needed to make the project economically viable and a sufficient attraction.

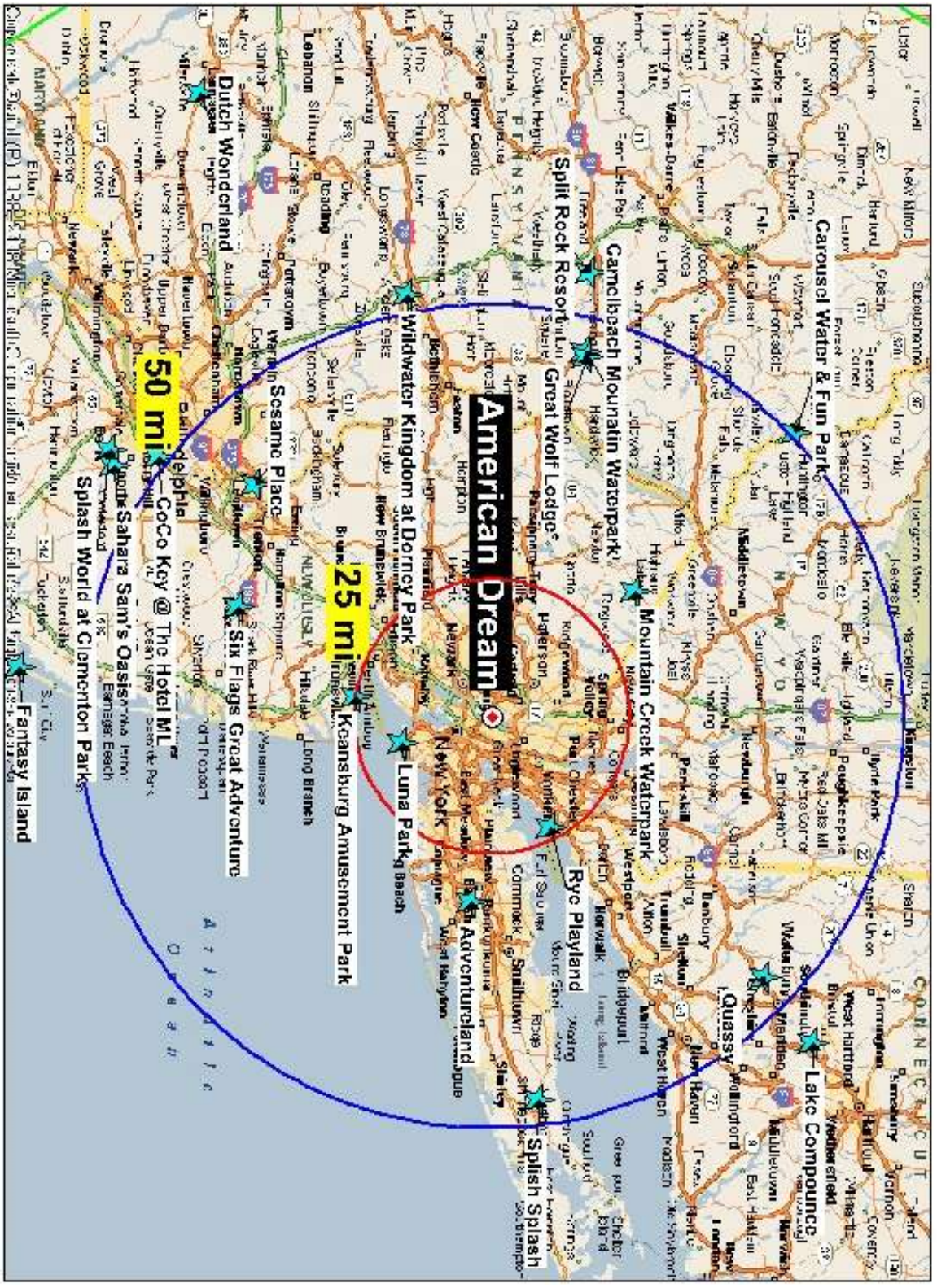
Operating these facilities in a smaller space to minimize the environmental impact is not practicable as they would not be able to offer enough attractions, variety and capacity to effectively compete. Failure of the ERC would negatively impact the entire project.

Summary

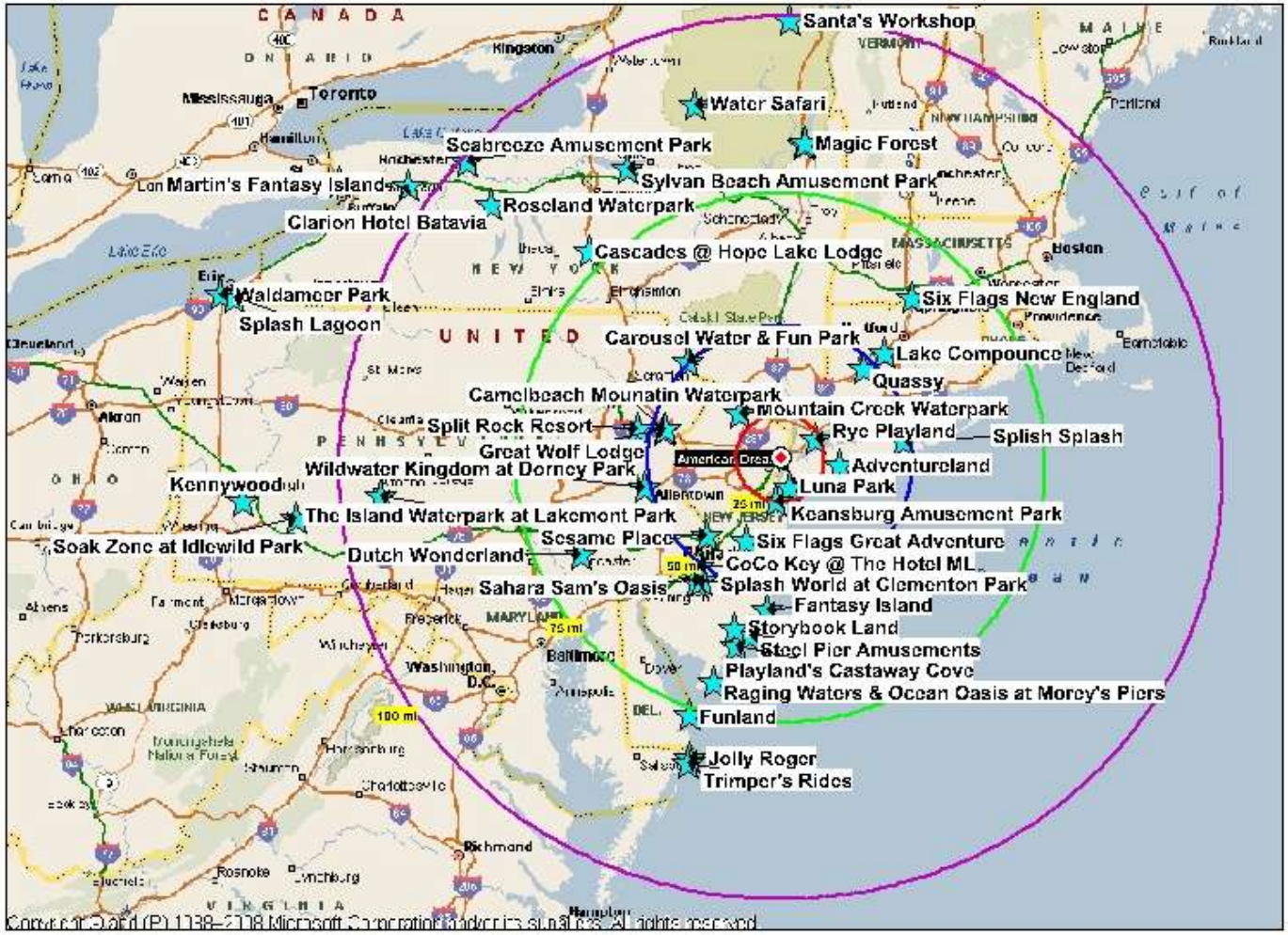
Building the EC - Amusement Park and Water Park as conceived is the only practicable solution to ensure the overall success of the American Dream project based on the retail success criteria of synergy, convenience and building a powerful overall draw. It cannot be moved to another site without compromising synergy and convenience. It cannot be physically smaller because it will lack drawing power. The building of the Amusement Park and Water Park is vital to overall success, as proven by similar projects developed by Triple Five.

Exhibit 1: Competitor Map

The following maps ad tables show local and regional competitors.


Local Theme Parks & Water Parks
American Dream
25 mi
50 mi
Carousel Water & Fun Park
Camelbeach Mountain Waterpark
Split Rock Resort
Great Wolf Lodge
Wildwater Kingdom at Dorney Park
Dutch Wonderland
Sesame Place
Six Flags Great Adventure
Kennywood
Kennywood
Kennywood

Regional Theme Parks & Water Parks



APPENDIX C

STORMWATER MANAGEMENT REPORT

Stormwater Management Report

AMUSEMENT PARK AND WATER PARK PROJECT
AMERICAN DREAM MEADOWLANDS
Block 107.02, Lot 3
Borough of East Rutherford
Bergen County, New Jersey

Submitted To:

New Jersey Department of Environmental Protection
Division of Land Use Regulation
501 East State Street
P.O. Box 420
Trenton, NJ 08625

Prepared For:

Metro Central, LLC
c/o Triple Five Development
60 East Broadway
Bloomington, MN 55425

Prepared By:

Langan Engineering & Environmental Services, Inc.
River Drive Center 1
Elmwood Park, NJ 07407
NJ Certificate of Authorization No.: 24GA27996400

12/29/11
Bryan M. Waisnor, P.E.
New Jersey License No. GEO4590400

29 December 2011
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ENGINEERING & ENVIRONMENTAL SERVICES

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1.0 INTRODUCTION

This report presents the stormwater management and conveyance system design for the American Dream Meadowlands Amusement Park and Water Park Project site. The subject site comprises 21.75 acres in East Rutherford, Bergen County, New Jersey. Refer to figures 1, 2, and 3 for the site location, vicinity map, and aerial photograph of the site respectively. The existing conditions and proposed stormwater improvements planned for the property, including how the project complies with the New Jersey Department of Environmental Protection (NJDEP) design criteria, are described below. The design is in accordance with the following:

- Standards for Soil Erosion and Sediment Control in New Jersey,
- NJDEP Stormwater Management Rules (N.J.A.C. 7:8); and,
- NJDEP New Jersey Stormwater Best Management Practices Manual.

1.1 Site Description

In early 2011, Triple Five Development (Triple Five) entered into an agreement to purchase the main component (Entertainment/Retail Component (ERC)) of the former Meadowlands Xanadu Redevelopment Project located at the Arena Site of the Meadowlands Sports Complex in East Rutherford, Bergen County, New Jersey. The Xanadu project has since been renamed "American Dream Meadowlands." Triple Five intends to complete the ERC building, with minor modifications, and build a new entertainment component consisting of an integrated indoor Amusement Park and Water Park facility immediately adjacent to and connecting to the ERC.

The portion of the American Dream Meadowlands property site that is proposed for the Amusement Park and Water Park Project (Project) is the subject of this NJDEP Stormwater Management Report. The Amusement and Water Park is proposed to be constructed on property located to the south of the Arena Site known as the "Radio Tower Site" (Figures 1, 2 and 3).

The approximate center point of the property is 40.806905° N, 74.070072° W. The

Radio Tower Site is located in the Hackensack Meadowlands District and is designated as Block 107.02, Lot 3 on the East Rutherford Tax Map (Figure 4). The property is bound to the north by the "East Peripheral Road," to the east by the New Jersey Turnpike, to the south by NJ State Route 3, and to the west by NJ State Route 120.

The property is presently developed with three, 500±foot high steel lattice radio transmission towers, access roads and radio transmission building (see Figure 3). The three radio towers are aligned in a southwest to northeast orientation near the central portion of the property. The transmission building, associated parking, and access driveways are found in the southern and western sections of the property. There are no other structures on the property.

1.2 Project Description

The radio towers are no longer operational and will be taken down. The operation of the towers was moved to a site in North Bergen. The radio tower transmission building will also be razed as part of the project. The existing roadways (South Connector Road and East Peripheral Road) on the Arena Site will be retained and will remain as main circulation roads for vehicles at the Meadowlands Sports Complex.

The site will be improved with a proposed indoor Amusement Park and Water Park facility contained within one structure of approximately 639,000 square feet gross buildable area (GBA). The structure will be comprised of a 554,000 sf, ground-floor building footprint, a 79,000 sf mezzanine area, and a 6,000 sf pedestrian bridge (partly offsite). Total onsite covered area will be approximately 577,000 sf. The Amusement Park and Water Park Project, including the perimeter access road around the building, wet pond, and grading will have a total onsite area of approximately 19 acres (refer to the Site plan -Drawing CS-101-0101).

A perimeter access road will be constructed around the building to allow for access to the exterior of the building for maintenance and fire/emergency purposes. This access road will connect to the East Peripheral Road through a new entrance/exit just north of

the Observation Wheel and at the loading dock area. The access road will also provide access to doors on the buildings that will allow unloading of new ride equipment for both parks.

1.3 Existing Drainage Characteristics

The American Dream Amusement Park and Water Park Property is flat, partially covered by wetlands, and partially located in the Hackensack River tidal floodplain (elevation 8.7). All elevations cited in this report are referenced to NGVD 29. Refer to figures 5 and 6 for the HUC-14 watershed and FEMA maps. During less intense storms, local flooding occurs because of flat areas and localized depressions, during extreme storms a significant portion of the site floods. In addition to stormwater generated from rainfall on the site, a portion of Route 120 and the American Dream Meadowlands Entertainment Retail Center (ERC) drains to the Radio Tower Site via two 36-inch culverts at the northwest corner of the site and via a 60-inch culvert near the northeast corner of the site.

Stormwater runoff from the western portion of the property, portions of Route 120, and the ERC ponds in ditches and low-lying areas of the site adjacent to Route 120 where it evaporates and/or infiltrates over time. There appears to be no direct surface water conveyance of this runoff.

Stormwater runoff from the eastern portion of the site is drained primarily via overland flow to onsite wetlands that drain to onsite tributaries to the Hackensack River. The tributaries are routed beneath the Turnpike via the 108-inch RCP and 96-inch corrugated metal pipe (CMP) which then discharge to the Hackensack River. The 108-inch pipe discharges to the Cedar Creek tributary, the 96-inch pipe drains to an unnamed tributary.

Under extreme storm events, ponded stormwater on the western portion of the site overflows onto the eastern portion of the site towards the 96-inch culvert. The 108-inch culvert and Cedar Creek was analyzed as part of the Meadowlands Xanadu Redevelopment project permitting and planning in 2004.

Several wetland areas are present on the site. In addition, tidal wetland areas are present within the New Jersey Turnpike right-of-way where offsite drainage improvements are proposed as part of the Amusement Park and Water Park Project. Portions of site become inundated during high-tide events. During low tides, the site drains and becomes relatively free of standing water except in low lying portions of the site. The spring high water elevation in the vicinity of the site is elevation 3.89. Refer to Figure 7 for the existing flow characteristics under the 100-year storm event during the 10-year tidal surge.

1.4 Proposed Drainage Characteristics

Overall drainage patterns on the site will not be changed with the development of the Amusement Park and Water Park project (refer to Grading and Drainage Plan – Drawing CG-101-0101). The entire site will continue to discharge into the existing tributaries and culverts under the Turnpike. A new conveyance system has been designed to convey flows that drain on the site, the roof run-off, and the flows that enter the system from off-site contributory areas to the culverts. Refer to Figure 8 for the proposed flow characteristics under the 100-year storm event during the 10-year tidal surge.

2.0 STORMWATER REQUIREMENTS, DESIGN APPROACH, AND METHODOLOGY

The project meets the definition of "major development" per the NJDEP Stormwater Management Rules (disturbing more than 1 acre and adding ¼ acre of impervious) so the following items under the NJAC 7:8 are required to be addressed: Stormwater Runoff Quantity, Stormwater Runoff Water Quality, Stormwater Runoff Conveyance, Groundwater Recharge, and Low Impact Development. Below is a summary of the regulatory stormwater requirements and the methodologies of the major design elements for the proposed stormwater management system and description of how the required items are addressed.

2.1 Stormwater Runoff Quantity

The project will result in an increase in impervious area associated with the proposed buildings and will increase the stormwater flows (primarily comprised of clean roof runoff) from the site. However, water quantity control is not required because the site drains to the Hackensack River which is a tidal water body with a tidal floodplain (NJAC 7:8-5.4(a)3.iv). A downstream quantity analysis is only required if there is an increase in the volume of stormwater runoff that could increase flood damages below the point of discharge (i.e., downstream). Based on a pre-application meeting with the NJDEP, a downstream analysis of the channels downstream of the Turnpike is not warranted as there are no buildings or developed properties downstream that might be impacted by increased flooding.

Although stormwater quantity measures are not required to control peak rates, a water quantity analysis was performed to confirm the impact of the proposed improvements on the stormwater flows to the 96-inch and 108-inch culverts will be minimal. The water quantity analysis was performed for the 10-, 50-, and 100-yr storm during a 10-yr tidal surge with a combined tailwater elevation of 6.6 under post-development conditions. Refer to Appendix A for the existing and proposed stormwater quantity analysis calculations.

In addition to the tidal floodplain of the Hackensack River, the unnamed tributary to the Hackensack River on the site has a contributory drainage area greater than 50 acres, and as such, pursuant to the Flood Hazard Area Control Act Rules (N.J.A.C. 7:13), has its own regulatory fluvial flood hazard area associated with it. A flood analysis confirms that the flooding conditions on-site are controlled by the tidal events and not by fluvial events. Refer to the Figures 9 and 10 for the Flood Study Plans of existing and proposed conditions and to the Flood Study Engineering Report (under separate cover) for the details and results of the analysis.

This report was prepared using the SCS Method as contained in the USDA Soil Conservation Service Publication TR-55 "Urban Hydrology for Small Watersheds". TR-

55 outlines procedures for calculating peak rates of runoff resulting from precipitation events and procedures for developing runoff hydrographs. The TR-55 procedure simulates a watershed using the drainage area, curve number (CN), and time of concentration (Tc) for each watershed.

The curve number is a land sensitive coefficient that dictates the relationship between total rainfall depth and direct storm runoff. Based on the coverage of soil groups and land use in the area, CN values were determined for each watershed for the existing and proposed conditions. Separate hydrographs were prepared for pervious and impervious areas, and then were combined by hydrograph addition.

Using the NRCS Soil Survey for Bergen County, New Jersey, the soils within the watershed were divided into hydrologic soil groups (A, B, C and D). The SCS classification system evaluates the runoff potential of a soil according to its infiltration and transmission rates. "A" soils have the lowest runoff potential and "D" soils have the greatest runoff potential.

The time of concentration is defined as the time for runoff to travel from the hydraulically most distant point of the watershed to a point of interest. Values of the time of concentration were determined for existing and proposed conditions based on land cover and slope of the flow path using methods described in TR-55. The design storm used for the TR-55 study is the 24-hour SCS Type III cumulative rainfall distribution. Rainfall data was based on NJ 24-hour rainfall frequency data. Natural Resource Conservation Service's (NRCS) September 2004 revised New Jersey 24-hour rainfall data. Refer to Appendix C for the Tc and NRCS information.

2.2 Stormwater Runoff Water Quality

NJAC 7:8-5.5 requires that stormwater management measures shall be designed to reduce the post-construction load of total suspended solids (TSS) in stormwater runoff generated from the water quality design storm by 80 percent of the anticipated load from the developed site, expressed as an annual average.

Water Quality treatment for the project will be in compliance with NJAC 7:8-5.5 and will meet the 80-percent total suspended solid (TSS) removal requirements. The majority of the site's stormwater runoff including the critical "first flush" will be roof runoff, which is considered clean by NJDEP Stormwater Management Rules. A wet pond and manufactured treatment device will treat the stormwater runoff from the perimeter road for water quality as required in NJAC 7:8. Refer to Appendix D for the water quality calculations.

2.3 Stormwater Conveyance

NJDEP defers to the local authority for conveyance system design. The New Jersey Meadowlands Commission requires all stormwater collection and conveyance systems shall be designed to convey the peak runoff rates resulting from a 25-year frequency storm. The conveyance system is sized for the 25-year storm in accordance with New Jersey Meadowlands Commission requirements and designed to meet NJDEP 7:8.

Overall drainage patterns on the site will not be changed. The entire site will continue to discharge into the unnamed tributary and the culverts under the Turnpike. A new conveyance system has been designed to convey flows that drain on the site, the roof runoff, and the flows that enter the system from off-site contributory areas to the culverts. Refer to the Grading and Drainage Plan (Drawing CG-101-0101), which shows the proposed conveyance system.

The existing and proposed stormwater conveyance systems for this study were analyzed / designed using the Rational Method. Storm drainage pipes were sized using Manning's Equation and the hydraulic grade line was verified using Hydraflow Storm Sewers 2003 program. A 25-year design storm and intensity duration frequency (IDF) curves for East Rutherford, New Jersey was used to size the proposed pipe network. A runoff coefficient of 0.95 was assigned to paved and impervious areas and a coefficient of 0.30 was assigned to grassed and pervious areas. A minimum time of concentration of 6 minutes was used for the inlets and roof drains.

A mean high water elevation of 6.6 ft was used as a tailwater condition. This tailwater is for the 10-year tidal storm event. Appendix B contains the calculations for the conveyance sizing. Figure 11 shows the proposed catchment areas and calculations for the catchbasins.

2.4 Groundwater Recharge

NJAC 7:8-5.4 requires that the design engineer shall demonstrate through hydrologic and hydraulic analysis that the site and its stormwater management measures either: (1) maintain 100 percent of the site's average annual pre-developed groundwater recharge volume after development, or (2) infiltrate 100 percent of the difference between the site's pre- and post-development 2-year runoff volume. Computation of the average annual groundwater recharge under pre- and post-development conditions is performed using the New Jersey Groundwater Recharge Spreadsheet (NJGRS).

The New Jersey Groundwater Recharge Spreadsheet (NJGRS) was completed and the results of the computations are that no groundwater recharge is required due to the poor soils underlying the site; therefore the site meets the NJAC groundwater recharge requirements. A copy of the completed NJGRS spreadsheet can be found in Appendix E.

2.5 Low Impact Development

NJAC 7:8-5.2(a) requires that the design of any major development must incorporate nonstructural stormwater management strategies" to the maximum extent practicable." The New Jersey Nonstructural Stormwater Management Strategies point system (NSPS) Microsoft Excel based spreadsheet is used to calculate if sufficient nonstructural measures have been incorporated into the design.

The New Jersey Nonstructural Stormwater Management Strategies point system (NSPS) Microsoft Excel based computer spread sheet was completed for low impact

development. Based on the results of the spreadsheet, the ratio of proposed to existing site points is 60% compared to the required ratio of 80%. Appendix E contains the NSPS spreadsheet and low impact calculations.

Stormwater runoff quantity standards are not required for this site. Therefore, if credit can be taken for meeting the stormwater management standard for runoff quantity with only nonstructural strategies (because none are required or proposed) then the site meets the point ratio required with 87%, compared to the required ratio of 80%.

Although the site does not meet the required points, the development does incorporate nonstructural stormwater management strategies to the greatest extent practicable. Below is a summary of the low impact techniques used. In addition to the techniques listed below, a Low Impact Development Checklist has been completed and is also found in Appendix E.

Groundwater recharge is not required for this site because the existing soils are so poor. We therefore meet the groundwater recharge standards with entirely nonstructural strategies because 100% of the pre-developed recharge rate would be maintained by default. The Groundwater Recharge Calculations worksheet has been completed and is found in Appendix F.

There are 4 major categories in low-impact development that need to be addressed to meet the low impact development objectives applicable to this project. The following addresses how the redevelopment of the site incorporates techniques in each major category.

Vegetation and Landscaping

1. *Preservation of Natural Areas* – Although wetlands disturbance is necessary in order to implement proposed development, the proposed plan minimizes the wetlands disturbance as much as practicable by providing a layout which limits disturbance to only what is required to build the building and perimeter road.
2. *Use Native Ground Cover* – Native plants have been chosen and used throughout

the site.

3. *Vegetative filters and buffers* – Stormwater is routed through a vegetated channel above a wet pond which flows over preserved existing vegetated areas (wetlands) prior to discharging to the unnamed tributary to Hackensack River.

Minimizing Land Disturbance

1. Storm flow is not concentrated until the discharge point. Grading is minimized through the use of steep slopes and gabion walls. Disturbance is limited to only that which is required for construction. The placement of the building allows for the use of vehicular parking available for the ERC. Therefore, the Amusement Park and Water Park Project does not provide for any patron parking areas on the site. This sharing of parking resources reduces the land mass required for the Amusement Park and Water Park Project compared to locating the parks on their own site. This reduced footprint avoids potential environmental impacts and further disturbance.

Impervious Area Management

1. *Use minimum pavement widths* – All parking, loading, sidewalks, and driveways have been designed to minimal widths required for safe and proper vehicle/pedestrian movement.
2. *Landscape medians and islands* – No medians or islands are provided.
3. *Disconnect impervious areas* – Clean runoff from the roof is kept separate from the pavement runoff. Pavement runoff is distributed to various outfalls throughout the site prior to being treated and discharged rather than treating it all at one downstream point.

Time of Concentration Modification

1. *Use native plants* – Native plants are proposed throughout the landscaped areas of the site to increase the surface roughness.
2. *Reduce slopes* – Slopes are kept to a minimum throughout the site wherever practical and where they don't require additional disturbance of existing natural areas.
3. *Use vegetated channels and swales* – Stormwater is routed through a vegetated

channel above a wet pond which flows over preserved existing vegetated areas prior to discharging to the unnamed tributary to the Hackensack River.

3.0 Site Hydrology Analysis

3.1 Existing Watersheds

The site is relatively flat and partially covered by wetlands, the majority of which are located in the Hackensack River tidal floodplain (elevation 8.7). In addition to stormwater generated from rainfall on the site, a portion of Route 120 and the American Dream Meadowlands Entertainment Retail Center (ERC) drains to the Radio Tower Property via two 36-inch culverts at the northwest corner of the site and via a 60-inch culvert near the southeast corner of the site. The site stormwater runoff and off-site flow is split between two main watersheds onsite. Refer to the Existing Watershed Map figure. The watersheds eventually discharge to two existing culverts (a 96-inch culvert and a 108-inch culvert) that run under the New Jersey Turnpike and allow stormwater to flow to the Hackensack River.

Watershed 1

Stormwater runoff from the western portion of the site, portions of Route 120, and portions of the ERC ponds in ditches and low-lying areas of the site adjacent to Route 120 where it evaporates and/or infiltrates over time. There appears to be no surface water conveyance of this runoff except in extreme storm events (Refer to Watersheds EX-1B, EX-1C, and EX-1D on Figure 7-Existing Watershed Map). In extreme storm events this watershed discharges to Existing Watershed EX-1A, which discharges to an existing 96-inch culvert.

The existing 96-inch culvert, which drains the majority of the site (see Watershed EX-1D on the Existing Watershed Map), is silted up with approximately six feet of sediment, which has significantly reduced the current capacity of the pipe.

Watershed 2

The existing 108-inch culvert, which was cleaned out and partially rebuilt in 2006 as part of the previously approved and constructed ERC project, drains the northeastern portion of the site (see Watershed EX-2 on the Existing Watershed Map), and also accepts stormwater discharge from the ERC facility directly via 60-inch pipes.

The following table shows the breakdown of the existing drainage areas shown on the watershed map.

Table A: Existing Drainage Areas

Drainage Areas*	Total Area (Ac.)	Pervious (Ac.)	Impervious (Ac.)	Composite CN*
EX-1A (to 96-inch)	19.5	18.1	1.4	89
EX-1B (to EX-1A)	7.1	7.0	0.1	88
EX-1C (to EX-1A)	2.1	2.1	0	88
EX-1D (to EX-1B)	0.9	0.9	0	88
EX-2 (to 108-inch)	9.2	9.2	0	88

*Drainage Area discharge location and CN values for this analysis reflect a 10-yr tidal storm surge event

3.2 Proposed Watersheds

The site stormwater runoff and off-site flow continues to be split between two main watersheds onsite and discharge to the two existing culverts (a 96-inch culvert and a 108-inch culvert) that run under the New Jersey Turnpike. The proposed development will impact the boundary of the existing overall watersheds on the site. Two proposed watersheds were delineated and are shown on Figure 8-Proposed Watershed Area Map. The watersheds were delineated based on the proposed development and the proposed grading.

Watershed 1

Stormwater runoff from the western portion of the site, including the western portion of the perimeter road, portions of Route 120, and portions of the ERC ponds, will discharge to a proposed wet pond and vegetated channel (Refer to Grading and Drainage plan CG-101-0101). The stormwater then discharges to Proposed Watershed

PR-1B, which discharges to an unnamed tributary that drains to the existing 96-inch culvert and eventually to the Hackensack River.

Watershed PR-1A consists of the roof runoff and the eastern part of the perimeter road. The rooftop runoff discharges to a scour hole/wet pond in Watershed PR-1B prior to discharging to the unnamed tributary and existing 96-inch culvert. The eastern part of the perimeter road is treated by a manufactured water quality device prior to being discharged into the rooftop runoff conveyance system for Watershed PR-1A.

The existing 96-inch culvert will be cleaned of silt to restore it to its designed capacity.

Watershed 2

The existing 108-inch culvert, which was cleaned out and partially rebuilt in 2006 as part of the previously approved and constructed ERC project, continues to drain the northeastern portion of the site and stormwater discharge from the ERC facility (see Watershed PR-2 on Figure 8-Proposed Watershed Map). The proposed site layout decreases the area that drains to the 108-inch culvert by approximately 3 acres. No developed portions of the site will drain to the 108-inch culvert.

The following table shows the breakdown of the existing drainage areas shown on the watershed map.

Table B: Proposed Drainage Areas

Drainage Areas*	Total Area (Ac.)	Pervious (Ac.)	Impervious (Ac.)	Composite CN*
PR-1A (to PR-1B)	15.0	0.62	14.38	97
PR-1B (to 96-inch)	11.9	5.75	6.15	93
PR-1C (to PR-1B)	2.7	1.23	1.47	93
PR-2 (to 108-inch)	6.2	6.2	0	88

*Drainage Area discharge location and CN values for this analysis reflect a 10-yr tidal storm surge event

The following tables show the summary of the drainage areas that drain to the 96- and 108-inch culverts.

Table C: Summary of Drainage Area to 96-inch Culvert

	Existing Drainage Area	Proposed Drainage Area	Net Change in Drainage Area	Water Quality Notes:
Pervious Area	25.0 Acres	12.4 Acres	-12.6 Acres	Proposed pervious areas sheet drain towards 96-inch culvert
Impervious Pavement Area	1.5 Acres	3.8 Acres	2.3 Acres	Proposed impervious areas to be treated for TSS removal prior to discharge towards 96-inch culvert
Roofed Area	0.1 Acres	13.2 Acres	13.3 Acres	Proposed roof areas to be directly discharged towards 96-inch culvert
Total Drainage Area	26.6 Acres	29.6 Acres	3.0 Acres	

Table D: Summary of Drainage Area to 108-inch Culvert

	Existing Drainage Area	Proposed Drainage Area	Net Change in Drainage Area	Water Quality Notes:
Pervious Area	9.2 Acres	6.2 Acres	-3.0 Acres	Proposed pervious areas sheet drain towards 108-inch culvert
Impervious Pavement Area	0.0 Acres	0.0 Acres	0.0 Acres	
Roofed Area	0.0 Acres	0.0 Acres	0.0 Acres	
Total Drainage Area	9.2 Acres	6.2 Acres	-3.0 Acres	

3.3 Peak Flow

Although stormwater quantity measures are not required to control peak rates, a water quality analysis was performed to confirm that the impact of the proposed improvements on the stormwater flows to the 96-inch and 108-inch culverts will be acceptable. A water quantity analysis for the 10-, 50-, and 100-yr storm during a 10-yr

tidal surge with a combined tailwater elevation of 6.6 under post-development conditions was performed.

Two control points were identified. These points and the delineation of the Pre- and Post-Peak discharge watersheds are depicted in the Existing and Proposed Watershed Area Maps (Figures 7 and 8). The pre- and post-construction peak runoff rates were computed analyzing the area delineated by the limit of disturbance within the existing and proposed overall drainage watersheds respectively. Refer to Appendix A for the existing and proposed runoff hydrographs and calculations.

The 96-inch culvert, which is currently filled with sediment, has the capacity to handle the runoff from the site when it is cleaned out (See Table E). The Turnpike roadway is considerably higher in elevation at the 96-inch culvert than it is at the 108-inch culvert, so the Turnpike Authority's one-foot freeboard requirement will also be met. For the purposes of this analysis, it was assumed that the maximum allowable headwater at the 96-inch culvert will be the low point of the natural berm (elevation 8.9) which splits flow between the 96-inch culvert watershed (see Watersheds PR-1A to PR-1D on the Proposed Watershed Map) and the 108-inch culvert watershed (see Watershed PR-2 on the Proposed Watershed Map).

Based on the water quantity analysis for the water flowing to the 108-inch culvert, there will be a negligible (0.02 foot) increase in the backwater peak elevation on the upstream (site) side of the culvert for the 100-yr storm (see Table F). This peak elevation (7.4) is approximately 1.7 feet lower than the lowest elevation of the adjacent Turnpike roadway, which satisfies the Turnpike Authority's requirement to maintain at least one foot of freeboard between their roadway and peak backwater elevation for the 100-yr storm event.

During the FEMA peak 100-yr tidal storm surge event (elevation 8.7); the peak water surface on either side of the culvert is determined by the Hackensack River and not by runoff from the project site.

The results of the routings and associated water surface elevation for the various design storms are summarized in the following table.

Table E: Summary of Discharge to the 96-inch Culvert

24-hour SCS Type III Storm Event	Existing Conditions (With Approved ERC)			Proposed Conditions (With ERC and AW/WP)			
	Peak Flow (cfs)	Percent of culvert capacity at max allowable headwater	Max. Water Surface Elev.	Peak Flow (cfs)	Percent of culvert capacity at max allowable headwater	Max. Water Surface Elev.	Increase (inches)
10 Year	104	25%	6.75	143	35%	6.88	0.13
50 Year	150	37%	6.91	195	48%	7.12	0.21
100 Year	172	42%	7.00	218	53%	7.25	0.25

Table F: Summary of Discharge to the 108-inch Culvert

24-hour SCS Type III Storm Event	Existing Conditions (With Approved ERC)			Proposed Conditions (With ERC and AW/WP)			
	Peak Flow (cfs)	Percent of culvert capacity at max allowable headwater	Max. Water Surface Elev.	Peak Flow (cfs)	Percent of culvert capacity at max allowable headwater	Max. Water Surface Elev.	Increase (feet)
10 Year	197	51%	6.93	198	51 %	6.94	0.01
50 Year	270	69%	7.22	274	70 %	7.24	0.02
100 Year	304	78%	7.39	308	79 %	7.41	0.02

Notes:

1. The tailwater condition used for this analysis was a 10-year tidal storm surge event in the Hackensack River equal to elevation 6.6.
2. The lowest elevation of the New Jersey Turnpike adjacent to the natural basin immediately upstream of the 108-inch culvert is el. 9.1.
3. The lowest elevation of the New Jersey Turnpike adjacent to the natural basin upstream of the 96-inch culvert is approximately el. 20.
4. The maximum allowable headwater elevation adjacent to the New Jersey Turnpike is el 8.1 near the 108-inch pipe.
5. The lowest elevation which separates the overland flow between the 96-inch and 108-inch pipes is el.8.9.
6. The maximum 108-inch culvert capacity given a headwater elevation of 8.1 is approximately 390 cfs based on a submerged outlet and Mannings Eqn.
7. The maximum 96-inch culvert capacity given a headwater elevation of 8.9 is approximately 410 cfs based on a submerged outlet and the Mannings Eqn.
8. This analysis is based on the current (2004) NJ 24-hour rainfall data.

A hydrologic analysis was also performed to determine the impact of the proposed improvements on the tailwater developed at the upstream stormwater outfalls which convey offsite flow through the site to the 96-inch and 108-inch culverts. The tailwater affects will be minimal. A water quantity analysis for the 100-yr storm during a 10-yr tidal surge with a combined tailwater elevation of 6.6 under pre- and post-development conditions was performed. The analysis indicates there will be a negligible 0.04 (0.48 inch) foot increase in the backwater peak elevation (7.47 ft to 7.51 ft) for the 100-yr storm on the upstream (ERC) side of the site at the existing 36-inch pipes, which is below the 0.2 foot (2.40 inch) increase allowed. Refer to Appendix A for the existing and proposed runoff hydrographs and calculations.

4.0 WATER QUALITY

4.1 Proposed Water Quality Treatment

Water quality treatment for the project will be in compliance with NJAC 7:8-5.5 and will meet the 80-percent total suspended solid (TSS) removal requirements. The majority of the site's stormwater runoff including the critical "first flush" will be roof runoff, which is considered clean by NJDEP Stormwater Management Rules. We propose discharging captured roof water directly to the adjacent land areas/drainage features upstream of the 96-inch culvert.

The runoff from the project's other impervious surfaces will be treated prior to discharge to the natural drainage features to meet the applicable TSS removal rate. The southwestern portion of the project's impervious area (approximately 2.4 acres) will be discharged to a proposed wet pond to be constructed with a vegetated side slopes for water quality treatment (see Grading and Drainage Detail Drawing CG-301-0101 for a typical cross section). The wet pond will discharge to the preserved existing natural drainage features at the southeast corner of the site before finally flowing to the Hackensack River via the existing 96-inch culvert. The wet pond with vegetated open channel will have a permanent pool maintained by groundwater. The pond has been designed in accordance with the NJDEP New Jersey Stormwater Best Management

Practices Manual and will achieve 80% TSS removal.

A NJDEP-approved manufactured water-quality device (Imbrium Jellyfish) will be installed and will treat the remaining impervious areas on the northeastern portion of the project site (approximately 1.4 acres).

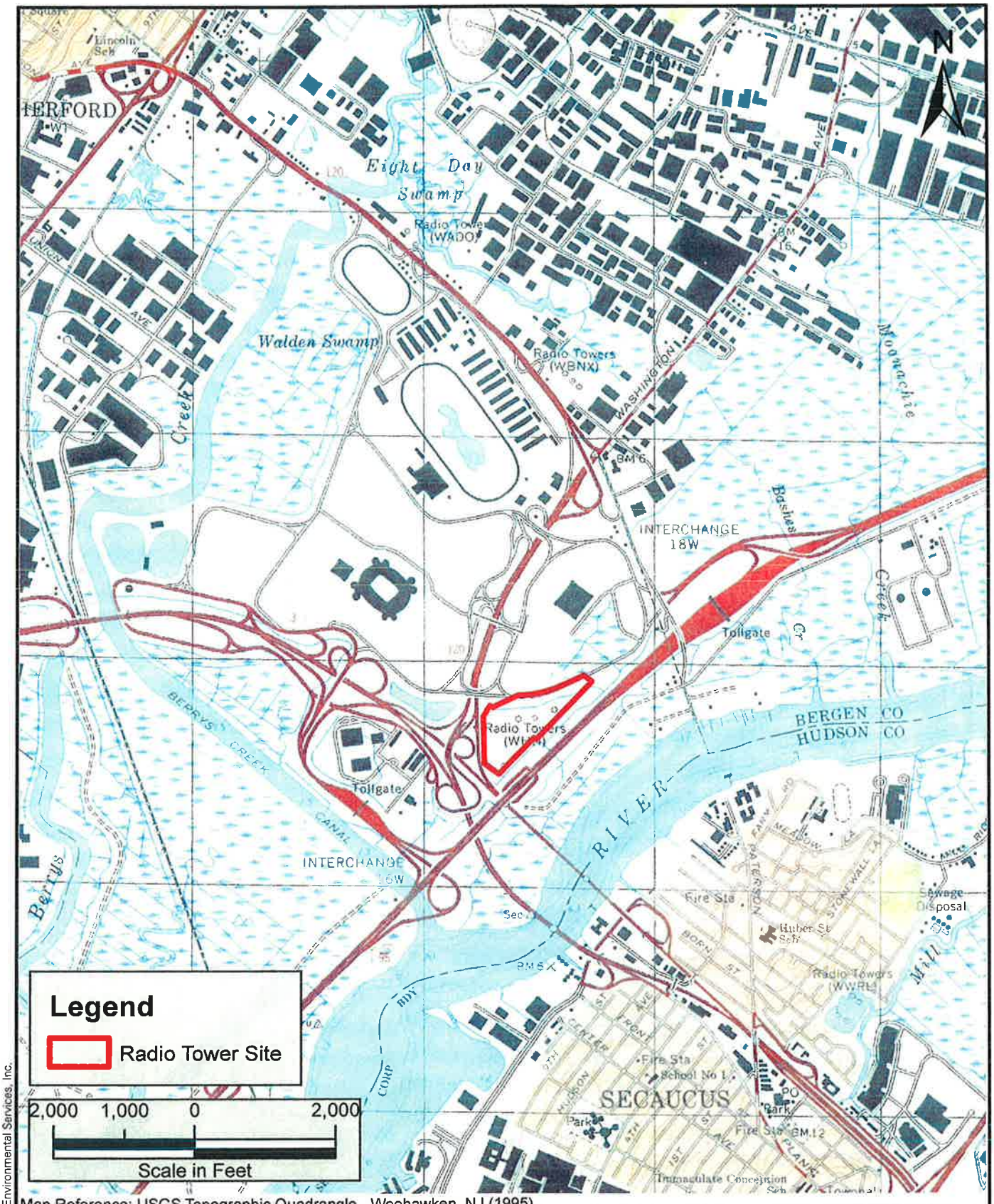
Refer to Appendix D for water quality and wet pond design calculations and to Figure 11 for the proposed catchment area plan including water quality drainage areas.

5.0 CONCLUSION

The results of this study indicate that the proposed stormwater management system for the American Dream Meadowlands Amusement Park and Water Park Project will comply with applicable stormwater regulatory requirements. The design is in accordance with the following:

- NJDEP Stormwater Management Rules (N.J.A.C. 7:8); and,
- NJDEP New Jersey Stormwater Best Management Practices Manual.
- The New Jersey Meadowlands Commission, code section 19:4-8.6(a)4.

A flooding analysis confirms that the flooding conditions on-site are controlled by the tide and not by fluvial events. Groundwater recharge is not required. Non-structural measures for low impact development are provided as much as practicable. Stormwater quality, quantity, and conveyance are designed per NJDEP.



Map Reference: USGS Topographic Quadrangle - Weehawken, NJ (1995)

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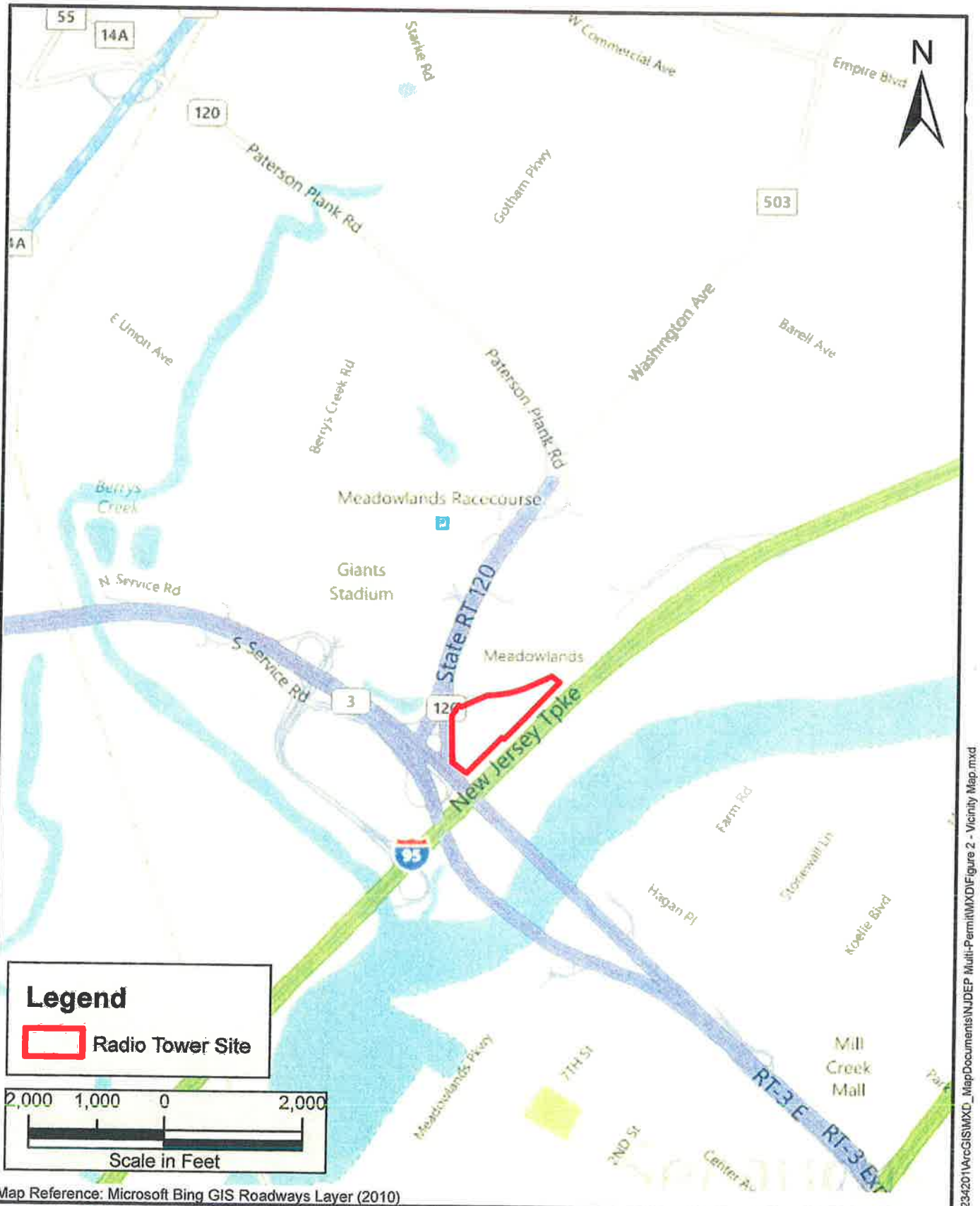
USGS SITE LOCATION MAP

AMUSEMENT PARK AND WATER PARK
AMERICAN DREAM MEADOWLANDS
BLOCK 107.02, LOT 3

EAST RUTHERFORD NEW JERSEY

Project No.	Date	Scale	Figure No.
100234201	11/03/11	1"= 2000'	1

\\langan.com\data\EP\data2\100234201\ArcGIS\MXD_MapDocuments\NJDEP Multi-Permit\MXD\Figure 1 - Site Location Map.mxd



Map Reference: Microsoft Bing GIS Roadways Layer (2010)

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VICINITY MAP

AMUSEMENT PARK AND WATER PARK
AMERICAN DREAM MEADOWLANDS
BLOCK 107.02, LOT 3

EAST RUTHERFORD NEW JERSEY

Project No.	Date	Scale	Figure No.
100234201	11/03/11	1"= 2000'	2

\\langan.com\data\F...\a2110023420\1\ArcGIS\MXD_MapDocuments\NJDEP Multi-Permit\MXD\Figure 2 - Vicinity Map.mxd



Map Reference: Promaps Inc., Moorestown, NJ - Flyover Aerial Photography (6-2011)

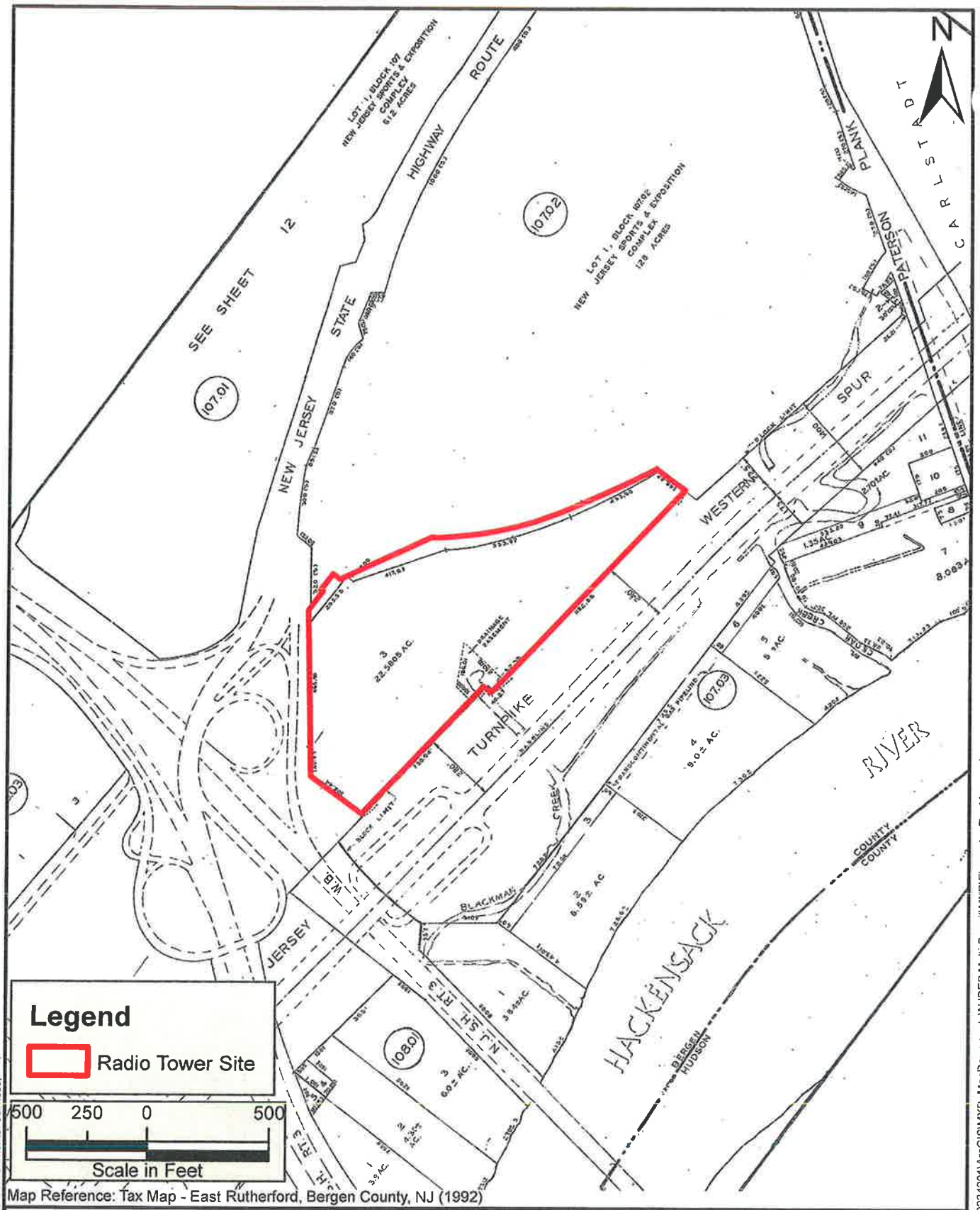
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AERIAL PHOTOGRAPH
AMUSEMENT PARK AND WATER PARK
AMERICAN DREAM MEADOWLANDS
BLOCK 107.02, LOT 3

EAST RUTHERFORD NEW JERSEY

Project No.	Date	Scale	Figure No.
100234201	11/03/11	1"= 500'	3

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Map Reference: Tax Map - East Rutherford, Bergen County, NJ (1992)

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TAX MAP

AMUSEMENT PARK AND WATER PARK
AMERICAN DREAM MEADOWLANDS
BLOCK 107.02, LOT 3

EAST RUTHERFORD NEW JERSEY

Project No.	Date	Scale	Figure No.
100234201	11/03/11	1"= 500'	4

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\\langan.com\data\...\21\100234201\ArcGIS\MXD_MapDocuments\NJDEP Multi-Permit\MXD\Figure 4 - Tax Map.mxd



Map Reference: Promaps Inc., Moorestown, NJ - Flyover Aerial Photography (6-2011); NJDEP Surface Water Quality Standards GIS Data (2011); NJDEP HUC-14 Watershed Boundaries (2010)

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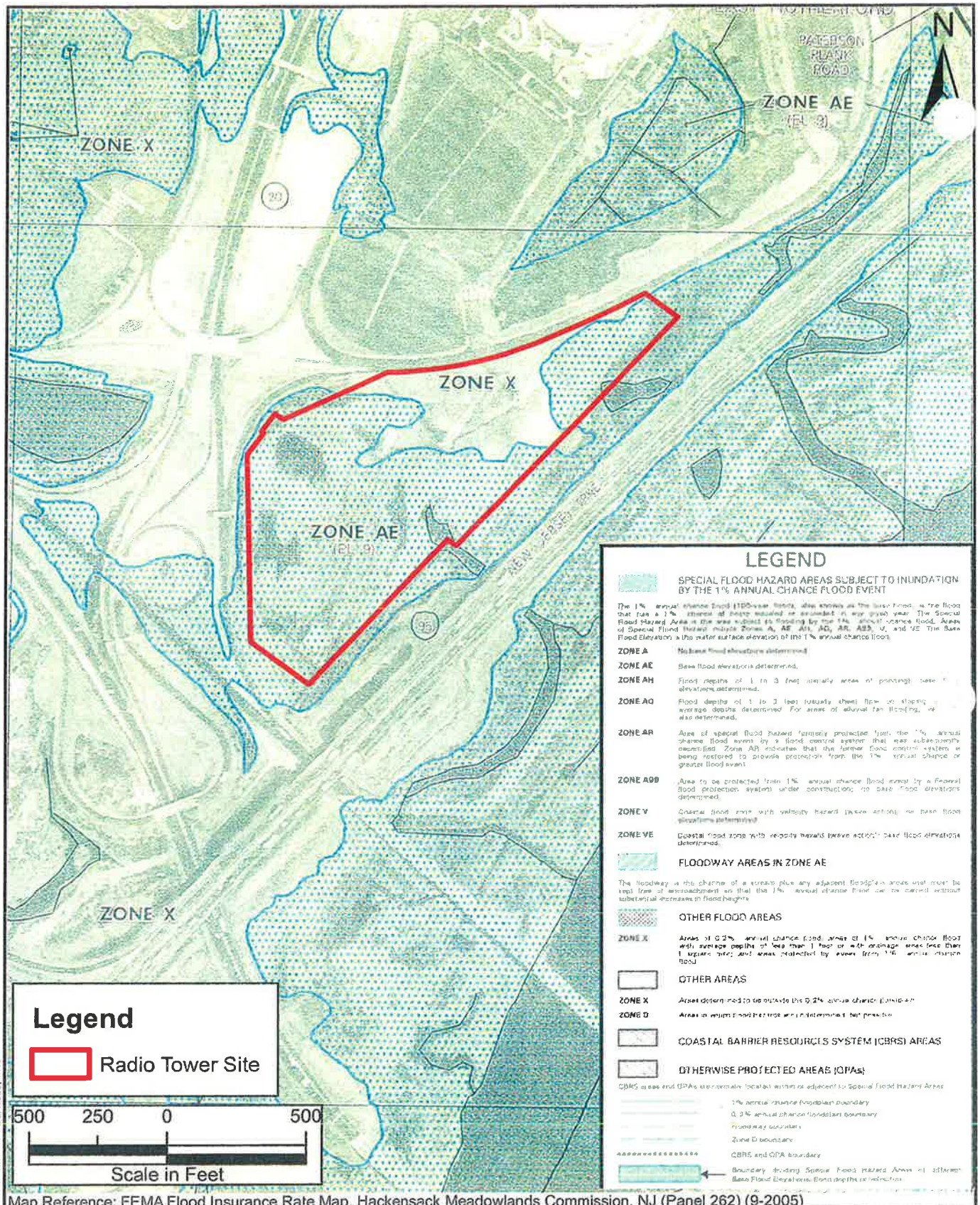
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HUC 14 WATERSHED MAP

AMUSEMENT PARK AND WATER PARK
AMERICAN DREAM MEADOWLANDS
BLOCK 107.02, LOT 3

EAST RUTHERFORD NEW JERSEY

Project No.	Date	Scale	Figure No.
100234201	11/03/11	1"= 600'	5



Map Reference: FEMA Flood Insurance Rate Map, Hackensack Meadowlands Commission, NJ (Panel 262) (9-2005)

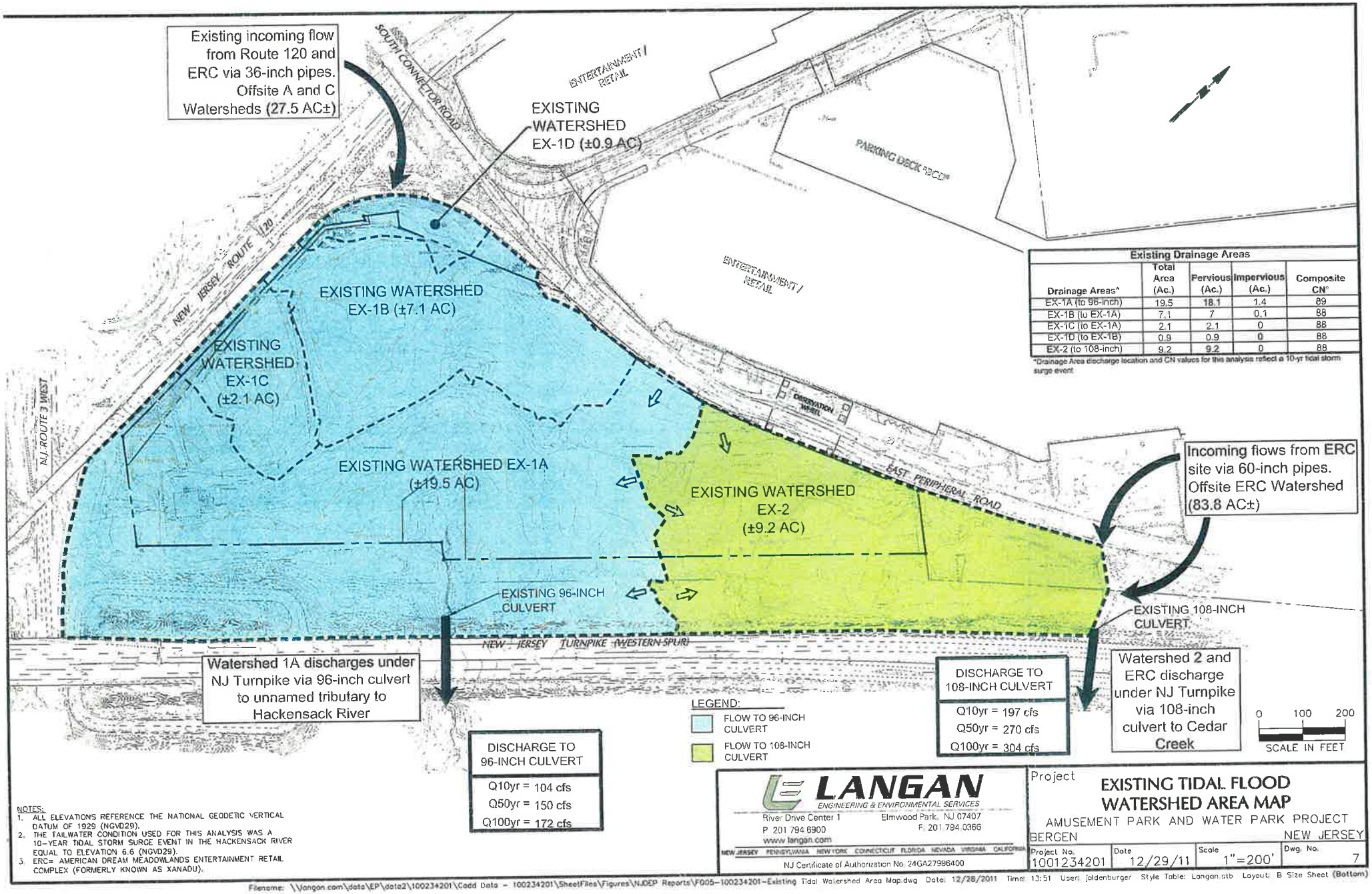
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FEMA MAP
AMUSEMENT PARK AND WATER PARK
AMERICAN DREAM MEADOWLANDS
BLOCK 107.02, LOT 3

EAST RUTHERFORD NEW JERSEY

Project No.	Date	Scale	Figure No.
100234201	11/03/11	1"= 500'	6



Existing Drainage Areas

Drainage Areas*	Total Area (Ac.)	Pervious (Ac.)	Impervious (Ac.)	Composite CN*
EX-1A (to 96-inch)	19.5	18.1	1.4	89
EX-1B (to EX-1A)	7.1	7	0.1	88
EX-1C (to EX-1A)	2.1	2.1	0	88
EX-1D (to EX-1B)	0.9	0.9	0	88
EX-2 (to 108-inch)	9.2	9.2	0	88

*Drainage Area discharge location and CN values for this analysis reflect a 10-yr tidal storm surge event

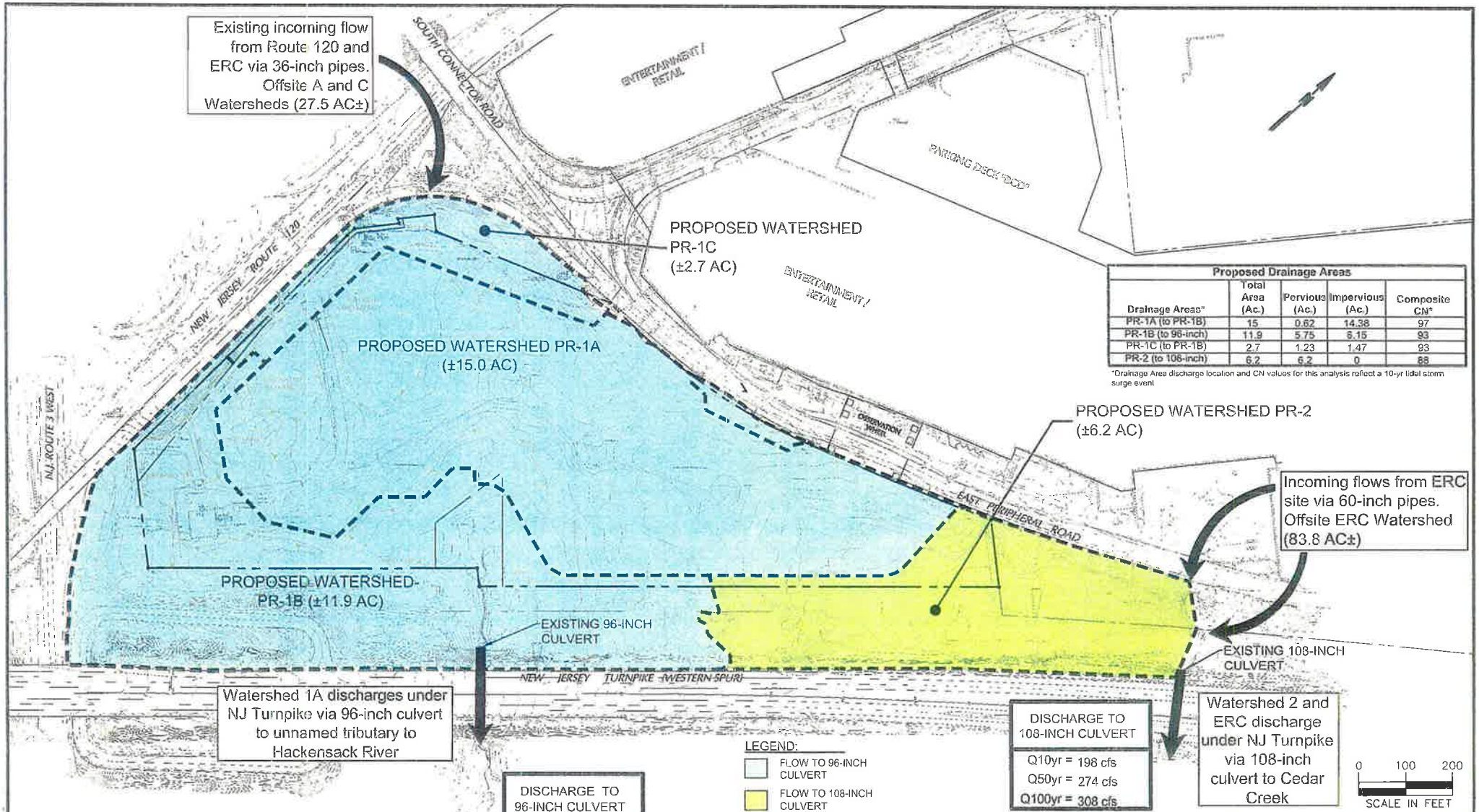
NOTES:
1. ALL ELEVATIONS REFERENCE THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD29).
2. THE TAILWATER CONDITION USED FOR THIS ANALYSIS WAS A 10-YEAR TIDAL STORM SURGE EVENT IN THE HACKENSACK RIVER EQUAL TO ELEVATION 6.6 (NGVD29).
3. ERC= AMERICAN DREAM MEADOWLANDS ENTERTAINMENT RETAIL COMPLEX (FORMERLY KNOWN AS XANADU).

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Project
EXISTING TIDAL FLOOD WATERSHED AREA MAP
AMUSEMENT PARK AND WATER PARK PROJECT
BERGEN NEW JERSEY

Project No.	Date	Scale	Dwg. No.
1001234201	12/29/11	1"=200'	7

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Proposed Drainage Areas				
Drainage Areas*	Total Area (Ac.)	Pervious (Ac.)	Impervious (Ac.)	Composite CN*
PR-1A (to PR-1B)	15	0.62	14.38	97
PR-1B (to 96-inch)	11.9	5.75	6.15	93
PR-1C (to PR-1B)	2.7	1.23	1.47	93
PR-2 (to 108-inch)	6.2	6.2	0	88

*Drainage Area discharge location and CN values for this analysis reflect a 10-yr tidal storm surge event

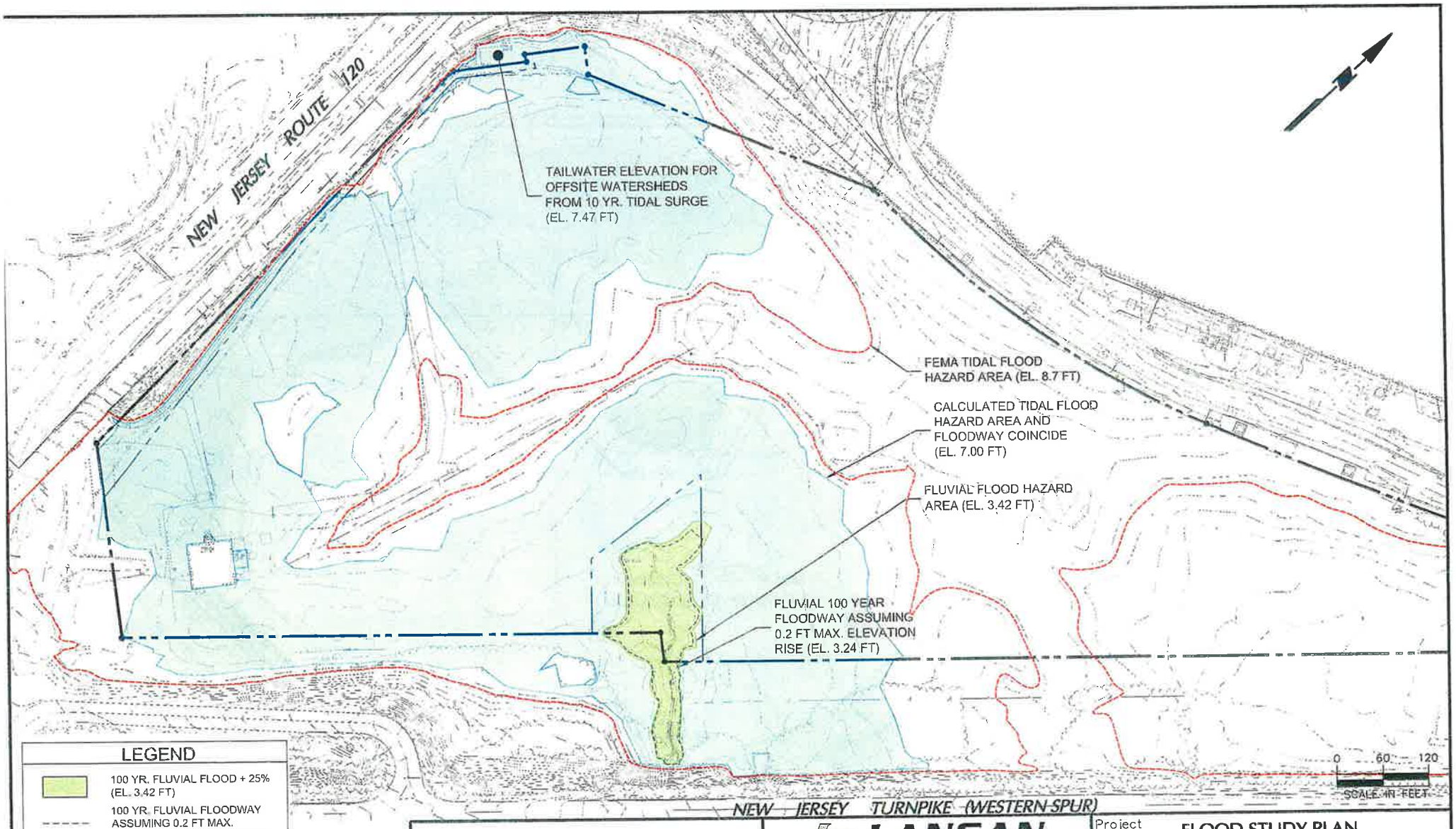
NOTES:
1. ALL ELEVATIONS REFERENCE THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD29).
2. THE TAILWATER CONDITION USED FOR THIS ANALYSIS WAS A 10-YEAR TIDAL STORM SURGE EVENT IN THE HACKENSACK RIVER EQUAL TO ELEVATION 6.6 (NGVD29).
3. ERC= AMERICAN DREAM MEADOWLANDS ENTERTAINMENT RETAIL COMPLEX (FORMERLY KNOWN AS XANADU).

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Project
PROPOSED TIDAL FLOOD WATERSHED AREA MAP
AMUSEMENT PARK AND WATER PARK PROJECT
BERGEN NEW JERSEY

Project No.	Date	Scale	Dwg. No.
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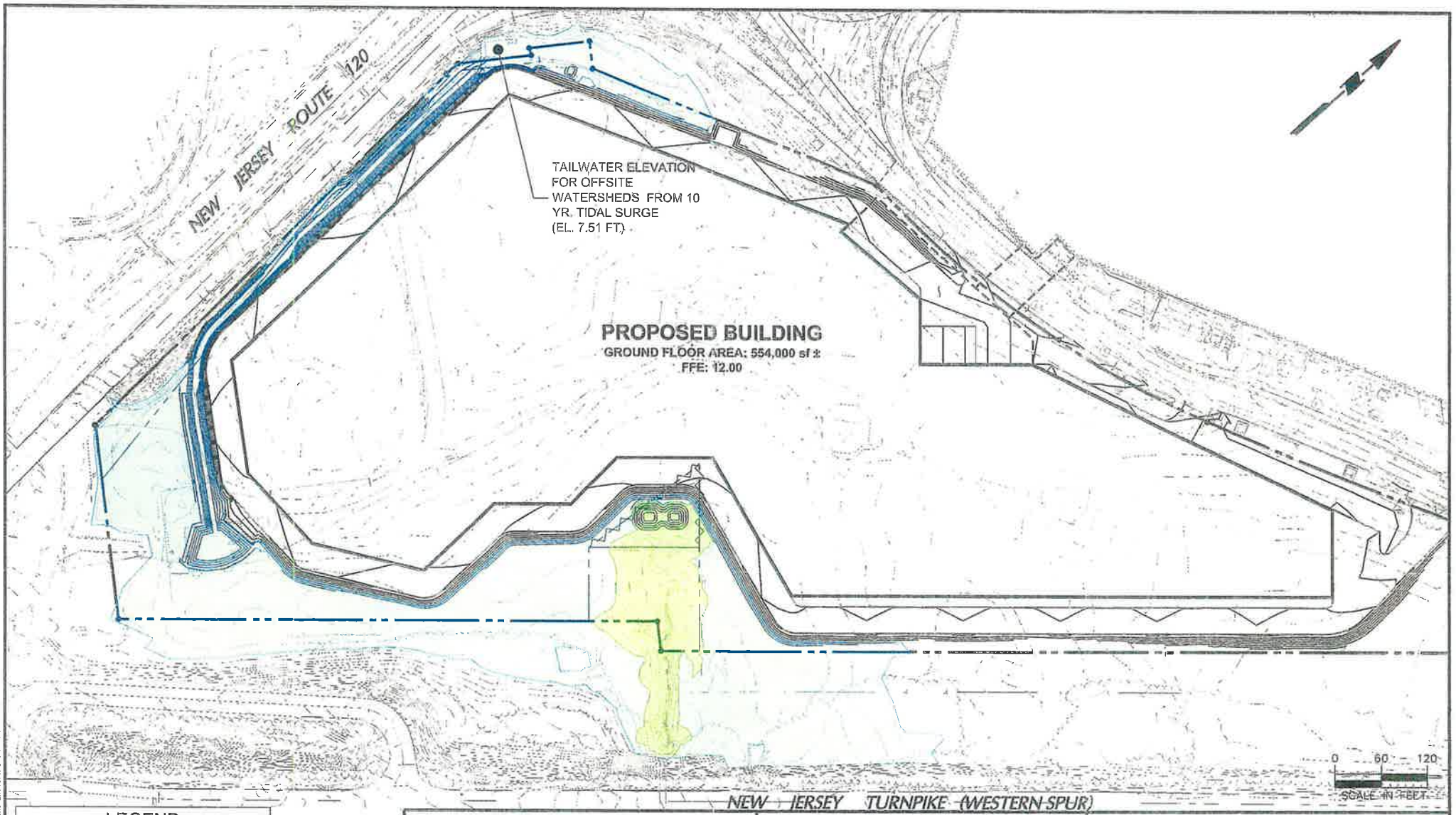
NAME BRYAN M. WAISNOR PROFESSIONAL ENGINEER NJ LIC. No. GE04590400 DATE 12/29/11

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Project
FLOOD STUDY PLAN EXISTING CONDITIONS
AMUSEMENT PARK AND WATER PARK PROJECT
BERGEN NEW JERSEY

Project No.	Date	Scale	Dwg. No.
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LEGEND

- 100 YR. FLUVIAL FLOOD + 25% (EL. 3.94 FT)
- 100 YR. FLOOD + 10 YR. TIDAL SURGE (EL. 7.25 FT)

NAME: BRYAN M WAISNOR
PROFESSIONAL ENGINEER
NJ LIC. No. GE04590400
DATE: 12/29/11

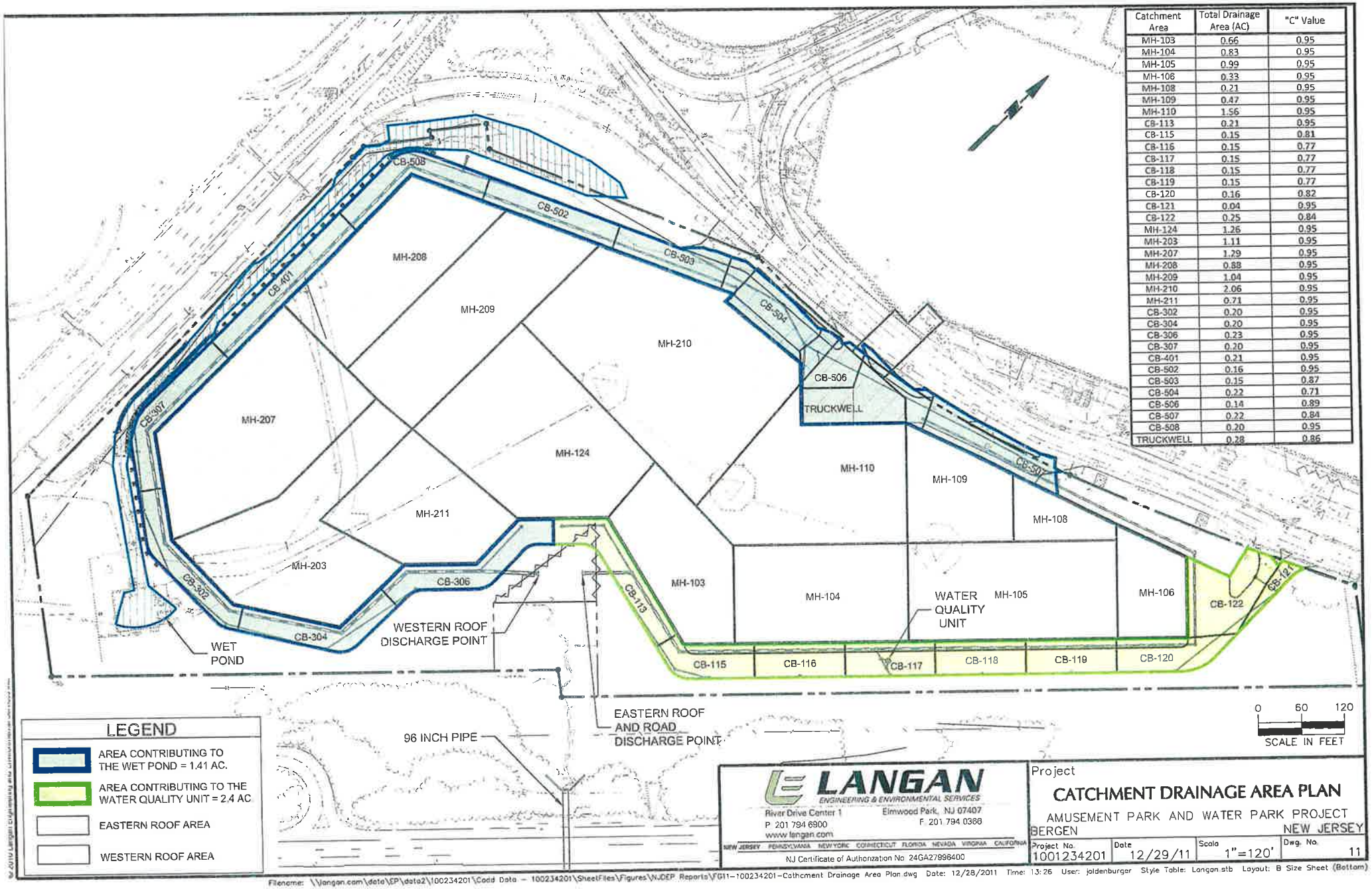
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Project
FLOOD STUDY PLAN
PROPOSED CONDITIONS
AMUSEMENT PARK AND WATER PARK PROJECT
BERGEN NEW JERSEY

Project No.	Date	Scale	Dwg. No.
1001234201	12/29/11	1"=120'	10

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Catchment Area	Total Drainage Area (AC)	"C" Value
MH-103	0.66	0.95
MH-104	0.83	0.95
MH-105	0.99	0.95
MH-106	0.33	0.95
MH-108	0.21	0.95
MH-109	0.47	0.95
MH-110	1.56	0.95
CB-113	0.21	0.95
CB-115	0.15	0.81
CB-116	0.15	0.77
CB-117	0.15	0.77
CB-118	0.15	0.77
CB-119	0.15	0.77
CB-120	0.16	0.82
CB-121	0.04	0.95
CB-122	0.25	0.84
MH-124	1.26	0.95
MH-203	1.11	0.95
MH-207	1.79	0.95
MH-208	0.88	0.95
MH-209	1.04	0.95
MH-210	2.06	0.95
MH-211	0.71	0.95
CB-302	0.20	0.95
CB-304	0.20	0.95
CB-306	0.23	0.95
CB-307	0.20	0.95
CB-401	0.21	0.95
CB-502	0.16	0.95
CB-503	0.15	0.87
CB-504	0.22	0.71
CB-506	0.14	0.89
CB-507	0.22	0.84
CB-508	0.20	0.95
TRUCKWELL	0.28	0.86

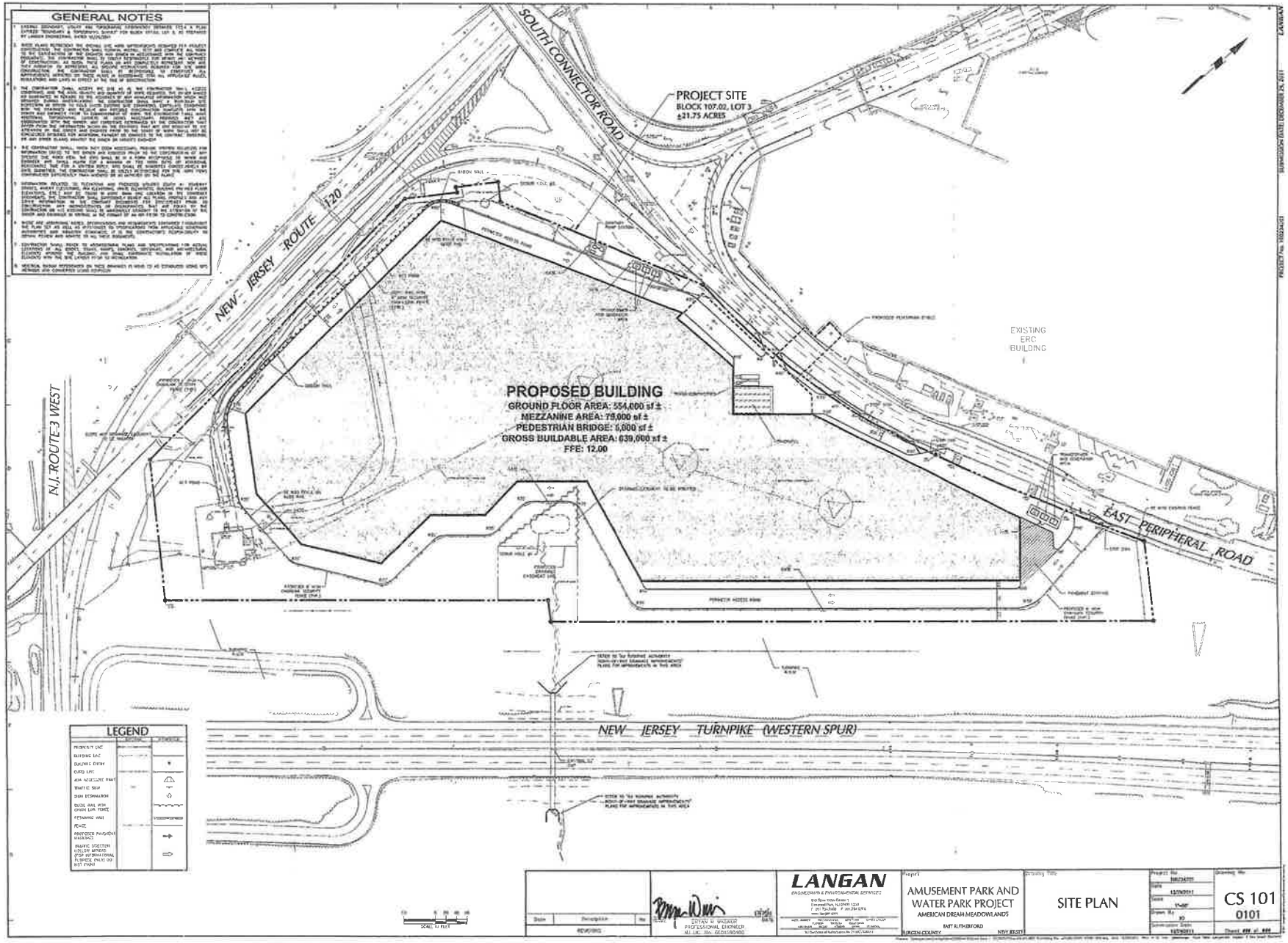
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Project
CATCHMENT DRAINAGE AREA PLAN
AMUSEMENT PARK AND WATER PARK PROJECT
BERGEN NEW JERSEY

Project No.	Date	Scale	Dwg. No.
100234201	12/29/11	1"=120'	11

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Filename: \\langan.com\data\EP\data2\100234201\Cadd Data – 100234201\SheetFiles\Figures\NJDEP Reports\FG11-100234201-Cathcment Drainage Area Plan.dwg Date: 12/28/2011 Time: 13:26 User: joldenburger Style Table: Langan.stb Layout: B Size Sheet (Bottom)



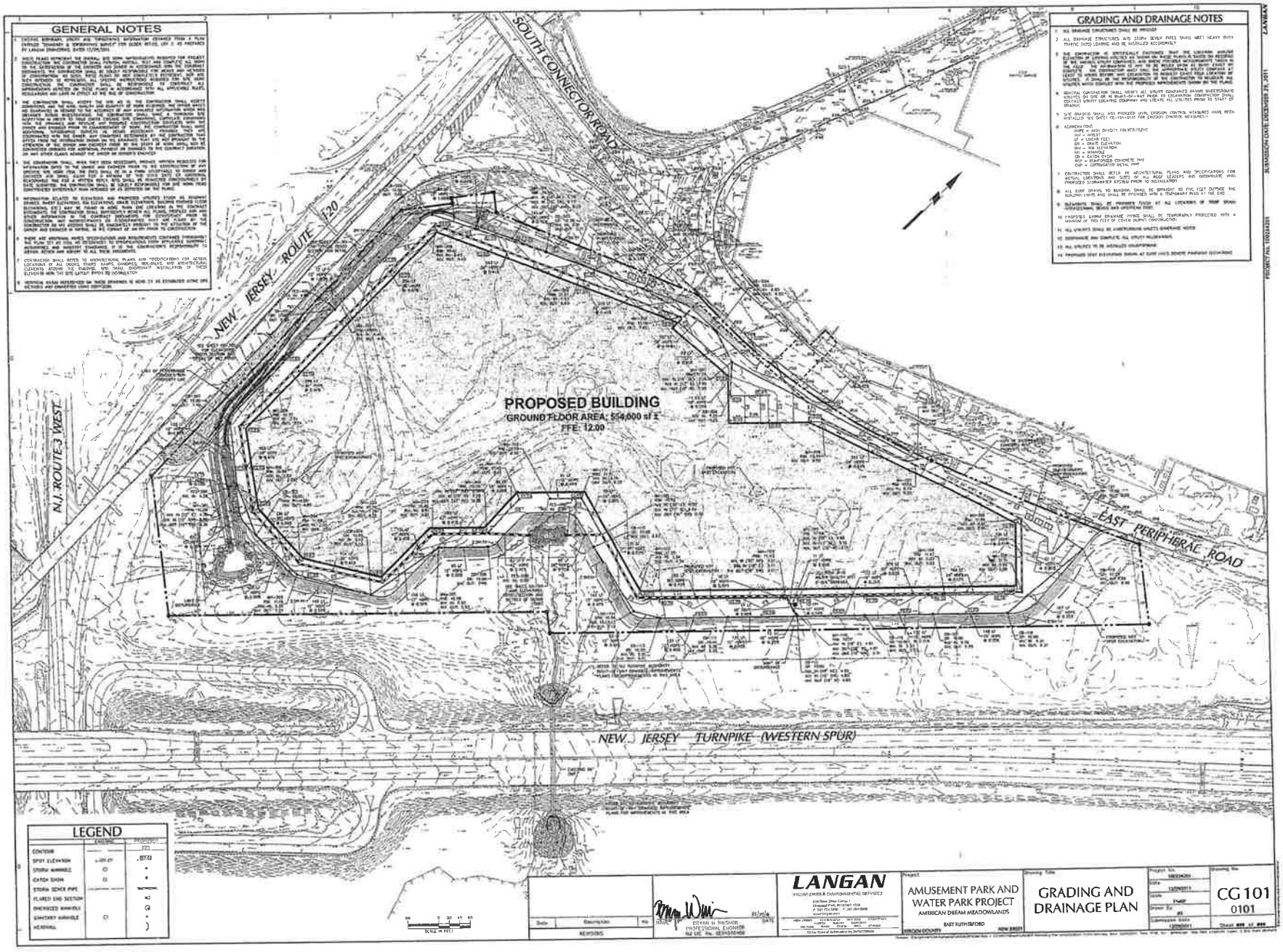
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Project
AMUSEMENT PARK AND WATER PARK PROJECT
AMERICAN DREAM MEADOWLANDS
EAST RUTHERFORD
BERGEN COUNTY NEW JERSEY

Drawing Title
SITE PLAN

CS 101
0101



GENERAL NOTES

1. EXISTING BOUNDARY, UTILITY AND TOPOGRAPHIC INFORMATION OBTAINED FROM A PLAN ENTITLED "BOUNDARY & TOPOGRAPHIC SURVEY FOR QUICK SERVICE, LOT 2.01 PREPARED BY LANGAN ENGINEERING, DATED 11/09/2011.
2. UNLESS PLANS REFERENCED IN THE GENERAL SITE WORK SPECIFICATIONS REQUIRED FOR PROJECT CONSTRUCTION, THE CONTRACTOR SHALL FURNISH, INSTALL, TEST AND COMPLETE ALL WORK TO THE SATISFACTION OF THE OWNER AND ENGINEER IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR MEANS AND METHODS OF CONSTRUCTION. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF NJDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (SSRBC) UNLESS NOTED OTHERWISE AS REFERENCED. ALL SPECIFICATIONS AND STANDARDS REFERENCED SHALL BE THE LATEST EDITION AND ADDENDUM IN EFFECT AT THE TIME OF CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE TO CONSTRUCT ALL IMPROVEMENTS SHOWN ON THESE PLANS IN ACCORDANCE WITH ALL APPLICABLE RULES, REGULATIONS AND LAWS IN EFFECT AT THE TIME OF CONSTRUCTION.
3. THE CONTRACTOR SHALL ACCEPT THE SITE AS IS. THE CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH ALL EXISTING CONDITIONS AFFECTING THE WORK. THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE IN WRITING OF ANY DISCREPANCIES BETWEEN THE CONDITIONS SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS. THE CONTRACTOR SHALL MAKE A THOROUGH SITE INSPECTION IN ORDER TO FIELD VERIFY EXISTING SITE CONDITIONS, DIFFICULTIES ENCOUNTERED DUE TO ELEVATIONS AND REGULAR AND POSSIBLE CONSTRUCTION DIFFICULTIES WITH THE OWNER AND ENGINEER PRIOR TO COMMENCEMENT OF WORK. THE CONTRACTOR SHALL MAKE ALL ADDITIONAL INVESTIGATIONS AS DEEMED NECESSARY BY THE CONTRACTOR FOR THE PROPER PERFORMANCE OF THE WORK. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR DIFFICULTIES ENCOUNTERED WHICH COULD REASONABLY HAVE BEEN INFERRED FROM THE INFORMATION SHOWN ON THE DRAWINGS. PLANT SIZE MAY APPROPRIATE TO THE LIMITATIONS OF THE SITE OR OTHER CONDITIONS AFFECTING PLANTING OPERATIONS, AS DETERMINED BY THE OWNER AND ENGINEER PRIOR TO THE START OF WORK SHALL NOT BE CONSIDERED JUSTIFICATION FOR EXTRA COMPENSATION. THE CONTRACTOR SHALL NOT ENTER OR OCCUPY WITH WORKMEN, EQUIPMENT OR MATERIALS ANY PRIVATE PROPERTY, PUBLIC PROPERTY, OR WORK BY OTHER CLOSER AGAINST THE WISHES OF THE OWNER OR OWNER'S AGENCY.
4. THE CONTRACTOR SHALL, WHEN THEY SEEM NECESSARY, OR WHEN REQUIRED FOR INFORMATION DUE TO THE OWNER AND ENGINEER PRIOR TO THE ACCEPTANCE OF ANY SPECIFIED, SUBMIT SHOP DRAWINGS FOR ALL MATERIALS AND EQUIPMENT TO BE USED AND INSTALLED IN THE WORK. THE DATA SHALL BE IN A FORM THAT CLEARLY SHOWS HOW THE MATERIAL OR EQUIPMENT WILL BE INCORPORATED IN THE WORK. THE CONTRACTOR SHALL NOT PROCEED WITH ANY WORK OR PURCHASE OF MATERIALS OR EQUIPMENT COVERED BY SHOP DRAWINGS UNTIL THEY HAVE BEEN REVIEWED AND ACCEPTED BY THE OWNER AND ENGINEER. ALL SHOP DRAWINGS SHALL BE SUBMITTED SUFFICIENTLY IN ADVANCE OF CONSTRUCTION TO PERMIT REVIEW, APPROVAL OR REVISION, AS MAY BE REQUIRED, BEFORE THE START OF THE PORTION OF THE WORK INVOLVED. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE WORK DONE CONSTRUCTED DIFFERENTLY FROM ACCEPTED OR SUBMITTED SHOP DRAWINGS.
5. INFORMATION RELATIVE TO ELEVATIONS AND PROPOSED UTILITIES SHOWN ON ROADWAY GRADES, INVERT ELEVATIONS, PAD ELEVATIONS, GRADE ELEVATIONS, FINISHED FLOOR ELEVATIONS, ETC.) MAY BE FOUND ON VARIOUS PLANS AND DRAWINGS IN THE CONTRACT DOCUMENTS. CONTRACTOR SHALL REVIEW ALL PLANS AND DRAWINGS PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OF ANY DISCREPANCIES FOR CORRECTIVE ACTION. ANY ADJUSTMENTS MADE BY THE CONTRACTOR WITHOUT PRIOR APPROVAL OF THE ENGINEER SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE. NO CONSTRUCTION SHALL BE PERFORMED UNTIL ALL DISCREPANCIES HAVE BEEN RESOLVED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. ANY CONSTRUCTION PERFORMED BY THE CONTRACTOR PRIOR TO THE ATTAINMENT OF THE OWNER AND ENGINEER UNDER NO SHALL BE CONSIDERED AT HIS OWN RISK AND MAY BE REQUIRED TO BE REMOVED AT THE CONTRACTOR'S EXPENSE IF NOT IN CONFORMANCE WITH THE CONTRACT DOCUMENTS OR IN THE OPINION AND JUDGMENT OF THE OWNER AND ENGINEER.
6. THERE ARE ADDITIONAL PERMIT SPECIFICATIONS AND REQUIREMENTS CONTAINED THROUGHOUT THE PLANS THAT ARE LEGAL AND RESPONSIBILITY TO APPROPRIATE AGENCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL APPLICABLE GUIDELINES, ORDINANCES AND AGENCY STANDARDS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN, REVIEW AND ADHERE TO ALL THESE REQUIREMENTS.
7. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS AND SPECIFICATIONS FOR EXTERIOR LOCATIONS OF ALL DOORS, STAIRS, RAMPS, CANOPIES, WALKWAYS, AND ARCHITECTURAL ELEMENTS. ALL 5 FEET OF BUILDING, AND SHALL COORDINATE INSTALLATION OF THESE ELEMENTS WITH THE SITE LAYOUT (REFER TO INFORMATION).
8. HISTORICAL AGENCY REFERENCES ON THESE DRAWINGS IS HEREBY TO BE ESTABLISHED USING SITE SECTIONS AND DIMENSIONS USING REFERENCE.

GRADING AND DRAINAGE NOTES

1. ALL DRAINAGE STRUCTURES SHALL BE PRECAST.
2. ALL DRAINAGE STRUCTURES AND STORM SEWER PIPES SHALL MEET HEAVY DUTY TRAFFIC (HDT) LOADING AND BE INSTALLED ACCORDINGLY.
3. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATIONS AND/OR ELEVATIONS OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE CONSIDERED EXACT OR COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL UTILITY COMPANIES AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES DURING THE CONSTRUCTION OF THE IMPROVEMENTS OF THE CONSTRUCTION TO RELOCATE ANY UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
4. MUNICIPAL CONSTRUCTION SHALL NOTIFY ALL UTILITY COMPANIES (MARK UNDERGROUND UTILITIES ON SITE OR IN RIGHT-OF-WAY PRIOR TO EXCAVATION CONSTRUCTION. CONTACT UTILITY LOCATING COMPANY AND LOCATE ALL UTILITIES PRIOR TO START OF GRADING.
5. SITE GRADING SHALL NOT PROCEED UNTIL EROSION CONTROL MEASURES HAVE BEEN INSTALLED. SEE SHEET EC-101-0101 FOR EROSION CONTROL MEASURES.
6. ABBREVIATIONS:
   - HDPE = HIGH DENSITY POLYETHYLENE
   - INV = INVERT
   - LF = LINEAR FEET
   - GR = GRATE ELEVATION
   - RIM = RIM ELEVATION
   - MH = MANHOLE
   - CB = CATCH BASIN
   - RCP = REINFORCED CONCRETE PIPE
   - CMP = CORRUGATED METAL PIPE
7. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS AND SPECIFICATIONS FOR ACTUAL LOCATIONS AND SIZES OF ALL ROOF LEADERS AND GOOSENECK VENT PROPOSED STORMWATER SYSTEM PRIOR TO INSTALLATION.
8. ALL SURF DRAINS TO BUILDING SHALL BE STRAIGHT TO FIVE FEET OUTSIDE THE BUILDING LIMITS AND SHALL BE PROVIDED WITH A TEMPORARY PLUG AT THE END.
9. ELEVATIONS SHALL BE PROVIDED FOR ALL LOCATIONS OF RAMP GRADE CHANGES/BREAKS, BENDS AND UPSLOPE/END.
10. PROPOSED STORM DRAINAGE PIPES SHALL BE TEMPORARILY PROTECTED WITH A MINIMUM OF TWO FEET OF COVER DURING CONSTRUCTION.
11. ALL GRADES SHALL BE UNIFORM UNLESS GRADING NOTED.
12. CONFIRMED AND COMPLETE ALL UTILITY RELOCATIONS.
13. ALL UTILITIES TO BE INSTALLED UNDERGROUND.
14. PROPOSED SPOT ELEVATIONS SHOWN AT CURB UNLESS OTHERWISE INDICATED.

LEGEND

	EXISTING	PROPOSED
CONTOUR		
SPOT ELEVATION		
STORM MANHOLE		
CATCH BASIN		
STORM SEWER PIPE		
FLARED END SECTION		
ENERGIZED MANHOLE		
SANITARY MANHOLE		
HEADWALL		

SCALE IN FEET

No.	Description	Date
REVISIONS		

BRYAN M. WASHOR
PROFESSIONAL ENGINEER
NJ LIC. No. GE54300600

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Professional Service Corporation
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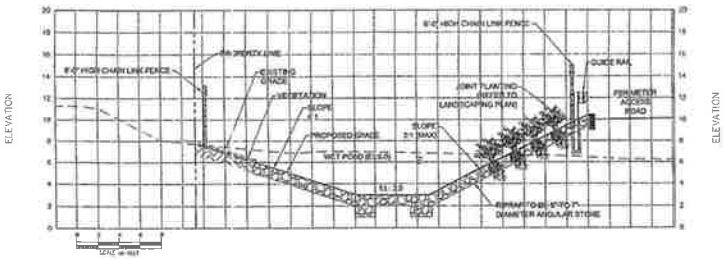
Project: AMUSEMENT PARK AND WATER PARK PROJECT
AMERICAN DREAM MEADOWLANDS
EAST RUTHERFORD
BERGEN COUNTY NEW JERSEY

Drawing Title: GRADING AND DRAINAGE PLAN

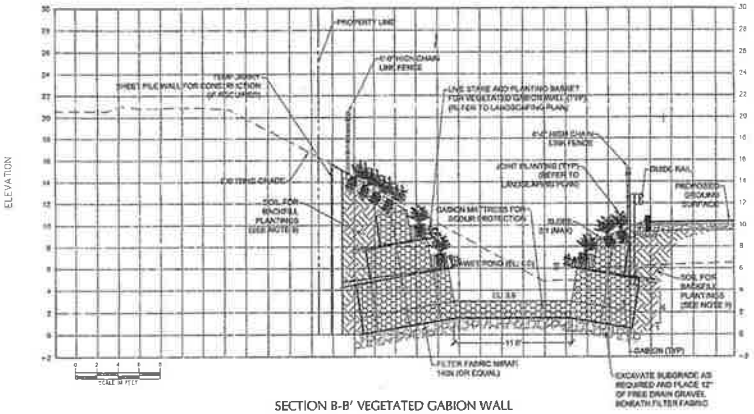
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Date 12/09/2011
Scale 1"=60'
Drawn By BS
Checked By DMB
Date 12/09/2011

Drawing No. CG 101
0101
Sheet 000 of 000

PROJECT No. 100124301
SUBMISSION DATE: DECEMBER 29, 2011
LANGAN



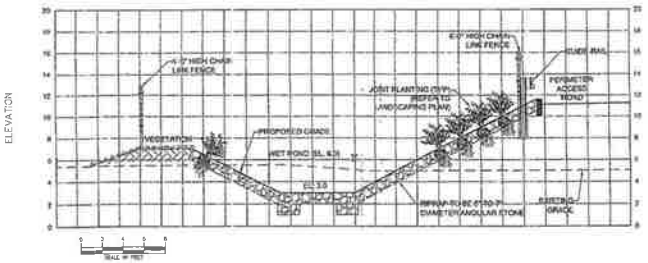
SECTION A-A' RIP RAP JOINT PLANTINGS
SCALE 1"=4'



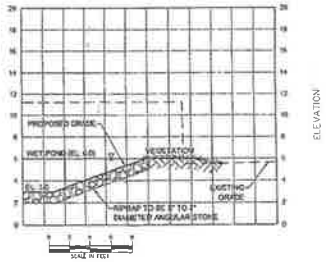
SECTION B-B' VEGETATED GABION WALL
SCALE 1"=4'

NOTES

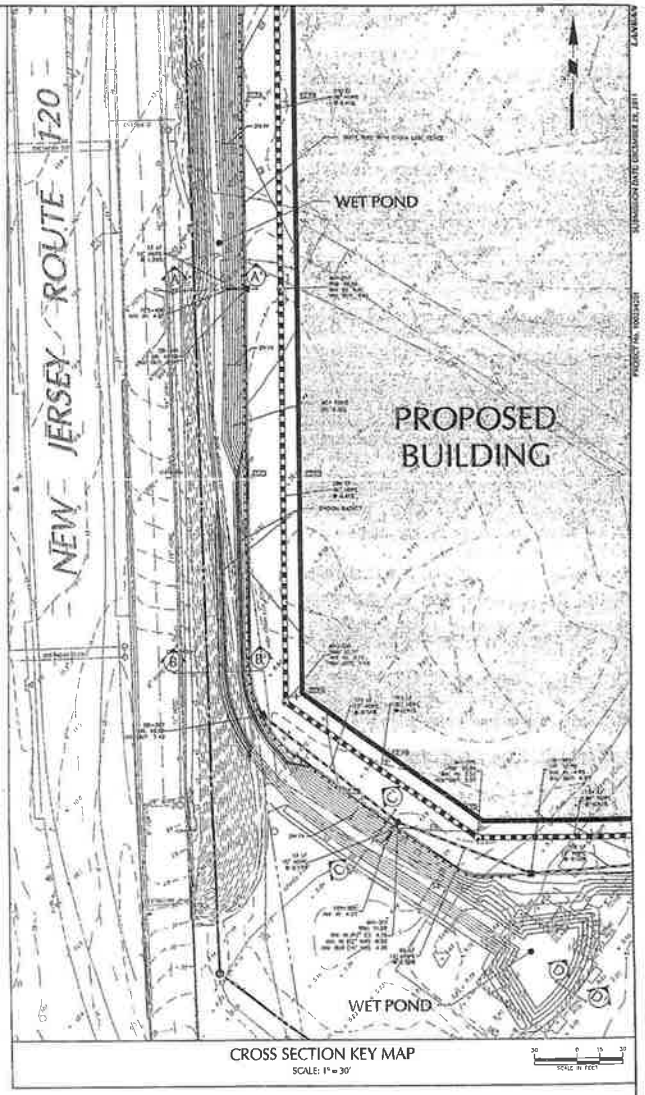
1. GABION WALL WEIGHT VARIES FROM 75' TO 105'
2. ALL GABION MESH SHALL BE BLACK POLYVINYL CHLORIDE COATED
3. MINIMUM STANDARD LENGTH OF GABIONS SHALL BE 6'-0"
4. GABION TO BE PLACED ON COMPACTED SUBGRADE, 85% MODIFIED PROCTOR DENSITY
5. PROVIDE RIP RAP WITH JOINT PLANTINGS NECESSARY FOR SLOPES STEEPER THAN 2 SH:1V
6. PROVIDE VEGETATION FOR 2 SH:1V OR FLATTER SLOPES
7. PLANTING BASKET TO BE MACCAFERRI ENVIROLOG OR EQUIVALENT
8. REFER TO LANDSCAPING PLAN FOR JOINT PLANTING, LIVE STAKES, SEEDING AND VEGETATION NOTES AND DETAILS
9. SPECIFICATIONS FOR SOIL BACKFILL USED BEHIND GABION WALL FOR PLANTINGS TO BE DETERMINED BY LANDSCAPE ARCHITECT AND GEOTECHNICAL ENGINEER
10. DETAILS, AS SHOWN ARE FOR GENERAL INFORMATION ONLY. FINAL DESIGN SHALL BE PROVIDED BY THE SITE WORK CONTRACTOR FOR REVIEW AND APPROVAL BY THE OWNER AND ENGINEER PRIOR TO CONSTRUCTION.



SECTION C-C' RIP RAP JOINT PLANTINGS
SCALE 1"=4'



SECTION D-D' POND DISCHARGE WEIR
SCALE 1"=4'



CROSS SECTION KEY MAP
SCALE: 1" = 30'

Date	Description	No.
	PE VOIDING	

BRYAN W. WATSON
PROFESSIONAL ENGINEER
N.J. LIC. No. GE01360400
DATE 12/20/11

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ENGINEERING & ENVIRONMENTAL SERVICES

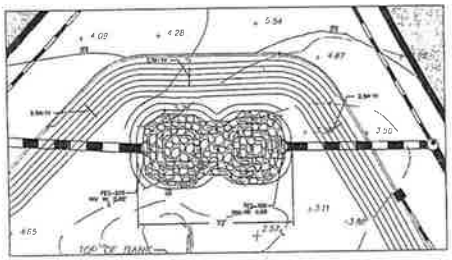
Project
AMUSEMENT PARK AND WATER PARK PROJECT
AMERICAN DREAM MEADOWLANDS
EAST RUTHERFORD
BERGEN COUNTY NEW JERSEY

Drawing Title
GRADING AND DRAINAGE CROSS SECTIONS

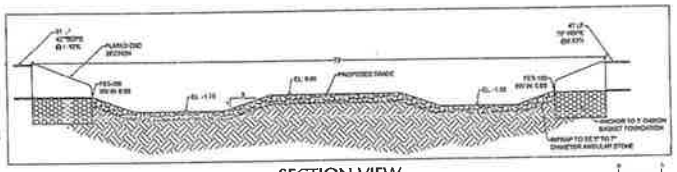
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Checked By BWW
Submission Date DECEMBER 29, 2011

Drawing No.
CG 301
0101

Sheet 299 of 899

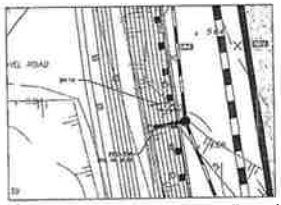


PLAN VIEW

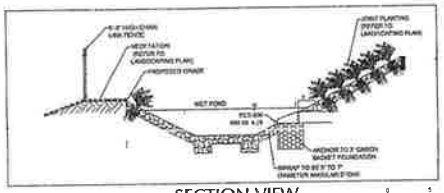


SECTION VIEW

FES-100 & FES-200

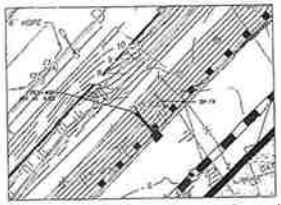


PLAN VIEW

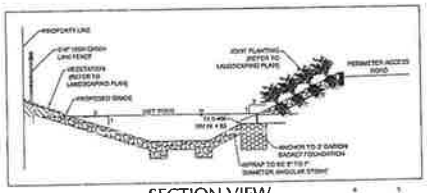


SECTION VIEW

FES-300

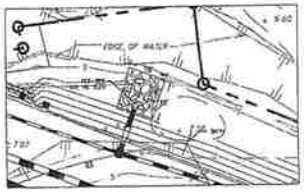


PLAN VIEW

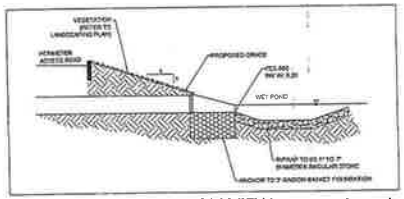


SECTION VIEW

FES-400

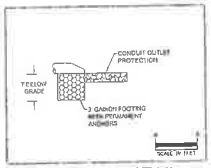


PLAN VIEW

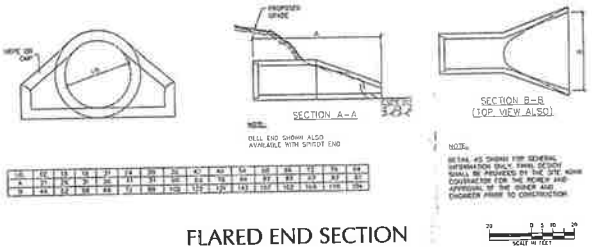


SECTION VIEW

FES-500



FOOTING DETAIL



FLARED END SECTION

A	12	12	18	21	24	30	36	42	48	54	60	66	72	78	84
B	21	21	27	30	33	39	45	51	57	63	69	75	81	87	93
C	44	52	68	72	88	110	132	154	176	198	220	242	264	286	308

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AMUSEMENT PARK AND WATER PARK PROJECT

AMERICAN DREAM MEADOWLANDS

EAST RUTHERFORD NEW JERSEY

STORMWATER OUTFALL DETAILS

CG 501

0101

APPENDIX A

Existing and Proposed Watershed Characteristics and Runoff Hydrographs

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Hydrograph Return Period Recap

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2011 by Autodesk, Inc. v8

Hyd. No.	Hydrograph type (origin)	Inflow hyd(s)	Peak Outflow (cfs)								Hydrograph Description
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
1	SCS Runoff	------	-------	-------	-------	-------	25.98	-------	39.49	46.20	EX-1A
2	SCS Runoff	------	-------	-------	-------	-------	43.16	-------	61.95	71.34	EX-1A Pond at EL. 6.6
3	SCS Runoff	------	-------	-------	-------	-------	10.85	-------	16.63	19.50	EX-1B
4	SCS Runoff	------	-------	-------	-------	-------	15.28	-------	21.94	25.26	EX.-1B Pond at El. 6.6
5	SCS Runoff	------	-------	-------	-------	-------	20.58	-------	31.57	37.02	EX-2
6	SCS Runoff	------	-------	-------	-------	-------	224.49	-------	338.26	394.73	ERC Site Via 60in Pipes
7	SCS Runoff	------	-------	-------	-------	-------	33.41	-------	49.20	57.03	Offsite C
8	SCS Runoff	------	-------	-------	-------	-------	60.21	-------	96.25	114.25	Offsite A
10	Combine	4, 7, 8,	-------	-------	-------	-------	102.06	-------	157.57	185.25	Offsite A,C, and Watershed-1B Pon
11	Combine	3, 10	-------	-------	-------	-------	109.60	-------	169.33	199.11	Watershed EX-1B Combine
12	Reservoir	11	-------	-------	-------	-------	80.64	-------	132.21	158.61	Flow to WtrShed.-1A
14	Combine	2, 12,	-------	-------	-------	-------	98.20	-------	161.65	193.75	Watershed Pond 1A and Combine
15	Combine	1, 14	-------	-------	-------	-------	120.00	-------	190.81	227.03	Combine Watershed Pond 1A and
16	Reservoir	15	-------	-------	-------	-------	103.64	-------	150.06	171.06	Ex. Discharge at 96
18	Combine	5, 6,	-------	-------	-------	-------	243.55	-------	367.60	429.10	Ex. Watershed 2 and ERC Site
19	Reservoir	18	-------	-------	-------	-------	197.08	-------	270.08	303.33	Ex. Discharge at 108
22	SCS Runoff	------	-------	-------	-------	-------	17.89	-------	26.97	31.47	PR-1B
23	SCS Runoff	------	-------	-------	-------	-------	15.58	-------	23.88	28.00	PR-2
24	SCS Runoff	------	-------	-------	-------	-------	58.49	-------	84.25	97.10	PR-1A
25	SCS Runoff	------	-------	-------	-------	-------	7.520	-------	11.15	12.94	PR-1C
26	SCS Runoff	------	-------	-------	-------	-------	22.66	-------	32.53	37.46	PR-1B Pond at El. 6.6
27	SCS Runoff	------	-------	-------	-------	-------	2.994	-------	4.298	4.949	PR-1C Pond at El. 6.6
29	Combine	6, 23,	-------	-------	-------	-------	240.04	-------	362.04	422.55	Proposed Watershed 2 and ERC Si
30	Reservoir	29	-------	-------	-------	-------	197.89	-------	273.22	307.70	Pr. Discharge at 108
32	Combine	7, 8, 25, 27,	-------	-------	-------	-------	98.49	-------	152.39	179.35	Combine Flow at PR-1C
34	Combine	22, 24, 26,	-------	-------	-------	-------	86.58	-------	125.67	145.16	Combine Flow at 96
35	Reservoir(i)	32, 34	-------	-------	-------	-------	142.89	-------	194.50	217.80	Pr. Discharge at 96

Hydrograph Summary Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2011 by Autodesk, Inc. v8

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	25.98	1	745	155,554	------	------	------	EX-1A
2	SCS Runoff	43.16	1	724	152,189	------	------	------	EX-1A Pond at EL. 6.6
3	SCS Runoff	10.85	1	739	56,150	------	------	------	EX-1B
4	SCS Runoff	15.28	1	724	53,885	------	------	------	EX.-1B Pond at El. 6.6
5	SCS Runoff	20.58	1	746	125,702	------	------	------	EX-2
6	SCS Runoff	224.49	1	740	1,208,504	------	------	------	ERC Site Via 60in Pipes
7	SCS Runoff	33.41	1	733	155,950	------	------	------	Offsite C
8	SCS Runoff	60.21	1	727	207,391	------	------	------	Offsite A
10	Combine	102.06	1	727	417,226	4, 7, 8,	------	------	Offsite A,C, and Watershed-1B Pon
11	Combine	109.60	1	727	473,375	3, 10	------	------	Watershed EX-1B Combine
12	Reservoir	80.64	1	737	473,372	11	107.23	160,739	Flow to WtrShed.-1A
14	Combine	98.20	1	734	625,560	2, 12,	------	------	Watershed Pond 1A and Combine
15	Combine	120.00	1	737	781,116	1, 14	------	------	Combine Watershed Pond 1A and
16	Reservoir	103.64	1	748	781,116	15	106.75	251,981	Ex. Discharge at 96
18	Combine	243.55	1	740	1,334,207	5, 6,	------	------	Ex. Watershed 2 and ERC Site
19	Reservoir	197.08	1	753	1,334,206	18	106.93	1,023,272	Ex. Discharge at 108
22	SCS Runoff	17.89	1	745	107,715	------	------	------	PR-1B
23	SCS Runoff	15.58	1	741	85,270	------	------	------	PR-2
24	SCS Runoff	58.49	1	730	258,461	------	------	------	PR-1A
25	SCS Runoff	7.520	1	731	32,624	------	------	------	PR-1C
26	SCS Runoff	22.66	1	724	79,917	------	------	------	PR-1B Pond at El. 6.6
27	SCS Runoff	2.994	1	724	10,559	------	------	------	PR-1C Pond at El. 6.6
29	Combine	240.04	1	740	1,293,777	6, 23,	------	------	Proposed Watershed 2 and ERC Si
30	Reservoir	197.89	1	752	1,293,773	29	106.94	934,039	Pr. Discharge at 108
32	Combine	98.49	1	728	406,523	7, 8, 25, 27,	------	------	Combine Flow at PR-1C
34	Combine	86.58	1	728	446,093	22, 24, 26,	------	------	Combine Flow at 96
35	Reservoir(i)	142.89	1	737	706,552	32, 34	106.97	211,459	Pr. Discharge at 96

10-year

Hydrograph Report

Hyd. No. 1

EX-1A

Hydrograph type	= SCS Runoff	Peak discharge	= 25.98 cfs
Storm frequency	= 10 yrs	Time to peak	= 745 min
Time interval	= 1 min	Hyd. volume	= 155,554 cuft
Drainage area	= 11.140 ac	Curve number	= 89*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 37.7 min
Total precip.	= 5.10 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(9.850 x 88) + (1.290 x 98)] / 11.140

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)
731	18.27	748	25.70
732	19.06	749	25.49
733	19.84	750	25.25
734	20.60	751	24.96
735	21.34	752	24.64
736	22.07	753	24.28
737	22.77	754	23.88
738	23.44	755	23.46
739	24.05	756	23.00
740	24.61	757	22.52
741	25.09	758	22.01
742	25.47	759	21.48
743	25.75	760	20.93
744	25.91	761	20.36
745	25.98	762	19.78
		763	19.18
746	25.95		
		764	18.57
747	25.86		

<<

...End

Hydrograph Report

Hyd. No. 2

EX-1A Pond at EL. 6.6

Hydrograph type	= SCS Runoff	Peak discharge	= 43.16 cfs
Storm frequency	= 10 yrs	Time to peak	= 724 min
Time interval	= 1 min	Hyd. volume	= 152,189 cuft
Drainage area	= 8.360 ac	Curve number	= 98
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.0 min
Total precip.	= 5.10 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Outflow (cfs)	
720	30.73	
721	34.91	
722	38.80	
723	41.75	
724	43.16	<<
725	42.82	
726	40.93	
727	37.89	
728	34.19	
729	30.30	

...End

Hydrograph Report

Hyd. No. 3

EX-1B

Hydrograph type	= SCS Runoff	Peak discharge	= 10.85 cfs
Storm frequency	= 10 yrs	Time to peak	= 739 min
Time interval	= 1 min	Hyd. volume	= 56,150 cuft
Drainage area	= 4.140 ac	Curve number	= 88*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 28.7 min
Total precip.	= 5.10 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.110 x 98) + (4.030 x 88)] / 4.140

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)
728	7.956	745	10.10
729	8.365	746	9.893
730	8.765	747	9.672
731	9.153	748	9.435
732	9.525	749	9.181
733	9.870	750	8.913
734	10.18	751	8.631
735	10.44	752	8.336
736	10.64	753	8.031
737	10.78	754	7.717
738	10.85		
739	10.85		
740	10.81		
741	10.72		
742	10.60		
743	10.45		
744	10.28		

...End

<<

Hydrograph Report

Hyd. No. 4

EX.-1B Pond at El. 6.6

Hydrograph type	= SCS Runoff	Peak discharge	= 15.28 cfs
Storm frequency	= 10 yrs	Time to peak	= 724 min
Time interval	= 1 min	Hyd. volume	= 53,885 cuft
Drainage area	= 2.960 ac	Curve number	= 98
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.0 min
Total precip.	= 5.10 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time -- (min)	Outflow cfs)	
720	10.88	
721	12.36	
722	13.74	
723	14.78	
724	15.28	<<
725	15.16	
726	14.49	
727	13.42	
728	12.11	
729	10.73	

...End

Hydrograph Report

Hyd. No. 5

EX-2

Hydrograph type	= SCS Runoff	Peak discharge	= 20.58 cfs
Storm frequency	= 10 yrs	Time to peak	= 746 min
Time interval	= 1 min	Hyd. volume	= 125,702 cuft
Drainage area	= 9.200 ac	Curve number	= 88
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 39.2 min
Total precip.	= 5.10 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)
732	14.61	749	20.41
733	15.21	750	20.27
734	15.81	751	20.10
735	16.40	752	19.89
736	16.97	753	19.66
737	17.53	754	19.40
738	18.07	755	19.12
739	18.58	756	18.81
740	19.06	757	18.48
741	19.49	758	18.12
742	19.86	759	17.75
743	20.16	760	17.36
744	20.38	761	16.95
745	20.52	762	16.52
746	20.58	763	16.09
		764	15.64
747	20.58		
		765	15.18
748	20.52		
		766	14.72

<<

Hydrograph Report

Hyd. No. 6

ERC Site Via 60in Pipes

Hydrograph type	= SCS Runoff	Peak discharge	= 224.49 cfs
Storm frequency	= 10 yrs	Time to peak	= 740 min
Time interval	= 1 min	Hyd. volume	= 1,208,504 cuft
Drainage area	= 83.800 ac	Curve number	= 90
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 30.0 min
Total precip.	= 5.10 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Outflow cfs)	Time (min)	Outflow cfs)
728	160.46	745	213.69
729	168.55	746	210.12
730	176.47	747	206.19
731	184.21	748	201.91
732	191.72	749	197.31
733	198.89	750	192.38
734	205.53	751	187.16
735	211.46	752	181.67
736	216.49	753	175.94
737	220.41	754	169.99
738	223.03	755	163.86
739	224.34	756	157.57
740	224.49		
<<		*...End*	
741	223.66		
742	222.00		
743	219.68		
744	216.88		

Hydrograph Report

Hyd. No. 7

Offsite C

Hydrograph type	= SCS Runoff	Peak discharge	= 33.41 cfs
Storm frequency	= 10 yrs	Time to peak	= 733 min
Time interval	= 1 min	Hyd. volume	= 155,950 cuft
Drainage area	= 10.000 ac	Curve number	= 93
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 20.0 min
Total precip.	= 5.10 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)
724	23.68	741	27.80
725	25.30	742	26.75
726	26.90	743	25.64
727	28.44	744	24.50
728	29.85		
729	31.10	*...End*	
730	32.13		
731	32.88		
732	33.31		
733	33.41		
<<			
734	33.23		
735	32.82		
736	32.22		
737	31.48		
738	30.65		
739	29.76		
740	28.81		

Hydrograph Report

Hyd. No. 8

Offsite A

Hydrograph type	= SCS Runoff	Peak discharge	= 60.21 cfs
Storm frequency	= 10 yrs	Time to peak	= 727 min
Time interval	= 1 min	Hyd. volume	= 207,391 cuft
Drainage area	= 17.500 ac	Curve number	= 83
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 10.0 min
Total precip.	= 5.10 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Outflow (cfs)	
722	45.47	
723	50.38	
724	54.75	
725	58.10	
726	59.96	
727	60.21	<<
728	59.09	
729	56.86	
730	53.80	
731	50.20	
732	46.45	
733	42.80	

...End

Hydrograph Report

Hyd. No. 10

Offsite A,C, and Watershed-1B Pond

Hydrograph type	= Combine	Peak discharge	= 102.06 cfs
Storm frequency	= 10 yrs	Time to peak	= 727 min
Time interval	= 1 min	Hyd. volume	= 417,226 cuft
Inflow hyds.	= 4, 7, 8	Contrib. drain. area	= 30.460 ac

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Hyd. 4 + (cfs)	Hyd. 7 + (cfs)	Hyd. 8 + (cfs)	Outflow (cfs)
721	12.36	19.02	40.46	71.84
722	13.74	20.51	45.47	79.71
723	14.78	22.07	50.38	87.23
724	15.28 <<	23.68	54.75	93.71
725	15.16	25.30	58.10	98.56
726	14.49	26.90	59.96	101.35
727	13.42	28.44	60.21 <<	102.06
<<				
728	12.11	29.85	59.09	101.05
729	10.73	31.10	56.86	98.69
730	9.475	32.13	53.80	95.40
731	8.458	32.88	50.20	91.54
732	7.680	33.31	46.45	87.45
733	7.100	33.41 <<	42.80	83.31
734	6.673	33.23	39.36	79.26
735	6.354	32.82	36.25	75.43
736	6.103	32.22	33.62	71.94

...End

Hydrograph Report

Hyd. No. 11

Watershed EX-1B Combine

Hydrograph type	= Combine	Peak discharge	= 109.60 cfs
Storm frequency	= 10 yrs	Time to peak	= 727 min
Time interval	= 1 min	Hyd. volume	= 473,375 cuft
Inflow hyds.	= 3, 10	Contrib. drain. area	= 4.140 ac

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Hyd. 3 + (cfs)	Hyd. 10 = (cfs)	Outflow (cfs)
721	5.077	71.84	76.92
722	5.455	79.71	85.17
723	5.856	87.23	93.08
724	6.271	93.71	99.98
725	6.695	98.56	105.26
726	7.119	101.35	108.47
727	7.540	102.06 <<	109.60
<<			
728	7.956	101.05	109.00
729	8.365	98.69	107.06
730	8.765	95.40	104.17
731	9.153	91.54	100.70
732	9.525	87.45	96.97
733	9.870	83.31	93.18
734	10.18	79.26	89.44
735	10.44	75.43	85.86
736	10.64	71.94	82.58
737	10.78	68.82	79.60
738	10.85	66.02	76.86

...End

Hydrograph Report

Hyd. No. 12

Flow to WtrShed.-1A

Hydrograph type	= Reservoir	Peak discharge	= 80.64 cfs
Storm frequency	= 10 yrs	Time to peak	= 737 min
Time interval	= 1 min	Hyd. volume	= 473,372 cuft
Inflow hyd. No.	= 11 - Watershed EX-1B Combine	Reservoir name	= Existing Pond Wat
Max. Elevation	= 107.23 ft	Max. Storage	= 160,739 cuft

Storage Indication method used. Wet pond routing start elevation = 106.60 ft.

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
727	109.60 <<	107.15	4.958	-----	-----	-----	13.59	34.60	5.993	-----	-----	59.14
728	109.00	107.17	5.038	-----	-----	-----	14.24	37.19	7.007	-----	-----	63.48
729	107.06	107.18	5.108	-----	-----	-----	14.82	39.49	7.907	-----	-----	67.33
730	104.17	107.20	5.169	-----	-----	-----	15.31	41.47	8.681	-----	-----	70.63
731	100.70	107.21	5.216	-----	-----	-----	15.75	43.24	9.435	-----	-----	73.64
732	96.97	107.22	5.253	-----	-----	-----	16.10	44.71	10.09	-----	-----	76.15
733	93.18	107.22	5.280	-----	-----	-----	16.36	45.81	10.58	-----	-----	78.03
734	89.44	107.23	5.299	-----	-----	-----	16.55	46.58	10.93	-----	-----	79.36
735	85.86	107.23	5.311	-----	-----	-----	16.66	47.06	11.14	-----	-----	80.18
736	82.58	107.23	5.317	-----	-----	-----	16.72	47.30	11.25	-----	-----	80.58
737	79.60	107.23 <<	5.318	-----	-----	-----	16.73	47.33	11.26	-----	-----	80.64
738	76.86	107.23	5.314	-----	-----	-----	16.69	47.19	11.20	-----	-----	80.40
739	74.32	107.23	5.307	-----	-----	-----	16.63	46.91	11.07	-----	-----	79.92
740	71.90	107.23	5.298	-----	-----	-----	16.53	46.51	10.90	-----	-----	79.24
741	69.51	107.22	5.285	-----	-----	-----	16.41	46.02	10.67	-----	-----	78.39
742	67.08	107.22	5.271	-----	-----	-----	16.27	45.43	10.41	-----	-----	77.38
743	64.57	107.22	5.254	-----	-----	-----	16.11	44.76	10.11	-----	-----	76.23
744	62.00	107.21	5.235	-----	-----	-----	15.93	44.00	9.776	-----	-----	74.94
745	59.35	107.21	5.215	-----	-----	-----	15.73	43.17	9.405	-----	-----	73.52

Continues on next page...

Flow to WtrShed.-1A

Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
746	56.65	107.20	5.192	-----	-----	-----	15.51	42.27	9.001	-----	-----	71.98
747	53.91	107.20	5.166	-----	-----	-----	15.29	41.39	8.650	-----	-----	70.50
748	51.15	107.19	5.138	-----	-----	-----	15.06	40.46	8.286	-----	-----	68.95
749	48.38	107.18	5.107	-----	-----	-----	14.81	39.47	7.898	-----	-----	67.29
750	45.64	107.17	5.075	-----	-----	-----	14.55	38.42	7.488	-----	-----	65.54
751	42.96	107.17	5.042	-----	-----	-----	14.27	37.33	7.059	-----	-----	63.70
752	40.39	107.16	5.007	-----	-----	-----	13.99	36.19	6.614	-----	-----	61.80
753	37.99	107.15	4.971	-----	-----	-----	13.70	35.02	6.157	-----	-----	59.84
754	35.77	107.14	4.935	-----	-----	-----	13.40	33.83	5.693	-----	-----	57.86

...End

Pond Report

Pond No. 2 - Existing Pond Watershed-1B at EL 6.6

Pond Data

Contours -User-defined contour areas. Average end area method used for volume calculation. Begining Elevation = 106.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	106.00	99,812	0	0
0.60	106.60	127,756	68,270	68,270
1.00	107.00	145,027	54,557	122,827
2.00	108.00	183,072	164,050	286,877

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 18.00	0.00	0.00	0.00
Span (in)	= 18.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 104.19	0.00	0.00	0.00
Length (ft)	= 165.00	0.00	0.00	0.00
Slope (%)	= 0.12	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.67	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 10.00	50.00	30.00	0.00
Crest El. (ft)	= 106.60	106.80	107.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= Rect	Rect	Rect	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr) = 0.000 (by Contour)

TW Elev. (ft) = 106.60

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	106.00	0.00	---	---	---	0.00	0.00	0.00	---	---	---	0.000
0.60	68,270	106.60	0.00	---	---	---	0.00	0.00	0.00	---	---	---	0.000
1.00	122,827	107.00	4.24 oc	---	---	---	8.42	14.89	0.00	---	---	---	27.55
2.00	286,877	108.00	7.93 oc	---	---	---	55.16	218.87	99.90	---	---	---	381.86

Hydrograph Report

Hyd. No. 14

Watershed Pond 1A and Combine Watershed 1B

Hydrograph type	= Combine	Peak discharge	= 98.20 cfs
Storm frequency	= 10 yrs	Time to peak	= 734 min
Time interval	= 1 min	Hyd. volume	= 625,560 cuft
Inflow hyds.	= 2, 12	Contrib. drain. area	= 8.360 ac

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Hyd. 2 + (cfs)	Hyd. 12 + (cfs)	Outflow (cfs)
721	34.91	34.45	69.36
722	38.80	37.66	76.46
723	41.75	41.20	82.95
724	43.16 <<	45.00	88.16
725	42.82	49.46	92.28
726	40.93	54.42	95.36
727	37.89	59.14	97.03
728	34.19	63.48	97.67
729	30.30	67.33	97.63
730	26.76	70.63	97.40
731	23.89	73.64	97.53
732	21.69	76.15	97.84
733	20.05	78.03	98.08
734	18.85	79.36	98.20
735	17.95	80.18	98.13
736	17.24	80.58	97.82
737	16.59	80.64 <<	97.23
738	15.95	80.40	96.34
739	15.30	79.92	95.22
740	14.65	79.24	93.89

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Watershed Pond 1A and Combine Watershed 1B

Hydrograph Discharge Table

Time (min)	Hyd. 2 + (cfs)	Hyd. 12 + (cfs)	Outflow (cfs)
741	14.00	78.39	92.39
742	13.36	77.38	90.74
743	12.71	76.23	88.94
744	12.06	74.94	87.01
745	11.42	73.52	84.94
746	10.77	71.98	82.74
747	10.12	70.50	80.62
748	9.474	68.95	78.42
749	8.824	67.29	76.11
750	8.174	65.54	73.71
751	7.540	63.70	71.24
752	6.944	61.80	68.74

...End

Hydrograph Report

Hyd. No. 15

Combine Watershed Pond 1A and Watershed 1A

Hydrograph type	= Combine	Peak discharge	= 120.00 cfs
Storm frequency	= 10 yrs	Time to peak	= 737 min
Time interval	= 1 min	Hyd. volume	= 781,116 cuft
Inflow hyds.	= 1, 14	Contrib. drain. area	= 11.140 ac

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Hyd. 1 + (cfs)	Hyd. 14 = (cfs)	Outflow (cfs)
722	11.11	76.46	87.57
723	11.85	82.95	94.80
724	12.63	88.16	100.79
725	13.42	92.28	105.70
726	14.23	95.36	109.59
727	15.04	97.03	112.07
728	15.85	97.67	113.52
729	16.66	97.63	114.30
730	17.47	97.40	114.87
731	18.27	97.53	115.80
732	19.06	97.84	116.90
733	19.84	98.08	117.92
734	20.60	98.20 <<	118.80
735	21.34	98.13	119.47
736	22.07	97.82	119.89
737	22.77	97.23	120.00
738	23.44	96.34	119.78
739	24.05	95.22	119.27
740	24.61	93.89	118.50
741	25.09	92.39	117.48

Continues on next page...

Combine Watershed Pond 1A and Watershed 1A

Hydrograph Discharge Table

Time (min)	Hyd. 1 + (cfs)	Hyd. 14 = (cfs)	Outflow (cfs)
742	25.47	90.74	116.22
743	25.75	88.94	114.69
744	25.91	87.01	112.92
745	25.98 <<	84.94	110.91
746	25.95	82.74	108.70
747	25.86	80.62	106.48
748	25.70	78.42	104.12
749	25.49	76.11	101.61
750	25.25	73.71	98.96
751	24.96	71.24	96.20
752	24.64	68.74	93.38
753	24.28	66.26	90.53
754	23.88	63.84	87.72
755	23.46	61.50	84.96

...End

Hydrograph Report

Hyd. No. 16

Ex. Discharge at 96

Hydrograph type	= Reservoir	Peak discharge	= 103.64 cfs
Storm frequency	= 10 yrs	Time to peak	= 748 min
Time interval	= 1 min	Hyd. volume	= 781,116 cuft
Inflow hyd. No.	= 15 - Combine Waters	Reservoir name	= Existing Pond Wat
Max. Elevation	= 106.75 ft	Max. Storage	= 251,981 cuft

Storage Indication method used. Wet pond routing start elevation = 106.60 ft.

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
727	112.07	106.68	73.83	-----	-----	-----	-----	-----	-----	-----	-----	73.83
728	113.52	106.68	76.96	-----	-----	-----	-----	-----	-----	-----	-----	76.96
729	114.30	106.69	79.37	-----	-----	-----	-----	-----	-----	-----	-----	79.37
730	114.87	106.69	81.66	-----	-----	-----	-----	-----	-----	-----	-----	81.66
731	115.80	106.70	83.86	-----	-----	-----	-----	-----	-----	-----	-----	83.86
732	116.90	106.70	85.97	-----	-----	-----	-----	-----	-----	-----	-----	85.98
733	117.92	106.71	88.03	-----	-----	-----	-----	-----	-----	-----	-----	88.02
734	118.80	106.71	90.00	-----	-----	-----	-----	-----	-----	-----	-----	90.00
735	119.47	106.72	91.90	-----	-----	-----	-----	-----	-----	-----	-----	91.90
736	119.89	106.72	93.70	-----	-----	-----	-----	-----	-----	-----	-----	93.70
737	120.00 <<	106.72	95.15	-----	-----	-----	-----	-----	-----	-----	-----	95.15
738	119.78	106.73	96.51	-----	-----	-----	-----	-----	-----	-----	-----	96.51
739	119.27	106.73	97.78	-----	-----	-----	-----	-----	-----	-----	-----	97.79
740	118.50	106.73	98.95	-----	-----	-----	-----	-----	-----	-----	-----	98.95
741	117.48	106.74	100.00	-----	-----	-----	-----	-----	-----	-----	-----	100.00
742	116.22	106.74	100.93	-----	-----	-----	-----	-----	-----	-----	-----	100.93
743	114.69	106.74	101.74	-----	-----	-----	-----	-----	-----	-----	-----	101.74
744	112.92	106.74	102.40	-----	-----	-----	-----	-----	-----	-----	-----	102.40
745	110.91	106.75	102.93	-----	-----	-----	-----	-----	-----	-----	-----	102.93
746	108.70	106.75	103.31	-----	-----	-----	-----	-----	-----	-----	-----	103.31

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Ex. Discharge at 96

Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
747	106.48	106.75	103.55	-----	-----	-----	-----	-----	-----	-----	-----	103.55
748	104.12	106.75 <<	103.64	-----	-----	-----	-----	-----	-----	-----	-----	103.64
<<												
749	101.61	106.75	103.60	-----	-----	-----	-----	-----	-----	-----	-----	103.60
750	98.96	106.75	103.42	-----	-----	-----	-----	-----	-----	-----	-----	103.42
751	96.20	106.75	103.09	-----	-----	-----	-----	-----	-----	-----	-----	103.09
752	93.38	106.74	102.64	-----	-----	-----	-----	-----	-----	-----	-----	102.63
753	90.53	106.74	102.04	-----	-----	-----	-----	-----	-----	-----	-----	102.04
754	87.72	106.74	101.33	-----	-----	-----	-----	-----	-----	-----	-----	101.33
755	84.96	106.74	100.50	-----	-----	-----	-----	-----	-----	-----	-----	100.50
756	82.26	106.74	99.57	-----	-----	-----	-----	-----	-----	-----	-----	99.57
757	79.62	106.73	98.54	-----	-----	-----	-----	-----	-----	-----	-----	98.54
758	77.03	106.73	97.42	-----	-----	-----	-----	-----	-----	-----	-----	97.42
759	74.51	106.73	96.23	-----	-----	-----	-----	-----	-----	-----	-----	96.23
760	72.21	106.72	94.96	-----	-----	-----	-----	-----	-----	-----	-----	94.96
761	70.14	106.72	93.65	-----	-----	-----	-----	-----	-----	-----	-----	93.65
762	68.07	106.72	92.06	-----	-----	-----	-----	-----	-----	-----	-----	92.06
763	66.02	106.71	90.42	-----	-----	-----	-----	-----	-----	-----	-----	90.42
764	64.00	106.71	88.77	-----	-----	-----	-----	-----	-----	-----	-----	88.77
765	62.00	106.70	87.09	-----	-----	-----	-----	-----	-----	-----	-----	87.09
766	60.03	106.70	85.39	-----	-----	-----	-----	-----	-----	-----	-----	85.39
767	58.10	106.70	83.67	-----	-----	-----	-----	-----	-----	-----	-----	83.67
768	56.20	106.69	81.94	-----	-----	-----	-----	-----	-----	-----	-----	81.94
769	54.35	106.69	80.20	-----	-----	-----	-----	-----	-----	-----	-----	80.20
770	52.55	106.68	78.46	-----	-----	-----	-----	-----	-----	-----	-----	78.46
771	50.79	106.68	76.71	-----	-----	-----	-----	-----	-----	-----	-----	76.71
772	49.07	106.68	74.54	-----	-----	-----	-----	-----	-----	-----	-----	74.54

...End

Pond Report

Pond No. 1 - Existing Pond Watershed-1A at El. 6.6

Pond Data

Contours -User-defined contour areas. Average end area method used for volume calculation. Begining Elevation = 106.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	106.00	287,373	0	0
0.60	106.60	364,326	195,510	195,510
1.00	107.00	400,318	152,929	348,439
2.00	108.00	493,298	446,808	795,247

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 96.00	0.00	0.00	0.00
Span (in)	= 96.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 94.42	0.00	0.00	0.00
Length (ft)	= 210.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.67	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 0.00	0.00	0.00	0.00
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= ---	---	---	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr) = 0.000 (by Contour)

TW Elev. (ft) = 106.60

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	106.00	0.00	---	---	---	---	---	---	---	---	---	0.000
0.60	195,510	106.60	0.00	---	---	---	---	---	---	---	---	---	0.000
1.00	348,439	107.00	170.91 ic	---	---	---	---	---	---	---	---	---	170.91
2.00	795,247	108.00	319.74 ic	---	---	---	---	---	---	---	---	---	319.74

Hydrograph Report

Hyd. No. 18

Ex. Watershed 2 and ERC Site

Hydrograph type	= Combine	Peak discharge	= 243.55 cfs
Storm frequency	= 10 yrs	Time to peak	= 740 min
Time interval	= 1 min	Hyd. volume	= 1,334,207 cuft
Inflow hyds.	= 5, 6	Contrib. drain. area	= 93.000 ac

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Hyd. 5 + (cfs)	Hyd. 6 + (cfs)	Outflow (cfs)
728	12.12	160.46	172.58
729	12.75	168.55	181.29
730	13.37	176.47	189.84
731	13.99	184.21	198.20
732	14.61	191.72	206.32
733	15.21	198.89	214.10
734	15.81	205.53	221.34
735	16.40	211.46	227.85
736	16.97	216.49	233.46
737	17.53	220.41	237.93
738	18.07	223.03	241.09
739	18.58	224.34	242.92
740	19.06	224.49 <<	243.55
<<			
741	19.49	223.66	243.14
742	19.86	222.00	241.86
743	20.16	219.68	239.84
744	20.38	216.88	237.26
745	20.52	213.69	234.20
746	20.58 <<	210.12	230.70
747	20.58	206.19	226.77

Continues on next page...

Ex. Watershed 2 and ERC Site

Hydrograph Discharge Table

Time (min)	Hyd. 5 + (cfs)	Hyd. 6 + (cfs)	Outflow (cfs)
748	20.52	201.91	222.43
749	20.41	197.31	217.72
750	20.27	192.38	212.65
751	20.10	187.16	207.25
752	19.89	181.67	201.56
753	19.66	175.94	195.60
754	19.40	169.99	189.39
755	19.12	163.86	182.98
756	18.81	157.57	176.38

...End

Hydrograph Report

Hyd. No. 19

Ex. Discharge at 108

Hydrograph type	= Reservoir	Peak discharge	= 197.08 cfs
Storm frequency	= 10 yrs	Time to peak	= 753 min
Time interval	= 1 min	Hyd. volume	= 1,334,206 cuft
Inflow hyd. No.	= 18 - Ex. Watershed 2 and EFC Site	Reservoir name	= Ex. Storage at 10
Max. Elevation	= 106.93 ft	Max. Storage	= 1,023,272 cuft

Storage Indication method used. Wet pond routing start elevation = 106.60 ft.

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
733	214.10	106.77	141.00	-----	-----	-----	-----	-----	-----	-----	-----	141.00
734	221.34	106.79	146.32	-----	-----	-----	-----	-----	-----	-----	-----	146.32
735	227.85	106.80	151.74	-----	-----	-----	-----	-----	-----	-----	-----	151.74
736	233.46	106.81	156.25	-----	-----	-----	-----	-----	-----	-----	-----	156.25
737	237.93	106.82	160.50	-----	-----	-----	-----	-----	-----	-----	-----	160.50
738	241.09	106.83	164.74	-----	-----	-----	-----	-----	-----	-----	-----	164.74
739	242.92	106.85	168.88	-----	-----	-----	-----	-----	-----	-----	-----	168.88
740	243.55 <<	106.86	172.86	-----	-----	-----	-----	-----	-----	-----	-----	172.86
741	243.14	106.87	176.64	-----	-----	-----	-----	-----	-----	-----	-----	176.64
742	241.86	106.88	180.17	-----	-----	-----	-----	-----	-----	-----	-----	180.17
743	239.84	106.89	183.42	-----	-----	-----	-----	-----	-----	-----	-----	183.42
744	237.26	106.90	186.38	-----	-----	-----	-----	-----	-----	-----	-----	186.38
745	234.20	106.90	188.76	-----	-----	-----	-----	-----	-----	-----	-----	188.76
746	230.70	106.91	190.74	-----	-----	-----	-----	-----	-----	-----	-----	190.74
747	226.77	106.92	192.47	-----	-----	-----	-----	-----	-----	-----	-----	192.47
748	222.43	106.92	193.92	-----	-----	-----	-----	-----	-----	-----	-----	193.93
749	217.72	106.93	195.11	-----	-----	-----	-----	-----	-----	-----	-----	195.11
750	212.65	106.93	196.02	-----	-----	-----	-----	-----	-----	-----	-----	196.02
751	207.25	106.93	196.65	-----	-----	-----	-----	-----	-----	-----	-----	196.65
752	201.56	106.93	197.00	-----	-----	-----	-----	-----	-----	-----	-----	197.01

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Ex. Discharge at 108

Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
753	195.60	106.93 <<	197.08	-----	-----	-----	-----	-----	-----	-----	-----	197.08
754	189.39	106.93	196.87	-----	-----	-----	-----	-----	-----	-----	-----	196.87
755	182.98	106.93	196.38	-----	-----	-----	-----	-----	-----	-----	-----	196.38
756	176.38	106.93	195.63	-----	-----	-----	-----	-----	-----	-----	-----	195.63
757	169.63	106.93	194.60	-----	-----	-----	-----	-----	-----	-----	-----	194.60
758	162.76	106.92	193.31	-----	-----	-----	-----	-----	-----	-----	-----	193.31
759	155.80	106.92	191.77	-----	-----	-----	-----	-----	-----	-----	-----	191.77
760	148.78	106.91	189.98	-----	-----	-----	-----	-----	-----	-----	-----	189.98
761	141.73	106.90	187.95	-----	-----	-----	-----	-----	-----	-----	-----	187.95
762	134.67	106.89	185.39	-----	-----	-----	-----	-----	-----	-----	-----	185.39
763	127.68	106.89	182.49	-----	-----	-----	-----	-----	-----	-----	-----	182.49
764	120.83	106.88	179.37	-----	-----	-----	-----	-----	-----	-----	-----	179.37
765	114.21	106.87	176.05	-----	-----	-----	-----	-----	-----	-----	-----	176.05
766	107.92	106.86	172.57	-----	-----	-----	-----	-----	-----	-----	-----	172.57
767	102.04	106.85	168.95	-----	-----	-----	-----	-----	-----	-----	-----	168.95
768	96.67	106.84	165.22	-----	-----	-----	-----	-----	-----	-----	-----	165.22
769	91.82	106.82	161.42	-----	-----	-----	-----	-----	-----	-----	-----	161.42
770	87.43	106.81	157.57	-----	-----	-----	-----	-----	-----	-----	-----	157.57
771	83.44	106.80	153.70	-----	-----	-----	-----	-----	-----	-----	-----	153.70
772	79.79	106.79	148.93	-----	-----	-----	-----	-----	-----	-----	-----	148.93
773	76.41	106.78	144.02	-----	-----	-----	-----	-----	-----	-----	-----	144.02
774	73.24	106.77	139.22	-----	-----	-----	-----	-----	-----	-----	-----	139.23

...End

Pond Report

Pond No. 4 - Ex. Storage at 108 Pipe

Pond Data

Contours -User-defined contour areas. Average end area method used for volume calculation. Begining Elevation = 100.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	100.00	00	0	0
4.00	104.00	79,554	159,108	159,108
5.00	105.00	300,200	189,877	348,985
6.00	106.00	349,000	324,600	673,585
7.00	107.00	400,080	374,540	1,048,125
8.00	108.00	427,800	413,940	1,462,065
9.00	109.00	470,050	448,925	1,910,990

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 108.00	0.00	0.00	0.00
Span (in)	= 108.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 96.44	0.00	0.00	0.00
Length (ft)	= 227.00	0.00	0.00	0.00
Slope (%)	= 0.01	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.67	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 0.00	0.00	0.00	0.00
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= ---	---	---	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr) = 0.000 (by Contour)

TW Elev. (ft) = 106.60

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	100.00	0.00	---	---	---	---	---	---	---	---	---	0.000
4.00	159,108	104.00	0.00	---	---	---	---	---	---	---	---	---	0.000
5.00	348,985	105.00	0.00	---	---	---	---	---	---	---	---	---	0.000
6.00	673,585	106.00	0.00	---	---	---	---	---	---	---	---	---	0.000
7.00	1,048,125	107.00	216.31 ic	---	---	---	---	---	---	---	---	---	216.31
8.00	1,462,065	108.00	404.67 ic	---	---	---	---	---	---	---	---	---	404.67
9.00	1,910,990	109.00	529.84 ic	---	---	---	---	---	---	---	---	---	529.84

Hydrograph Report

Hyd. No. 22

PR-1B

Hydrograph type	= SCS Runoff	Peak discharge	= 17.89 cfs
Storm frequency	= 10 yrs	Time to peak	= 745 min
Time interval	= 1 min	Hyd. volume	= 107,715 cuft
Drainage area	= 7.510 ac	Curve number	= 90*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 37.7 min
Total precip.	= 5.10 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.760 x 98) + (5.750 x 88)] / 7.510

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Outflow cfs	Time (min)	Outflow cfs
731	12.65	748	17.68
732	13.19	749	17.53
733	13.72	750	17.36
734	14.24	751	17.16
735	14.75	752	16.93
736	15.24	753	16.68
737	15.72	754	16.41
738	16.17	755	16.11
739	16.59	756	15.79
740	16.97	757	15.46
741	17.30	758	15.11
742	17.56	759	14.74
743	17.74	760	14.36
744	17.85	761	13.97
745	17.89	762	13.56
746	17.86	763	13.15
747	17.79	764	12.73

...End

Hydrograph Report

Hyd. No. 23

PR-2

Hydrograph type	= SCS Runoff	Peak discharge	= 15.58 cfs
Storm frequency	= 10 yrs	Time to peak	= 741 min
Time interval	= 1 min	Hyd. volume	= 85,270 cuft
Drainage area	= 6.200 ac	Curve number	= 88
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 30.5 min
Total precip.	= 5.10 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)
729	11.20	746	14.98
730	11.74	747	14.76
731	12.27	748	14.52
732	12.79	749	14.25
733	13.29	750	13.96
734	13.78	751	13.65
735	14.23	752	13.32
736	14.63	753	12.97
737	14.98	754	12.60
738	15.25	755	12.22
739	15.44	756	11.82
740	15.55	757	11.41
741	15.58	758	10.99
742	15.55	*...End*	
743	15.46		
744	15.33		
745	15.17		

<<

Hydrograph Report

Hyd. No. 24

PR-1A

Hydrograph type	= SCS Runoff	Peak discharge	= 58.49 cfs
Storm frequency	= 10 yrs	Time to peak	= 730 min
Time interval	= 1 min	Hyd. volume	= 258,461 cuft
Drainage area	= 15.000 ac	Curve number	= 97*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 13.6 min
Total precip.	= 5.10 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(14.380 x 98) + (0.620 x 77)] / 15.000

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Outflow cfs)
723	43.71
724	47.22
725	50.56
726	53.53
727	55.94
728	57.63
729	58.48
730	58.49
731	57.77
732	56.47
733	54.72
734	52.64
735	50.39
736	48.03
737	45.58
738	43.04

<<

...End

Hydrograph Report

Hyd. No. 25

PR-1C

Hydrograph type	= SCS Runoff	Peak discharge	= 7.520 cfs
Storm frequency	= 10 yrs	Time to peak	= 731 min
Time interval	= 1 min	Hyd. volume	= 32,624 cuft
Drainage area	= 2.120 ac	Curve number	= 92*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 15.4 min
Total precip.	= 5.10 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.890 x 98) + (1.230 x 88)] / 2.120

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)
723	5.306	740	5.644
724	5.727	741	5.348
725	6.147		
726	6.540	...End	
727	6.886		
728	7.173		
729	7.381		
730	7.497		
731	7.520		
732	7.462		
733	7.339		
734	7.165		
735	6.952		
736	6.717		
737	6.468		
738	6.205		
739	5.930		

<<

Hydrograph Report

Hyd. No. 26

PR-1B Pond at El. 6.6

Hydrograph type	= SCS Runoff	Peak discharge	= 22.66 cfs
Storm frequency	= 10 yrs	Time to peak	= 724 min
Time interval	= 1 min	Hyd. volume	= 79,917 cuft
Drainage area	= 4.390 ac	Curve number	= 98
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.0 min
Total precip.	= 5.10 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time -- (min)	Outflow cfs)	
720	16.14	
721	18.33	
722	20.38	
723	21.92	
724	22.66	<<
725	22.49	
726	21.49	
727	19.90	
728	17.95	
729	15.91	

...End

Hydrograph Report

Hyd. No. 27

PR-1C Pond at El. 6.6

Hydrograph type	= SCS Runoff	Peak discharge	= 2.994 cfs
Storm frequency	= 10 yrs	Time to peak	= 724 min
Time interval	= 1 min	Hyd. volume	= 10,559 cuft
Drainage area	= 0.580 ac	Curve number	= 98
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.0 min
Total precip.	= 5.10 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Outflow cfs)	
720	2.132	
721	2.422	
722	2.692	
723	2.897	
724	2.994	<<
725	2.971	
726	2.840	
727	2.629	
728	2.372	
729	2.102	

...End

Hydrograph Report

Hyd. No. 29

Proposed Watershed 2 and ERC Site

Hydrograph type	= Combine	Peak discharge	= 240.04 cfs
Storm frequency	= 10 yrs	Time to peak	= 740 min
Time interval	= 1 min	Hyd. volume	= 1,293,777 cuft
Inflow hyds.	= 6, 23	Contrib. drain. area	= 90.000 ac

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Hyd. 6 + (cfs)	Hyd. 23 + (cfs)	Outflow (cfs)
728	160.46	10.65	171.11
729	168.55	11.20	179.74
730	176.47	11.74	188.21
731	184.21	12.27	196.48
732	191.72	12.79	204.51
733	198.89	13.29	212.18
734	205.53	13.78	219.31
735	211.46	14.23	225.68
736	216.49	14.63	231.12
737	220.41	14.98	235.38
738	223.03	15.25	238.28
739	224.34	15.44	239.78
740	224.49 <<	15.55	240.04
741	223.66	15.58 <<	239.24
742	222.00	15.55	237.55
743	219.68	15.46	235.14
744	216.88	15.33	232.21
745	213.69	15.17	228.85
746	210.12	14.98	225.10
747	206.19	14.76	220.95

Continues on next page...

Proposed Watershed 2 and ERC Site

Hydrograph Discharge Table

Time (min)	Hyd. 6 + (cfs)	Hyd. 23 + (cfs)	Outflow (cfs)
748	201.91	14.52	216.43
749	197.31	14.25	211.56
750	192.38	13.96	206.34
751	187.16	13.65	200.81
752	181.67	13.32	194.99
753	175.94	12.97	188.90
754	169.99	12.60	182.59
755	163.86	12.22	176.08
756	157.57	11.82	169.39

...End

Hydrograph Report

Hyd. No. 30

Pr. Discharge at 108

Hydrograph type	= Reservoir	Peak discharge	= 197.89 cfs
Storm frequency	= 10 yrs	Time to peak	= 752 min
Time interval	= 1 min	Hyd. volume	= 1,293,773 cuft
Inflow hyd. No.	= 29 - Proposed Watershed 2 and ERC Site	Reservoir name	= Pr. Storage at 10
Max. Elevation	= 106.94 ft	Max. Storage	= 934,039 cuft

Storage Indication method used. Wet pond routing start elevation = 106.60 ft.

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
732	204.51	106.77	138.56	-----	-----	-----	-----	-----	-----	-----	-----	138.56
733	212.18	106.78	144.00	-----	-----	-----	-----	-----	-----	-----	-----	144.00
734	219.31	106.79	149.60	-----	-----	-----	-----	-----	-----	-----	-----	149.60
735	225.68	106.81	154.75	-----	-----	-----	-----	-----	-----	-----	-----	154.76
736	231.12	106.82	159.20	-----	-----	-----	-----	-----	-----	-----	-----	159.20
737	235.38	106.83	163.67	-----	-----	-----	-----	-----	-----	-----	-----	163.67
738	238.28	106.84	168.09	-----	-----	-----	-----	-----	-----	-----	-----	168.09
739	239.78	106.86	172.37	-----	-----	-----	-----	-----	-----	-----	-----	172.37
740	240.04 <<	106.87	176.45	-----	-----	-----	-----	-----	-----	-----	-----	176.45
741	239.24	106.88	180.27	-----	-----	-----	-----	-----	-----	-----	-----	180.27
742	237.55	106.89	183.78	-----	-----	-----	-----	-----	-----	-----	-----	183.78
743	235.14	106.90	186.95	-----	-----	-----	-----	-----	-----	-----	-----	186.95
744	232.21	106.91	189.40	-----	-----	-----	-----	-----	-----	-----	-----	189.40
745	228.85	106.91	191.50	-----	-----	-----	-----	-----	-----	-----	-----	191.50
746	225.10	106.92	193.32	-----	-----	-----	-----	-----	-----	-----	-----	193.32
747	220.95	106.93	194.84	-----	-----	-----	-----	-----	-----	-----	-----	194.84
748	216.43	106.93	196.06	-----	-----	-----	-----	-----	-----	-----	-----	196.06
749	211.56	106.93	196.97	-----	-----	-----	-----	-----	-----	-----	-----	196.97
750	206.34	106.94	197.59	-----	-----	-----	-----	-----	-----	-----	-----	197.59
751	200.81	106.94	197.89	-----	-----	-----	-----	-----	-----	-----	-----	197.89

Continues on next page...

Pr. Discharge at 108

Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
752	194.99	106.94 <<	197.89	-----	-----	-----	-----	-----	-----	-----	-----	197.89
753	188.90	106.94	197.59	-----	-----	-----	-----	-----	-----	-----	-----	197.59
754	182.59	106.93	196.98	-----	-----	-----	-----	-----	-----	-----	-----	196.98
755	176.08	106.93	196.08	-----	-----	-----	-----	-----	-----	-----	-----	196.08
756	169.39	106.93	194.89	-----	-----	-----	-----	-----	-----	-----	-----	194.89
757	162.57	106.92	193.41	-----	-----	-----	-----	-----	-----	-----	-----	193.41
758	155.64	106.91	191.65	-----	-----	-----	-----	-----	-----	-----	-----	191.65
759	148.62	106.91	189.63	-----	-----	-----	-----	-----	-----	-----	-----	189.63
760	141.56	106.90	187.35	-----	-----	-----	-----	-----	-----	-----	-----	187.35
761	134.47	106.89	184.38	-----	-----	-----	-----	-----	-----	-----	-----	184.38
762	127.40	106.88	181.15	-----	-----	-----	-----	-----	-----	-----	-----	181.15
763	120.41	106.87	177.69	-----	-----	-----	-----	-----	-----	-----	-----	177.70
764	113.57	106.86	174.03	-----	-----	-----	-----	-----	-----	-----	-----	174.03
765	106.97	106.85	170.18	-----	-----	-----	-----	-----	-----	-----	-----	170.18
766	100.72	106.84	166.18	-----	-----	-----	-----	-----	-----	-----	-----	166.17
767	94.89	106.83	162.05	-----	-----	-----	-----	-----	-----	-----	-----	162.05
768	89.60	106.81	157.83	-----	-----	-----	-----	-----	-----	-----	-----	157.83
769	84.86	106.80	153.57	-----	-----	-----	-----	-----	-----	-----	-----	153.57
770	80.60	106.79	148.23	-----	-----	-----	-----	-----	-----	-----	-----	148.23
771	76.78	106.78	142.80	-----	-----	-----	-----	-----	-----	-----	-----	142.80

<<

...End

Pond Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2011 by Autodesk, Inc. v8 Wednesday, Dec 28, 2011

Pond No. 5 - Pr. Storage at 108in Pipe

Pond Data

Contours -User-defined contour areas. Average end area method used for volume calculation. Begining Elevation = 100.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	100.00	00	0	0
4.00	104.00	74,885	149,770	149,770
5.00	105.00	280,985	177,935	327,705
6.00	106.00	311,225	296,105	623,810
7.00	107.00	351,323	331,274	955,084
8.00	108.00	364,940	358,132	1,313,216
9.00	109.00	388,978	376,959	1,690,175

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 108.00	0.00	0.00	0.00
Span (in)	= 108.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 96.44	0.00	0.00	0.00
Length (ft)	= 227.00	0.00	0.00	0.00
Slope (%)	= 0.01	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.67	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 0.00	0.00	0.00	0.00
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= ---	---	---	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr) = 0.000 (by Contour)

TW Elev. (ft) = 106.60

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	100.00	0.00	---	---	---	---	---	---	---	---	---	0.000
4.00	149,770	104.00	0.00	---	---	---	---	---	---	---	---	---	0.000
5.00	327,705	105.00	0.00	---	---	---	---	---	---	---	---	---	0.000
6.00	623,810	106.00	0.00	---	---	---	---	---	---	---	---	---	0.000
7.00	955,084	107.00	216.31 ic	---	---	---	---	---	---	---	---	---	216.31
8.00	1,313,216	108.00	404.67 ic	---	---	---	---	---	---	---	---	---	404.67
9.00	1,690,175	109.00	529.84 ic	---	---	---	---	---	---	---	---	---	529.84

Hydrograph Report

Hyd. No. 32

Combine Flow at PR-1C

Hydrograph type	= Combine	Peak discharge	= 98.49 cfs
Storm frequency	= 10 yrs	Time to peak	= 728 min
Time interval	= 1 min	Hyd. volume	= 406,523 cuft
Inflow hyds.	= 7, 8, 25, 27	Contrib. drain. area	= 30.200 ac

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp)

Time (min)	Hyd. 7 + (cfs)	Hyd. 8 + (cfs)	Hyd. 25 + (cfs)	Hyd. 27 + (cfs)	Outflow (cfs)
722	20.51	45.47	4.898	2.692	73.56
723	22.07	50.38	5.306	2.897	80.65
724	23.68	54.75	5.727	2.994 <<	87.15
725	25.30	58.10	6.147	2.971	92.52
726	26.90	59.96	6.540	2.840	96.24
727	28.44	60.21 <<	6.886	2.629	98.16
728	29.85	59.09	7.173	2.372	98.49
<<					
729	31.10	56.86	7.381	2.102	97.45
730	32.13	53.80	7.497	1.857	95.28
731	32.88	50.20	7.520 <<	1.657	92.26
732	33.31	46.45	7.462	1.505	88.73
733	33.41 <<	42.80	7.339	1.391	84.94
734	33.23	39.36	7.165	1.307	81.06
735	32.82	36.25	6.952	1.245	77.27
736	32.22	33.62	6.717	1.196	73.75
737	31.48	31.47	6.468	1.151	70.56

...End

Hydrograph Report

Hyd. No. 34

Combine Flow at 96

Hydrograph type	= Combine	Peak discharge	= 86.58 cfs
Storm frequency	= 10 yrs	Time to peak	= 728 min
Time interval	= 1 min	Hyd. volume	= 446,093 cuft
Inflow hyds.	= 22, 24, 26	Contrib. drain. area	= 26.900 ac

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Hyd. 22 + (cfs)	Hyd. 24 + (cfs)	Hyd. 26 + (cfs)	Outflow (cfs)
721	7.246	37.04	18.33	62.61
722	7.730	40.27	20.38	68.37
723	8.242	43.71	21.92	73.88
724	8.775	47.22	22.66 <<	78.65
725	9.322	50.56	22.49	82.37
726	9.877	53.53	21.49	84.90
727	10.43	55.94	19.90	86.27
728 *	10.99	57.63	17.95	86.58
<<				
729	11.55	58.48	15.91	85.94
730	12.10	58.49 <<	14.05	84.64
731	12.65	57.77	12.54	82.96
732	13.19	56.47	11.39	81.04
733	13.72	54.72	10.53	78.96
734	14.24	52.64	9.896	76.78
735	14.75	50.39	9.423	74.56
736	15.24	48.03	9.051	72.32
737	15.72	45.58	8.714	70.01
738	16.17	43.04	8.373	67.59
739	16.59	40.46	8.034	65.09
740	16.97	37.89	7.695	62.56

...End

Hydrograph Report

Hyd. No. 35

Pr. Discharge at 96

Hydrograph type	= Reservoir (Interconnected)	Peak discharge	= 142.89 cfs
Storm frequency	= 10 yrs	Time to peak	= 737 min
Time interval	= 1 min	Hyd. volume	= 706,552 cuft
Upper Pond		**Lower Pond**	
Pond name	= Pr. Watershed-1C	Pond name	= Proposed Headwater at 96in F
Inflow hyd.	= 32 - Combine Flow at PR-1C	Other Inflow hyd.	= 34 - Combine Flow at
Max. Elevation	= 106.97 ft	Max. Elevation	= 106.88 ft
Max. Storage	= 49,732 cuft	Max. Storage	= 161,727 cuft

Interconnected Pond Routing. Storage Indication method used.

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Upper Pond |<----- Inflow cfs	Elevation ft	----->| Outflow cfs	|<--------- Inflow cfs	Lower Pond Other Inflow cfs	Elevation ft	Exfil cfs	--------->| Outflow cfs
724	87.15	106.83	74.22	74.22	78.65	106.74	-----	100.22
725	92.52	106.85	79.47	79.47	82.37	106.75	-----	106.14
726	96.24	106.88	83.49	83.49	84.90	106.77	-----	111.78
727	98.16	106.91	86.87	86.87	86.27	106.79	-----	117.19
728	98.49 <<	106.93	89.21	89.21	86.58 <<	106.81	-----	122.31
729	97.45	106.95	90.05	90.05	85.94	106.82	-----	126.78
730	95.28	106.96	90.07 <<	90.07 <<	84.64	106.83	-----	130.83
731	92.26	106.96	88.25	88.25	82.96	106.85	-----	134.19
732	88.73	106.97 <<	86.63	86.63	81.04	106.86	-----	136.90
733	84.94	106.97 <<	84.41	84.41	78.96	106.87	-----	139.11
734	81.06	106.97	81.77	81.77	76.78	106.87	-----	140.79
735	77.27	106.96	78.89	78.89	74.56	106.88	-----	141.96

Continues on next page...

Pr. Discharge at 96

Hydrograph Discharge Table

Time (min)	|<----- Inflow cfs	Upper Pond Elevation ft	----->| Outflow cfs	|<--------- Inflow cfs	Other Inflow cfs	Lower Pond Elevation ft	Exfil cfs	--------->| Outflow cfs
736	73.75	106.96	76.01	76.01	72.32	106.88	-----	142.65
737	70.56	106.95	73.16	73.16	70.01	106.88	-----	142.89
<<								
<<								
738	67.68	106.95	70.51	70.51	67.59	106.88	-----	142.71
739	65.04	106.94	68.10	68.10	65.09	106.88	-----	142.17
740	62.56	106.93	65.96	65.96	62.56	106.87	-----	141.30
741	60.16	106.92	63.68	63.68	60.04	106.87	-----	140.13
742	57.73	106.91	61.57	61.57	57.58	106.86	-----	138.69
743	55.25	106.91	59.54	59.54	55.24	106.86	-----	137.02
744	52.73	106.90	57.36	57.36	53.07	106.85	-----	135.14
745	50.18	106.88	54.78	54.78	51.07	106.84	-----	133.06
746	47.60	106.87	52.69	52.69	49.23	106.83	-----	130.69
747	45.02	106.86	50.64	50.64	47.49	106.83	-----	128.13
748	42.47	106.85	47.62	47.62	45.82	106.82	-----	125.43
749	39.95	106.83	45.22	45.22	44.19	106.81	-----	122.60
750	37.49	106.83	43.54	43.54	42.56	106.80	-----	119.57
751	35.11	106.81	40.99	40.99	40.90	106.79	-----	116.30
752	32.85	106.80	37.77	37.77	39.26	106.78	-----	112.92

Continues on next page...

Pr. Discharge at 96

Hydrograph Discharge Table

Time (min)	|<----- Inflow cfs	Upper Pond Elevation ft	----->| Outflow cfs	|<--------- Inflow cfs	Other Inflow cfs	Lower Pond Elevation ft	Exfil cfs	---------->| Outflow cfs
753	30.76	106.79	36.86	36.86	37.65	106.76	-----	109.51
754	28.83	106.78	35.21	35.21	36.10	106.75	-----	105.90
755	27.07	106.76	32.33	32.33	34.62	106.74	-----	102.09

...End

Pond Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2011 by Autodesk, Inc. v8 — Wednesday, Dec 28, 2011

Pond No. 6 - Pr. Watershed-1C

Pond Data

Contours -User-defined contour areas. Average end area method used for volume calculation. Begining Elevation = 103.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	103.00	700	0	0
1.00	104.00	1,200	950	950
2.00	105.00	14,775	7,988	8,938
3.00	106.00	20,129	17,452	26,390
3.60	106.60	25,156	13,586	39,975
4.00	107.00	28,680	10,767	50,742
5.00	108.00	36,455	32,568	83,310

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 0.00	0.00	0.00	0.00
Span (in)	= 0.00	0.00	0.00	0.00
No. Barrels	= 0	0	0	0
Invert El. (ft)	= 0.00	0.00	0.00	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 11.00	0.00	0.00	0.00
Crest El. (ft)	= 103.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= Rect	---	---	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr) = 0.000 (by Contour)

TW Elev. (ft) = 106.60

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	103.00	---	---	---	---	0.00	---	---	---	---	---	0.000
1.00	950	104.00	---	---	---	---	0.00	---	---	---	---	---	0.000
2.00	8,938	105.00	---	---	---	---	0.00	---	---	---	---	---	0.000
3.00	26,390	106.00	---	---	---	---	0.00	---	---	---	---	---	0.000
3.60	39,975	106.60	---	---	---	---	0.00	---	---	---	---	---	0.000
4.00	50,742	107.00	---	---	---	---	139.77 s	---	---	---	---	---	139.77
5.00	83,310	108.00	---	---	---	---	284.74 s	---	---	---	---	---	284.74

Pond Report

Pond No. 3 - Proposed Headwater at 96in Pipe

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 106.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	106.00	162,975	0	0
0.60	106.60	191,254	106,145	106,145
1.00	107.00	206,479	79,519	185,664
2.00	108.00	256,937	231,226	416,890

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 96.00	0.00	0.00	0.00
Span (in)	= 96.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 94.42	0.00	0.00	0.00
Length (ft)	= 210.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.67	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 0.00	0.00	0.00	0.00
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= ---	---	---	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr) = 0.000 (by Contour)

TW Elev. (ft) = 106.60

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	106.00	0.00	---	---	---	---	---	---	---	---	---	0.000
0.60	106,145	106.60	0.00	---	---	---	---	---	---	---	---	---	0.000
1.00	185,664	107.00	170.91 ic	---	---	---	---	---	---	---	---	---	170.91
2.00	416,890	108.00	319.74 ic	---	---	---	---	---	---	---	---	---	319.74

50-year

Hydrograph Summary Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2011 by Autodesk, Inc. v8

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	39.49	1	745	241,357	------	------	------	EX-1A
2	SCS Runoff	61.95	1	724	220,965	------	------	------	EX-1A Pond at EL. 6.6
3	SCS Runoff	16.63	1	738	87,794	------	------	------	EX-1B
4	SCS Runoff	21.94	1	724	78,236	------	------	------	EX.-1B Pond at El. 6.6
5	SCS Runoff	31.57	1	746	196,544	------	------	------	EX-2
6	SCS Runoff	338.26	1	739	1,860,884	------	------	------	ERC Site Via 60in Pipes
7	SCS Runoff	49.20	1	733	234,805	------	------	------	Offsite C
8	SCS Runoff	96.25	1	727	337,413	------	------	------	Offsite A
10	Combine	157.57	1	727	650,454	4, 7, 8,	------	------	Offsite A,C, and Watershed-1B Pon
11	Combine	169.33	1	727	738,249	3, 10	------	------	Watershed EX-1B Combine
12	Reservoir	132.21	1	735	738,246	11	107.40	188,316	Flow to WtrShed.-1A
14	Combine	161.65	1	729	959,210	2, 12,	------	------	Watershed Pond 1A and Combine
15	Combine	190.81	1	734	1,200,569	1, 14	------	------	Combine Watershed Pond 1A and
16	Reservoir	150.06	1	749	1,200,568	15	106.91	313,512	Ex. Discharge at 96
18	Combine	367.60	1	740	2,057,429	5, 6,	------	------	Ex. Watershed 2 and ERC Site
19	Reservoir	270.08	1	755	2,057,430	18	107.22	1,140,984	Ex. Discharge at 108
22	SCS Runoff	26.97	1	745	165,863	------	------	------	PR-1B
23	SCS Runoff	23.88	1	741	133,325	------	------	------	PR-2
24	SCS Runoff	84.25	1	729	377,967	------	------	------	PR-1A
25	SCS Runoff	11.15	1	731	49,486	------	------	------	PR-1C
26	SCS Runoff	32.53	1	724	116,033	------	------	------	PR-1B Pond at El. 6.6
27	SCS Runoff	4.298	1	724	15,330	------	------	------	PR-1C Pond at El. 6.6
29	Combine	362.04	1	740	1,994,209	6, 23,	------	------	Proposed Watershed 2 and ERC Si
30	Reservoir	273.22	1	754	1,994,208	29	107.24	1,040,715	Pr. Discharge at 108
32	Combine	152.39	1	728	637,035	7, 8, 25, 27,	------	------	Combine Flow at PR-1C
34	Combine	125.67	1	728	659,862	22, 24, 26,	------	------	Combine Flow at 96
35	Reservoir(i)	194.50	1	740	1,150,795	32, 34	107.32	274,061	Pr. Discharge at 96

Hydrograph Report

Hyd. No. 1

EX-1A

Hydrograph type	= SCS Runoff	Peak discharge	= 39.49 cfs
Storm frequency	= 50 yrs	Time to peak	= 745 min
Time interval	= 1 min	Hyd. volume	= 241,357 cuft
Drainage area	= 11.140 ac	Curve number	= 89*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 37.7 min
Total precip.	= 7.30 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(9.850 x 88) + (1.290 x 98)] / 11.140

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)
731	28.21	748	38.98
732	29.39	749	38.64
733	30.55	750	38.24
734	31.68	751	37.78
735	32.79	752	37.26
736	33.86	753	36.69
737	34.89	754	36.07
738	35.87	755	35.40
739	36.78	756	34.69
740	37.59	757	33.95
741	38.29	758	33.16
742	38.83	759	32.34
743	39.22	760	31.49
744	39.43	761	30.62
745	39.49	762	29.72
746	39.43	763	28.80
747	39.25	764	27.86

...End

Hydrograph Report

Hyd. No. 2

EX-1A Pond at EL. 6.6

Hydrograph type	= SCS Runoff	Peak discharge	= 61.95 cfs
Storm frequency	= 50 yrs	Time to peak	= 724 min
Time interval	= 1 min	Hyd. volume	= 220,965 cuft
Drainage area	= 8.360 ac	Curve number	= 98
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.0 min
Total precip.	= 7.30 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Outflow (cfs)	
720	44.14	
721	50.13	
722	55.72	
723	59.94	
724	61.95	<<
725	61.46	
726	58.74	
727	54.37	
728	49.06	
729	43.48	

...End

Hydrograph Report

Hyd. No. 3

EX-1B

Hydrograph type	= SCS Runoff	Peak discharge	= 16.63 cfs
Storm frequency	= 50 yrs	Time to peak	= 738 min
Time interval	= 1 min	Hyd. volume	= 87,794 cuft
Drainage area	= 4.140 ac	Curve number	= 88*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 28.7 min
Total precip.	= 7.30 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.110 x 98) + (4.030 x 88)] / 4.140

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)
727	11.76	744	15.66
728	12.38	745	15.37
729	12.99	746	15.04
730	13.59	747	14.69
731	14.17	748	14.32
732	14.72	749	13.92
733	15.23	750	13.50
734	15.69	751	13.06
735	16.07	752	12.61
736	16.36	753	12.13
737	16.55	754	11.65
738	16.63		
<<		...End	
739	16.62		
740	16.53		
741	16.38		
742	16.17		
743	15.93		

Hydrograph Report

Hyd. No. 4

EX.-1B Pond at El. 6.6

Hydrograph type	= SCS Runoff	Peak discharge	= 21.94 cfs
Storm frequency	= 50 yrs	Time to peak	= 724 min
Time interval	= 1 min	Hyd. volume	= 78,236 cuft
Drainage area	= 2.960 ac	Curve number	= 98
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.0 min
Total precip.	= 7.30 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Outflow cfs)	
720	15.63	
721	17.75	
722	19.73	
723	21.22	
724	21.94	<<
725	21.76	
726	20.80	
727	19.25	
728	17.37	
729	15.39	

...End

Hydrograph Report

Hyd. No. 5

EX-2

Hydrograph type	= SCS Runoff	Peak discharge	= 31.57 cfs
Storm frequency	= 50 yrs	Time to peak	= 746 min
Time interval	= 1 min	Hyd. volume	= 196,544 cuft
Drainage area	= 9.200 ac	Curve number	= 88
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 39.2 min
Total precip.	= 7.30 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)
732	22.78	749	31.23
733	23.69	750	30.99
734	24.59	751	30.70
735	25.47	752	30.36
736	26.32	753	29.99
737	27.15	754	29.57
738	27.95	755	29.12
739	28.71	756	28.62
740	29.41	757	28.10
741	30.04	758	27.54
742	30.58	759	26.95
743	31.02	760	26.34
744	31.32	761	25.70
745	31.50	762	25.05
746	31.57	763	24.37
747	31.53	764	23.67
748	31.42	765	22.96
		766	22.24

<<

Hydrograph Report

Hyd. No. 6

ERC Site Via 60in Pipes

Hydrograph type	= SCS Runoff	Peak discharge	= 338.26 cfs
Storm frequency	= 50 yrs	Time to peak	= 739 min
Time interval	= 1 min	Hyd. volume	= 1,860,884 cuft
Drainage area	= 83.800 ac	Curve number	= 90
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 30.0 min
Total precip.	= 7.30 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Outflow cfs)	Time (min)	Outflow cfs)
728	245.03	745	320.62
729	257.01	746	315.03
730	268.74	747	308.92
731	280.16	748	302.29
732	291.22	749	295.18
733	301.75	750	287.61
734	311.48	751	279.62
735	320.11	752	271.23
736	327.37	753	262.50
737	332.96	754	253.46
738	336.60	755	244.16
739	338.26		
<<		...End	
740	338.19		
741	336.64		
742	333.87		
743	330.12		
744	325.66		

Hydrograph Report

Hyd. No. 7

Offsite C

Hydrograph type	= SCS Runoff	Peak discharge	= 49.20 cfs
Storm frequency	= 50 yrs	Time to peak	= 733 min
Time interval	= 1 min	Hyd. volume	= 234,805 cuft
Drainage area	= 10.000 ac	Curve number	= 93
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 20.0 min
Total precip.	= 7.30 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp)

Time (min)	Outflow cfs)	Time (min	Outflow cfs)
724	35.15	741	40.74
725	37.51	742	39.18
726	39.85	743	37.54
727	42.07	744	35.85
728	44.13		
729	45.93	*...End*	
730	47.41		
731	48.49		
732	49.08		
733	49.20		
734	48.90		
735	48.26		
736	47.35		
737	46.24		
738	44.99		
739	43.66		
740	42.24		

<<

Hydrograph Report

Hyd. No. 8

Offsite A

Hydrograph type	= SCS Runoff	Peak discharge	= 96.25 cfs
Storm frequency	= 50 yrs	Time to peak	= 727 min
Time interval	= 1 min	Hyd. volume	= 337,413 cuft
Drainage area	= 17.500 ac	Curve number	= 83
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 10.0 min
Total precip.	= 7.30 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time -- Outflow (min cfs)	
722	73.95
723	81.61
724	88.36
725	93.44
726	96.13
727	96.25
<<	
728	94.20
729	90.42
730	85.33
731	79.42
732	73.30

...End

Hydrograph Report

Hyd. No. 10

Offsite A,C, and Watershed-1B Pond

Hydrograph type	= Combine	Peak discharge	= 157.57 cfs
Storm frequency	= 50 yrs	Time to peak	= 727 min
Time interval	= 1 min	Hyd. volume	= 650,454 cuft
Inflow hyds.	= 4, 7, 8	Contrib. drain. area	= 30.460 ac

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Hyd. 4 + (cfs)	Hyd. 7 + (cfs)	Hyd. 8 + (cfs)	Outflow (cfs)
721	17.75	28.35	66.09	112.18
722	19.73	30.51	73.95	124.19
723	21.22	32.80	81.61	135.63
724	21.94 <<	35.15	88.36	145.44
725	21.76	37.51	93.44	152.72
726	20.80	39.85	96.13	156.77
727	19.25	42.07	96.25 <<	157.57
728	17.37	44.13	94.20	155.70
729	15.39	45.93	90.42	151.74
730	13.59	47.41	85.33	146.33
731	12.13	48.49	79.42	140.04
732	11.02	49.08	73.30	133.40
733	10.18	49.20 <<	67.37	126.75
734	9.570	48.90	61.79	120.26
735	9.112	48.26	56.79	114.16

<<

...End

Hydrograph Report

Hyd. No. 11

Watershed EX-1B Combine

Hydrograph type	= Combine	Peak discharge	= 169.33 cfs
Storm frequency	= 50 yrs	Time to peak	= 727 min
Time interval	= 1 min	Hyd. volume	= 738,249 cuft
Inflow hyds.	= 3, 10	Contrib. drain. area	= 4.140 ac

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Hyd. 3 + (cfs)	Hyd. 10 = (cfs)	Outflow (cfs)
721	8.022	112.18	120.20
722	8.599	124.19	132.79
723	9.208	135.63	144.84
724	9.838	145.44	155.28
725	10.48	152.72	163.20
726	11.12	156.77	167.89
727	11.76	157.57 <<	169.33
<<			
728	12.38	155.70	168.08
729	12.99	151.74	164.73
730	13.59	146.33	159.92
731	14.17	140.04	154.21
732	14.72	133.40	148.12
733	15.23	126.75	141.98
734	15.69	120.26	135.95
735	16.07	114.16	130.23
736	16.36	108.65	125.01
737	16.55	103.76	120.31

...End

Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2011 by Autodesk, Inc. v8 Wednesday, Dec 28, 2011

Hyd. No. 12

Flow to WtrShed.-1A

Hydrograph type	= Reservoir	Peak discharge	= 132.21 cfs
Storm frequency	= 50 yrs	Time to peak	= 735 min
Time interval	= 1 min	Hyd. volume	= 738,246 cuft
Inflow hyd. No.	= 11 - Watershed EX-1B Combine	Reservoir name	= Existing Pond Wat
Max. Elevation	= 107.40 ft	Max. Storage	= 188,316 cuft

Storage Indication method used. Wet pond routing start elevation = 106.60 ft.

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
726	167.89	107.29	5.563	-----	-----	-----	19.10	57.21	15.67	-----	-----	97.55
727	169.33 <<	107.31	5.661	-----	-----	-----	20.14	61.59	17.72	-----	-----	105.11
728	168.08	107.34	5.746	-----	-----	-----	21.09	65.66	19.66	-----	-----	112.16
729	164.73	107.36	5.819	-----	-----	-----	21.90	69.13	21.32	-----	-----	118.17
730	159.92	107.37	5.878	-----	-----	-----	22.56	71.95	22.68	-----	-----	123.06
731	154.21	107.38	5.923	-----	-----	-----	23.07	74.13	23.72	-----	-----	126.83
732	148.12	107.39	5.956	-----	-----	-----	23.43	75.68	24.46	-----	-----	129.53
733	141.98	107.40	5.976	-----	-----	-----	23.66	76.68	24.94	-----	-----	131.25
734	135.95	107.40	5.987	-----	-----	-----	23.78	77.17	25.17	-----	-----	132.11
735	130.23	107.40 <<	5.988	-----	-----	-----	23.79	77.23	25.20	-----	-----	132.21
736	125.01	107.40	5.982	-----	-----	-----	23.72	76.94	25.06	-----	-----	131.71
737	120.31	107.39	5.970	-----	-----	-----	23.59	76.36	24.78	-----	-----	130.70
738	116.02	107.39	5.953	-----	-----	-----	23.40	75.56	24.40	-----	-----	129.31
739	112.07	107.38	5.933	-----	-----	-----	23.17	74.58	23.93	-----	-----	127.62
740	108.32	107.38	5.909	-----	-----	-----	22.91	73.47	23.40	-----	-----	125.69
741	104.65	107.37	5.884	-----	-----	-----	22.63	72.24	22.81	-----	-----	123.56
742	100.93	107.37	5.856	-----	-----	-----	22.32	70.91	22.18	-----	-----	121.26
743	97.09	107.36	5.826	-----	-----	-----	21.98	69.49	21.50	-----	-----	118.79
744	93.16	107.35	5.795	-----	-----	-----	21.63	67.97	20.77	-----	-----	116.17

Continues on next page...

Flow to WtrShed.-1A

Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
745	89.14	107.34	5.761	-----	-----	-----	21.26	66.37	20.01	-----	-----	113.40
746	85.04	107.33	5.726	-----	-----	-----	20.86	64.69	19.20	-----	-----	110.48
747	80.88	107.32	5.689	-----	-----	-----	20.45	62.93	18.36	-----	-----	107.43
748	76.70	107.31	5.651	-----	-----	-----	20.02	61.10	17.48	-----	-----	104.25
749	72.52	107.30	5.611	-----	-----	-----	19.58	59.20	16.58	-----	-----	100.97
750	68.38	107.29	5.568	-----	-----	-----	19.15	57.39	15.76	-----	-----	97.87
751	64.33	107.28	5.522	-----	-----	-----	18.71	55.56	14.94	-----	-----	94.73

...End

Hydrograph Report

Hyd. No. 14

Watershed Pond 1A and Combine Watershed 1B

Hydrograph type	= Combine	Peak discharge	= 161.65 cfs
Storm frequency	= 50 yrs	Time to peak	= 729 min
Time interval	= 1 min	Hyd. volume	= 959,210 cuft
Inflow hyds.	= 2, 12	Contrib. drain. area	= 8.360 ac

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Hyd. 2 + (cfs)	Hyd. 12 + (cfs)	Outflow (cfs)
722	55.72	68.37	124.09
723	59.94	74.88	134.82
724	61.95 <<	82.37	144.32
725	61.46	90.03	151.48
726	58.74	97.55	156.29
727	54.37	105.11	159.48
728	49.06	112.16	161.21
729	43.48	118.17	161.65
730	38.39	123.06	161.45
731	34.27	126.83	161.10
732	31.11	129.53	160.64
733	28.76	131.25	160.01
734	27.03	132.11	159.13
735	25.74	132.21 <<	157.95
736	24.72	131.71	156.42
737	23.80	130.70	154.50
738	22.86	129.31	152.18
739	21.94	127.62	149.56
740	21.01	125.69	146.70
741	20.08	123.56	143.64

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Hydrograph Discharge Table

Time (min)	Hyd. 2 + (cfs)	Hyd. 12 + (cfs)	Outflow (cfs)
742	19.15	121.26	140.41
743	18.23	118.79	137.02
744	17.30	116.17	133.46
745	16.37	113.40	129.76
746	15.44	110.48	125.92
747	14.51	107.43	121.94
748	13.58	104.25	117.84
749	12.65	100.97	113.62

...End

Hydrograph Report

Hyd. No. 15

Combine Watershed Pond 1A and Watershed 1A

Hydrograph type	= Combine	Peak discharge	= 190.81 cfs
Storm frequency	= 50 yrs	Time to peak	= 734 min
Time interval	= 1 min	Hyd. volume	= 1,200,569 cuft
Inflow hyds.	= 1, 14	Contrib. drain. area	= 11.140 ac

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Hyd. 1 + (cfs)	Hyd. 14 = (cfs)	Outflow (cfs)
722	17.42	124.09	141.51
723	18.55	134.82	153.38
724	19.73	144.32	164.05
725	20.93	151.48	172.42
726	22.15	156.29	178.44
727	23.37	159.48	182.85
728	24.59	161.21	185.80
729	25.81	161.65 <<	187.45
730	27.02	161.45	188.47
731	28.21	161.10	189.31
732	29.39	160.64	190.03
733	30.55	160.01	190.56
734	31.68	159.13	190.81
735	32.79	157.95	190.74
736	33.86	156.42	190.28
737	34.89	154.50	189.39
738	35.87	152.18	188.05
739	36.78	149.56	186.34
740	37.59	146.70	184.29
741	38.29	143.64	181.93

Continues on next page...

Hydrograph Discharge Table

Time (min)	Hyd. 1 + (cfs)	Hyd. 14 = (cfs)	Outflow (cfs)
742	38.83	140.41	179.25
743	39.22	137.02	176.24
744	39.43	133.46	172.89
745	39.49 <<	129.76	169.26
746	39.43	125.92	165.35
747	39.25	121.94	161.19
748	38.98	117.84	156.82
749	38.64	113.62	152.26
750	38.24	109.59	147.82
751	37.78	105.54	143.31
752	37.26	101.46	138.72
753	36.69	97.43	134.12

...End

Hydrograph Report

Hyd. No. 16

Ex. Discharge at 96

Hydrograph type	= Reservoir	Peak discharge	= 150.06 cfs
Storm frequency	= 50 yrs	Time to peak	= 749 min
Time interval	= 1 min	Hyd. volume	= 1,200,568 cuft
Inflow hyd. No.	= 15 - Combine Waters Reservoir 1A and Waters Existing A	Reservoir name	= Existing Pond Wat
Max. Elevation	= 106.91 ft	Max. Storage	= 313,512 cuft

Storage Indication method used. Wet pond routing start elevation = 106.60 ft.

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
728	185.80	106.76	108.23	-----	-----	-----	-----	-----	-----	-----	-----	108.23
729	187.45	106.77	112.06	-----	-----	-----	-----	-----	-----	-----	-----	112.06
730	188.47	106.78	115.77	-----	-----	-----	-----	-----	-----	-----	-----	115.77
731	189.31	106.80	119.34	-----	-----	-----	-----	-----	-----	-----	-----	119.34
732	190.03	106.81	122.59	-----	-----	-----	-----	-----	-----	-----	-----	122.59
733	190.56	106.82	125.59	-----	-----	-----	-----	-----	-----	-----	-----	125.59
734	190.81 <<	106.83	128.47	-----	-----	-----	-----	-----	-----	-----	-----	128.47
735	190.74	106.84	131.23	-----	-----	-----	-----	-----	-----	-----	-----	131.23
736	190.28	106.85	133.73	-----	-----	-----	-----	-----	-----	-----	-----	133.73
737	189.39	106.85	136.02	-----	-----	-----	-----	-----	-----	-----	-----	136.02
738	188.05	106.86	138.17	-----	-----	-----	-----	-----	-----	-----	-----	138.17
739	186.34	106.87	140.17	-----	-----	-----	-----	-----	-----	-----	-----	140.17
740	184.29	106.88	142.01	-----	-----	-----	-----	-----	-----	-----	-----	142.01
741	181.93	106.88	143.64	-----	-----	-----	-----	-----	-----	-----	-----	143.64
742	179.25	106.89	145.04	-----	-----	-----	-----	-----	-----	-----	-----	145.04
743	176.24	106.89	146.28	-----	-----	-----	-----	-----	-----	-----	-----	146.28
744	172.89	106.90	147.36	-----	-----	-----	-----	-----	-----	-----	-----	147.36
745	169.26	106.90	148.26	-----	-----	-----	-----	-----	-----	-----	-----	148.26
746	165.35	106.90	148.98	-----	-----	-----	-----	-----	-----	-----	-----	148.98
747	161.19	106.91	149.53	-----	-----	-----	-----	-----	-----	-----	-----	149.53

Continues on next page...

Ex. Discharge at 96

Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
748	156.82	106.91	149.89	-----	-----	-----	-----	-----	-----	-----	-----	149.89
749	152.26	106.91 <<	150.06	-----	-----	-----	-----	-----	-----	-----	-----	150.06
<<												
750	147.82	106.91	150.06	-----	-----	-----	-----	-----	-----	-----	-----	150.06
751	143.31	106.91	149.89	-----	-----	-----	-----	-----	-----	-----	-----	149.89
752	138.72	106.91	149.55	-----	-----	-----	-----	-----	-----	-----	-----	149.55
753	134.12	106.90	149.06	-----	-----	-----	-----	-----	-----	-----	-----	149.05
754	129.58	106.90	148.40	-----	-----	-----	-----	-----	-----	-----	-----	148.40
755	125.14	106.90	147.60	-----	-----	-----	-----	-----	-----	-----	-----	147.60
756	120.82	106.89	146.67	-----	-----	-----	-----	-----	-----	-----	-----	146.67
757	116.61	106.89	145.60	-----	-----	-----	-----	-----	-----	-----	-----	145.60
758	112.52	106.89	144.42	-----	-----	-----	-----	-----	-----	-----	-----	144.42
759	108.90	106.88	143.14	-----	-----	-----	-----	-----	-----	-----	-----	143.14
760	105.38	106.88	141.69	-----	-----	-----	-----	-----	-----	-----	-----	141.69
761	101.92	106.87	140.14	-----	-----	-----	-----	-----	-----	-----	-----	140.14
762	98.51	106.86	138.51	-----	-----	-----	-----	-----	-----	-----	-----	138.51
763	95.16	106.86	136.81	-----	-----	-----	-----	-----	-----	-----	-----	136.81
764	91.88	106.85	135.04	-----	-----	-----	-----	-----	-----	-----	-----	135.04
765	88.68	106.84	133.22	-----	-----	-----	-----	-----	-----	-----	-----	133.22
766	85.56	106.84	131.25	-----	-----	-----	-----	-----	-----	-----	-----	131.25
767	82.52	106.83	129.16	-----	-----	-----	-----	-----	-----	-----	-----	129.16
768	79.57	106.82	127.03	-----	-----	-----	-----	-----	-----	-----	-----	127.03
769	76.71	106.81	124.87	-----	-----	-----	-----	-----	-----	-----	-----	124.87
770	74.19	106.81	122.68	-----	-----	-----	-----	-----	-----	-----	-----	122.68
771	71.83	106.80	120.45	-----	-----	-----	-----	-----	-----	-----	-----	120.45
772	69.52	106.79	118.02	-----	-----	-----	-----	-----	-----	-----	-----	118.02
773	67.27	106.78	115.59	-----	-----	-----	-----	-----	-----	-----	-----	115.59

Continues on next page...

Ex. Discharge at 96

Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
774	65.07	106.78	113.18	-----	-----	-----	-----	-----	-----	-----	-----	113.18
775	62.94	106.77	110.78	-----	-----	-----	-----	-----	-----	-----	-----	110.78
776	60.87	106.76	108.39	-----	-----	-----	-----	-----	-----	-----	-----	108.39
777	58.87	106.75	105.75	-----	-----	-----	-----	-----	-----	-----	-----	105.75

...End

Hydrograph Report

Hyd. No. 18

Ex. Watershed 2 and ERC Site

Hydrograph type	= Combine	Peak discharge	= 367.60 cfs
Storm frequency	= 50 yrs	Time to peak	= 740 min
Time interval	= 1 min	Hyd. volume	= 2,057,429 cuft
Inflow hyds.	= 5, 6	Contrib. drain. area	= 93.000 ac

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Hyd. 5 + (cfs)	Hyd. 6 + (cfs)	Outflow (cfs)
728	19.03	245.03	264.06
729	19.98	257.01	276.99
730	20.92	268.74	289.66
731	21.86	280.16	302.01
732	22.78	291.22	314.00
733	23.69	301.75	325.45
734	24.59	311.48	336.07
735	25.47	320.11	345.57
736	26.32	327.37	353.69
737	27.15	332.96	360.11
738	27.95	336.60	364.54
739	28.71	338.26 <<	366.97
740	29.41	338.19	367.60
<<			
741	30.04	336.64	366.68
742	30.58	333.87	364.46
743	31.02	330.12	361.14
744	31.32	325.66	356.98
745	31.50	320.62	352.12
746	31.57 <<	315.03	346.60
747	31.53	308.92	340.45

Continues on next page...

Ex. Watershed 2 and ERC Site

Hydrograph Discharge Table

Time (min)	Hyd. 5 + (cfs)	Hyd. 6 + (cfs)	Outflow (cfs)
748	31.42	302.29	333.71
749	31.23	295.18	326.41
750	30.99	287.61	318.60
751	30.70	279.62	310.31
752	30.36	271.23	301.59
753	29.99	262.50	292.49
754	29.57	253.46	283.04
755	29.12	244.16	273.28
756			263.27

Hydrograph Report

Hyd. No. 19

Ex. Discharge at 108

Hydrograph type	= Reservoir	Peak discharge	= 270.08 cfs
Storm frequency	= 50 yrs	Time to peak	= 755 min
Time interval	= 1 min	Hyd. volume	= 2,057,430 cuft
Inflow hyd. No.	= 18 - Ex. Watershed 2 and EFC Site	Reservoir name	= Ex. Storage at 10
Max. Elevation	= 107.22 ft	Max. Storage	= 1,140,984 cuft

Storage Indication method used. Wet pond routing start elevation = 106.60 ft.

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
733	325.45	106.91	190.65	-----	-----	-----	-----	-----	-----	-----	-----	190.65
734	336.07	106.93	197.01	-----	-----	-----	-----	-----	-----	-----	-----	197.01
735	345.57	106.96	203.53	-----	-----	-----	-----	-----	-----	-----	-----	203.53
736	353.69	106.98	210.16	-----	-----	-----	-----	-----	-----	-----	-----	210.16
737	360.11	107.00	216.72	-----	-----	-----	-----	-----	-----	-----	-----	216.72
738	364.54	107.02	222.01	-----	-----	-----	-----	-----	-----	-----	-----	222.01
739	366.97	107.04	227.23	-----	-----	-----	-----	-----	-----	-----	-----	227.23
740	367.60 <<	107.06	232.32	-----	-----	-----	-----	-----	-----	-----	-----	232.32
741	366.68	107.08	237.22	-----	-----	-----	-----	-----	-----	-----	-----	237.22
742	364.46	107.10	241.88	-----	-----	-----	-----	-----	-----	-----	-----	241.88
743	361.14	107.12	245.86	-----	-----	-----	-----	-----	-----	-----	-----	245.86
744	356.98	107.13	249.58	-----	-----	-----	-----	-----	-----	-----	-----	249.58
745	352.12	107.15	253.04	-----	-----	-----	-----	-----	-----	-----	-----	253.04
746	346.60	107.16	256.21	-----	-----	-----	-----	-----	-----	-----	-----	256.21
747	340.45	107.17	259.08	-----	-----	-----	-----	-----	-----	-----	-----	259.08
748	333.71	107.19	261.65	-----	-----	-----	-----	-----	-----	-----	-----	261.65
749	326.41	107.20	263.90	-----	-----	-----	-----	-----	-----	-----	-----	263.90
750	318.60	107.20	265.75	-----	-----	-----	-----	-----	-----	-----	-----	265.75
751	310.31	107.21	267.23	-----	-----	-----	-----	-----	-----	-----	-----	267.23
752	301.59	107.22	268.40	-----	-----	-----	-----	-----	-----	-----	-----	268.40

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Ex. Discharge at 108

Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
753	292.49	107.22	269.27	-----	-----	-----	-----	-----	-----	-----	-----	269.27
754	283.04	107.22	269.83	-----	-----	-----	-----	-----	-----	-----	-----	269.83
755	273.28	107.22 <<	270.08	-----	-----	-----	-----	-----	-----	-----	-----	270.08
756	263.27	107.22	270.03	-----	-----	-----	-----	-----	-----	-----	-----	270.03
757	253.05	107.22	269.67	-----	-----	-----	-----	-----	-----	-----	-----	269.67
758	242.65	107.22	269.01	-----	-----	-----	-----	-----	-----	-----	-----	269.01
759	232.14	107.21	268.05	-----	-----	-----	-----	-----	-----	-----	-----	268.05
760	221.54	107.21	266.80	-----	-----	-----	-----	-----	-----	-----	-----	266.80
761	210.91	107.20	265.27	-----	-----	-----	-----	-----	-----	-----	-----	265.27
762	200.30	107.19	263.34	-----	-----	-----	-----	-----	-----	-----	-----	263.34
763	189.78	107.18	261.09	-----	-----	-----	-----	-----	-----	-----	-----	261.09
764	179.50	107.17	258.57	-----	-----	-----	-----	-----	-----	-----	-----	258.57
765	169.57	107.16	255.81	-----	-----	-----	-----	-----	-----	-----	-----	255.81
766	160.14	107.15	252.81	-----	-----	-----	-----	-----	-----	-----	-----	252.81
767	151.35	107.13	249.62	-----	-----	-----	-----	-----	-----	-----	-----	249.62
768	143.32	107.12	246.25	-----	-----	-----	-----	-----	-----	-----	-----	246.25
769	136.07	107.10	242.75	-----	-----	-----	-----	-----	-----	-----	-----	242.75
770	129.51	107.09	238.85	-----	-----	-----	-----	-----	-----	-----	-----	238.85
771	123.56	107.07	234.77	-----	-----	-----	-----	-----	-----	-----	-----	234.77
772	118.10	107.06	230.63	-----	-----	-----	-----	-----	-----	-----	-----	230.63
773	113.07	107.04	226.45	-----	-----	-----	-----	-----	-----	-----	-----	226.45
774	108.34	107.02	222.24	-----	-----	-----	-----	-----	-----	-----	-----	222.24
775	103.88	107.01	218.02	-----	-----	-----	-----	-----	-----	-----	-----	218.02
776	99.67	106.99	213.17	-----	-----	-----	-----	-----	-----	-----	-----	213.17
777	95.70	106.97	207.93	-----	-----	-----	-----	-----	-----	-----	-----	207.93
778	91.96	106.95	202.76	-----	-----	-----	-----	-----	-----	-----	-----	202.76

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Ex. Discharge at 108

Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
779	88.45	106.94	197.65	-----	-----	-----	-----	-----	-----	-----	-----	197.65
780	85.16	106.92	192.62	-----	-----	-----	-----	-----	-----	-----	-----	192.62

...End

Hydrograph Report

Hyd. No. 22

PR-1B

Hydrograph type	= SCS Runoff	Peak discharge	= 26.97 cfs
Storm frequency	= 50 yrs	Time to peak	= 745 min
Time interval	= 1 min	Hyd. volume	= 165,863 cuft
Drainage area	= 7.510 ac	Curve number	= 90*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 37.7 min
Total precip.	= 7.30 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.760 x 98) + (5.750 x 88)] / 7.510

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Outflow cfs	Time (min)	Outflow cfs
731	19.33	748	26.60
732	20.13	749	26.36
733	20.92	750	26.09
734	21.69	751	25.77
735	22.44	752	25.41
736	23.16	753	25.02
737	23.87	754	24.59
738	24.53	755	24.13
739	25.15	756	23.65
740	25.70	757	23.13
741	26.16	758	22.60
742	26.53	759	22.03
743	26.79	760	21.45
744	26.93	761	20.85
745	26.97	762	20.24
746	26.92	763	19.61
747	26.79	764	18.97

...End

Hydrograph Report

Hyd. No. 23

PR-2

Hydrograph type	= SCS Runoff	Peak discharge	= 23.88 cfs
Storm frequency	= 50 yrs	Time to peak	= 741 min
Time interval	= 1 min	Hyd. volume	= 133,325 cuft
Drainage area	= 6.200 ac	Curve number	= 88
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 30.5 min
Total precip.	= 7.30 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)
729	17.44	746	22.84
730	18.26	747	22.49
731	19.05	748	22.10
732	19.83	749	21.68
733	20.58	750	21.22
734	21.30	751	20.73
735	21.96	752	20.21
736	22.55	753	19.66
737	23.06	754	19.08
738	23.45	755	18.49
739	23.72	756	17.87
740	23.86	757	17.24
741	23.88		
<<		...End	
742	23.81		
743	23.65		
744	23.43		
745	23.15		

Hydrograph Report

Hyd. No. 24

PR-1A

Hydrograph type	= SCS Runoff	Peak discharge	= 84.25 cfs
Storm frequency	= 50 yrs	Time to peak	= 729 min
Time interval	= 1 min	Hyd. volume	= 377,967 cuft
Drainage area	= 15.000 ac	Curve number	= 97*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 13.6 min
Total precip.	= 7.30 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(14.380 x 98) + (0.620 x 77)] / 15.000

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time -- (min)	Outflow cfs)
723	63.07
724	68.10
725	72.91
726	77.16
727	80.62
728	83.04
729	84.25
<<	
730	84.24
731	83.19
732	81.30
733	78.77
734	75.77
735	72.52
736	69.11
737	65.57
738	61.91

...End

Hydrograph Report

Hyd. No. 25

PR-1C

Hydrograph type	= SCS Runoff	Peak discharge	= 11.15 cfs
Storm frequency	= 50 yrs	Time to peak	= 731 min
Time interval	= 1 min	Hyd. volume	= 49,486 cuft
Drainage area	= 2.120 ac	Curve number	= 92*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 15.4 min
Total precip.	= 7.30 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.890 x 98) + (1.230 x 88)] / 2.120

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Outflow cfs	Time (min)	Outflow cfs
723	7.937	740	8.308
724	8.555	741	7.867
725	9.169		
726	9.743	...End	
727	10.25		
728	10.66		
729	10.96		
730	11.12		
731	11.15		
<<			
732	11.05		
733	10.86		
734	10.59		
735	10.27		
736	9.918		
737	9.543		
738	9.148		
739	8.736		

Hydrograph Report

Hyd. No. 26

PR-1B Pond at El. 6.6

Hydrograph type	= SCS Runoff	Peak discharge	= 32.53 cfs
Storm frequency	= 50 yrs	Time to peak	= 724 min
Time interval	= 1 min	Hyd. volume	= 116,033 cuft
Drainage area	= 4.390 ac	Curve number	= 98
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.0 min
Total precip.	= 7.30 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time -- (min)	Outflow cfs)
720	23.18
721	26.33
722	29.26
723	31.48
724	32.53
725	32.27
726	30.85
727	28.55
728	25.76
729	22.83

<<

...End

Hydrograph Report

Hyd. No. 27

PR-1C Pond at El. 6.6

Hydrograph type	= SCS Runoff	Peak discharge	= 4.298 cfs
Storm frequency	= 50 yrs	Time to peak	= 724 min
Time interval	= 1 min	Hyd. volume	= 15,330 cuft
Drainage area	= 0.580 ac	Curve number	= 98
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.0 min
Total precip.	= 7.30 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Outflow (cfs)	
720	3.062	
721	3.478	
722	3.865	
723	4.159	
724	4.298	<<
725	4.264	
726	4.076	
727	3.772	
728	3.404	
729	3.016	

...End

Hydrograph Report

Hyd. No. 29

Proposed Watershed 2 and ERC Site

Hydrograph type	= Combine	Peak discharge	= 362.04 cfs
Storm frequency	= 50 yrs	Time to peak	= 740 min
Time interval	= 1 min	Hyd. volume	= 1,994,209 cuft
Inflow hyds.	= 6, 23	Contrib. drain. area	= 90.000 ac

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Hyd. 6 + (cfs)	Hyd. 23 + (cfs)	Outflow (cfs)
728	245.03	16.62	261.64
729	257.01	17.44	274.45
730	268.74	18.26	286.99
731	280.16	19.05	299.21
732	291.22	19.83	311.05
733	301.75	20.58	322.33
734	311.48	21.30	332.77
735	320.11	21.96	342.07
736	327.37	22.55	349.93
737	332.96	23.06	356.02
738	336.60	23.45	360.05
739	338.26 <<	23.72	361.98
740	338.19	23.86	362.04
<<			
741	336.64	23.88 <<	360.52
742	333.87	23.81	357.68
743	330.12	23.65	353.77
744	325.66	23.43	349.08
745	320.62	23.15	343.78
746	315.03	22.84	337.88
747	308.92	22.49	331.41

Continues on next page...

Proposed Watershed 2 and ERC Site

Hydrograph Discharge Table

Time (min)	Hyd. 6 + (cfs)	Hyd. 23 + (cfs)	Outflow (cfs)
748	302.29	22.10	324.39
749	295.18	21.68	316.86
750	287.61	21.22	308.83
751	279.62	20.73	300.34
752	271.23	20.21	291.44
753	262.50	19.66	282.16
754	253.46	19.08	272.55
755	244.16	18.49	262.65

...End

Hydrograph Report

Hyd. No. 30

Pr. Discharge at 108

Hydrograph type	= Reservoir	Peak discharge	= 273.22 cfs
Storm frequency	= 50 yrs	Time to peak	= 754 min
Time interval	= 1 min	Hyd. volume	= 1,994,208 cuft
Inflow hyd. No.	= 29 - Proposed Watershed 2 and ERC Site	Reservoir name	= Pr. Storage at 10
Max. Elevation	= 107.24 ft	Max. Storage	= 1,040,715 cuft

Storage Indication method used. Wet pond routing start elevation = 106.60 ft.

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
733	322.33	106.93	195.15	-----	-----	-----	-----	-----	-----	-----	-----	195.15
734	332.77	106.95	201.93	-----	-----	-----	-----	-----	-----	-----	-----	201.93
735	342.07	106.97	208.86	-----	-----	-----	-----	-----	-----	-----	-----	208.86
736	349.93	107.00	215.87	-----	-----	-----	-----	-----	-----	-----	-----	215.87
737	356.02	107.02	221.69	-----	-----	-----	-----	-----	-----	-----	-----	221.69
738	360.05	107.04	227.40	-----	-----	-----	-----	-----	-----	-----	-----	227.40
739	361.98	107.07	233.00	-----	-----	-----	-----	-----	-----	-----	-----	233.00
740	362.04 <<	107.09	238.40	-----	-----	-----	-----	-----	-----	-----	-----	238.40
741	360.52	107.11	243.39	-----	-----	-----	-----	-----	-----	-----	-----	243.38
742	357.68	107.13	247.78	-----	-----	-----	-----	-----	-----	-----	-----	247.77
743	353.77	107.14	251.87	-----	-----	-----	-----	-----	-----	-----	-----	251.87
744	349.08	107.16	255.65	-----	-----	-----	-----	-----	-----	-----	-----	255.65
745	343.78	107.17	259.09	-----	-----	-----	-----	-----	-----	-----	-----	259.09
746	337.88	107.19	262.19	-----	-----	-----	-----	-----	-----	-----	-----	262.19
747	331.41	107.20	264.94	-----	-----	-----	-----	-----	-----	-----	-----	264.94
748	324.39	107.21	267.14	-----	-----	-----	-----	-----	-----	-----	-----	267.14
749	316.86	107.22	269.01	-----	-----	-----	-----	-----	-----	-----	-----	269.01
750	308.83	107.23	270.54	-----	-----	-----	-----	-----	-----	-----	-----	270.54
751	300.34	107.23	271.73	-----	-----	-----	-----	-----	-----	-----	-----	271.73
752	291.44	107.24	272.57	-----	-----	-----	-----	-----	-----	-----	-----	272.57

Continues on next page...

Pr. Discharge at 108

Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
753	282.16	107.24	273.07	-----	-----	-----	-----	-----	-----	-----	-----	273.07
754	272.55	107.24 <<	273.22	-----	-----	-----	-----	-----	-----	-----	-----	273.22
<<												
755	262.65	107.24	273.02	-----	-----	-----	-----	-----	-----	-----	-----	273.02
756	252.52	107.24	272.48	-----	-----	-----	-----	-----	-----	-----	-----	272.48
757	242.19	107.23	271.61	-----	-----	-----	-----	-----	-----	-----	-----	271.61
758	231.71	107.23	270.39	-----	-----	-----	-----	-----	-----	-----	-----	270.39
759	221.12	107.22	268.86	-----	-----	-----	-----	-----	-----	-----	-----	268.86
760	210.48	107.21	267.00	-----	-----	-----	-----	-----	-----	-----	-----	267.00
761	199.82	107.20	264.84	-----	-----	-----	-----	-----	-----	-----	-----	264.84
762	189.19	107.19	262.17	-----	-----	-----	-----	-----	-----	-----	-----	262.17
763	178.67	107.18	259.20	-----	-----	-----	-----	-----	-----	-----	-----	259.20
764	168.41	107.16	255.95	-----	-----	-----	-----	-----	-----	-----	-----	255.95
765	158.54	107.15	252.44	-----	-----	-----	-----	-----	-----	-----	-----	252.44
766	149.17	107.13	248.70	-----	-----	-----	-----	-----	-----	-----	-----	248.70
767	140.47	107.11	244.76	-----	-----	-----	-----	-----	-----	-----	-----	244.76
768	132.57	107.09	240.53	-----	-----	-----	-----	-----	-----	-----	-----	240.53
769	125.49	107.08	235.86	-----	-----	-----	-----	-----	-----	-----	-----	235.86
770	119.15	107.06	231.11	-----	-----	-----	-----	-----	-----	-----	-----	231.11
771	113.45	107.04	226.30	-----	-----	-----	-----	-----	-----	-----	-----	226.30
772	108.31	107.02	221.47	-----	-----	-----	-----	-----	-----	-----	-----	221.47
773	103.62	107.00	216.63	-----	-----	-----	-----	-----	-----	-----	-----	216.63
774	99.27	106.98	210.81	-----	-----	-----	-----	-----	-----	-----	-----	210.81
775	95.21	106.96	205.00	-----	-----	-----	-----	-----	-----	-----	-----	205.00
776	91.41	106.94	199.29	-----	-----	-----	-----	-----	-----	-----	-----	199.29
777	87.86	106.92	193.68	-----	-----	-----	-----	-----	-----	-----	-----	193.68

...End

Hydrograph Report

Hyd. No. 32

Combine Flow at PR-1C

Hydrograph type	= Combine	Peak discharge	= 152.39 cfs
Storm frequency	= 50 yrs	Time to peak	= 728 min
Time interval	= 1 min	Hyd. volume	= 637,035 cuft
Inflow hyds.	= 7, 8, 25, 27	Contrib. drain. area	= 30.200 ac

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp)

Time (min)	Hyd. 7 + (cfs)	Hyd. 8 + (cfs)	Hyd. 25 + (cfs)	Hyd. 27 + (cfs)	Outflow (cfs)
722	30.51	73.95	7.338	3.865	115.67
723	32.80	81.61	7.937	4.159	126.50
724	35.15	88.36	8.555	4.298 <<	136.36
725	37.51	93.44	9.169	4.264	144.39
726	39.85	96.13	9.743	4.076	149.79
727	42.07	96.25 <<	10.25	3.772	152.34
728	44.13	94.20	10.66	3.404	152.39
729	45.93	90.42	10.96	3.016	150.32
730	47.41	85.33	11.12	2.663	146.52
731	48.49	79.42	11.15 <<	2.377	141.43
732	49.08	73.30	11.05	2.159	135.59
733	49.20 <<	67.37	10.86	1.995	129.42
734	48.90	61.79	10.59	1.875	123.16
735	48.26	56.79	10.27	1.785	117.11
736	47.35	52.55	9.918	1.715	111.53

<<

...End

Hydrograph Report

Hyd. No. 34

Combine Flow at 96

Hydrograph type	= Combine	Peak discharge	= 125.67 cfs
Storm frequency	= 50 yrs	Time to peak	= 728 min
Time interval	= 1 min	Hyd. volume	= 659,862 cuft
Inflow hyds.	= 22, 24, 26	Contrib. drain. area	= 26.900 ac

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Hyd. 22 + (cfs)	Hyd. 24 + (cfs)	Hyd. 26 + (cfs)	Outflow (cfs)
721	11.25	53.48	26.33	91.06
722	11.98	58.12	29.26	99.36
723	12.75	63.07	31.48	107.30
724	13.55	68.10	32.53 <<	114.19
725	14.37	72.91	32.27	119.55
726	15.20	77.16	30.85	123.21
727	16.04	80.62	28.55	125.20
728	16.87	83.04	25.76	125.67
<<				
729	17.69	84.25 <<	22.83	124.78
730	18.52	84.24	20.16	122.91
731	19.33	83.19	17.99	120.51
732	20.13	81.30	16.34	117.77
733	20.92	78.77	15.10	114.79
734	21.69	75.77	14.19	111.65
735	22.44	72.52	13.51	108.47
736	23.16	69.11	12.98	105.26
737	23.87	65.57	12.50	101.93
738	24.53	61.91	12.01	98.45
739	25.15	58.19	11.52	94.86
740	25.70	54.48	11.03	91.21

...End

Hydrograph Report

Hyd. No. 35

Pr. Discharge at 96

Hydrograph type	= Reservoir (Interconnected)	Peak discharge	= 194.50 cfs
Storm frequency	= 50 yrs	Time to peak	= 740 min
Time interval	= 1 min	Hyd. volume	= 1,150,795 cuft
Upper Pond		**Lower Pond**	
Pond name	= Pr. Watershed-1C	Pond name	= Proposed Headwater at 96in F
Inflow hyd.	= 32 - Combine Flow at PR-1C	Other Inflow hyd.	= 34 - Combine Flow at
Max. Elevation	= 107.32 ft	Max. Elevation	= 107.12 ft
Max. Storage	= 60,936 cuft	Max. Storage	= 213,125 cuft

Interconnected Pond Routing. Storage Indication method used.

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	|<----- Inflow cfs	Upper Pond Elevation ft	----->| Outflow cfs	|<--------- Inflow cfs	Lower Pond Other Inflow cfs	Elevation ft	Exfil cfs	---------->| Outflow cfs
725	144.39	107.11	116.11	116.11	119.55	106.88	-----	142.87
726	149.79	107.16	122.24	122.24	123.21	106.91	-----	149.89
727	152.34	107.21	127.53	127.53	125.20	106.94	-----	156.78
728	152.39 <<	107.25	131.31	131.31	125.67 <<	106.97	-----	163.34
729	150.32	107.28	133.52	133.52	124.78	106.99	-----	169.38
730	146.52	107.30	134.46 <<	134.46 <<	122.91	107.02	-----	174.20
731	141.43	107.31	132.85	132.85	120.51	107.04	-----	178.34
732	135.59	107.32 <<	131.30	131.30	117.77	107.06	-----	182.06
733	129.42	107.32 <<	128.72	128.72	114.79	107.07	-----	185.34
734	123.16	107.31	125.26	125.26	111.65	107.09	-----	188.14
735	117.11	107.30	121.16	121.16	108.47	107.10	-----	190.44
736	111.53	107.29	116.71	116.71	105.26	107.11	-----	192.13

Continues on next page...

Pr. Discharge at 96

Hydrograph Discharge Table

Time (min)	|<----- Inflow cfs	Upper Pond Elevation ft	----->| Outflow cfs	|<--------- Inflow cfs	Other Inflow cfs	Lower Pond Elevation ft	Exfil cfs	---------->| Outflow cfs
737	106.53	107.28	112.18	112.18	101.93	107.11	-----	193.33
738	102.03	107.27	107.77	107.77	98.45	107.12	-----	194.11
739	97.94	107.27	103.62	103.62	94.86	107.12	-----	194.49
740	94.12	107.26	99.88	99.88	91.21	107.12	-----	194.50
741	90.42	107.24	96.49	96.49	87.59	107.12	-----	194.18
742	86.72	107.23	93.36	93.36	84.05	107.11	-----	193.56
743	82.94	107.22	90.06	90.06	80.67	107.11	-----	192.66
744	79.10	107.20	86.44	86.44	77.52	107.10	-----	191.49
745	75.23	107.19	82.93	82.93	74.64	107.09	-----	189.97
746	71.33	107.18	79.50	79.50	71.96	107.09	-----	188.16
747	67.43	107.16	76.14	76.14	69.44	107.08	-----	186.14
748	63.57	107.14	73.18	73.18	67.02	107.06	-----	183.93
749	59.77	107.12	70.22	70.22	64.65	107.05	-----	181.56
750	56.06	107.10	66.30	66.30	62.27	107.04	-----	179.02
751	52.48	107.08	61.89	61.89	59.87	107.03	-----	176.27
752	49.09	107.07	58.54	58.54	57.48	107.01	-----	173.35
753	45.93	107.06	56.30	56.30	55.13	107.00	-----	170.15

Continues on next page...

Pr. Discharge at 96

Hydrograph Discharge Table

Time (min)	|<----- Inflow cfs	Upper Pond Elevation ft	-----\>| Outflow cfs	|<--------- Inflow cfs	Other Inflow cfs	Lower Pond Elevation ft	Exfil cfs	---------\>| Outflow cfs
754	43.03	107.04	53.82	53.82	52.87	106.98	-----	166.24
755	40.38	107.01	51.93	51.93	50.71	106.96	-----	162.29
756	38.02	106.98	49.80	49.80	48.66	106.94	-----	158.13
757	35.92	106.96	47.79	47.79	46.72	106.92	-----	153.96
758	34.04	106.94	43.96	43.96	44.90	106.91	-----	149.56
759	32.37	106.92	41.76	41.76	43.19	106.89	-----	145.06
760	30.89	106.90	39.65	39.65	41.60	106.87	-----	140.44

...End

Hydrograph Summary Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2011 by Autodesk, Inc. v8

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	46.20	1	745	284,729	------	------	------	EX-1A
2	SCS Runoff	71.34	1	724	255,367	------	------	------	EX-1A Pond at EL. 6.6
3	SCS Runoff	19.50	1	738	103,821	------	------	------	EX-1B
4	SCS Runoff	25.26	1	724	90,417	------	------	------	EX.-1B Pond at El. 6.6
5	SCS Runoff	37.02	1	746	232,421	------	------	------	EX-2
6	SCS Runoff	394.73	1	739	2,190,067	------	------	------	ERC Site Via 60in Pipes
7	SCS Runoff	57.03	1	733	274,417	------	------	------	Offsite C
8	SCS Runoff	114.25	1	727	404,023	------	------	------	Offsite A
10	Combine	185.25	1	727	768,859	4, 7, 8,	------	------	Offsite A,C, and Watershed-1B Pon
11	Combine	199.11	1	727	872,679	3, 10	------	------	Watershed EX-1B Combine
12	Reservoir	158.61	1	734	872,674	11	107.47	200,647	Flow to WtrShed.-1A
14	Combine	193.75	1	729	1,128,042	2, 12,	------	------	Watershed Pond 1A and Combine
15	Combine	227.03	1	733	1,412,772	1, 14	------	------	Combine Watershed Pond 1A and
16	Reservoir	171.06	1	750	1,412,771	15	107.00	348,775	Ex. Discharge at 96
18	Combine	429.10	1	740	2,422,489	5, 6,	------	------	Ex. Watershed 2 and ERC Site
19	Reservoir	303.33	1	756	2,422,489	18	107.39	1,208,319	Ex. Discharge at 108
22	SCS Runoff	31.47	1	745	195,203	------	------	------	PR-1B
23	SCS Runoff	28.00	1	741	157,662	------	------	------	PR-2
24	SCS Runoff	97.10	1	729	437,774	------	------	------	PR-1A
25	SCS Runoff	12.94	1	731	57,968	------	------	------	PR-1C
26	SCS Runoff	37.46	1	724	134,098	------	------	------	PR-1B Pond at El. 6.6
27	SCS Runoff	4.949	1	724	17,717	------	------	------	PR-1C Pond at El. 6.6
29	Combine	422.55	1	739	2,347,730	6, 23,	------	------	Proposed Watershed 2 and ERC Si
30	Reservoir	307.70	1	755	2,347,728	29	107.41	1,101,803	Pr. Discharge at 108
32	Combine	179.35	1	727	754,125	7, 8, 25, 27,	------	------	Combine Flow at PR-1C
34	Combine	145.16	1	728	767,075	22, 24, 26,	------		Combine Flow at 96
35	Reservoir(i)	217.80	1	741	1,375,101	32, 34	107.51	310,700	Pr. Discharge at 96

100-year

Hydrograph Report

Hyd. No. 1

EX-1A

Hydrograph type	= SCS Runoff	Peak discharge	= 46.20 cfs
Storm frequency	= 100 yrs	Time to peak	= 745 min
Time interval	= 1 min	Hyd. volume	= 284,729 cuft
Drainage area	= 11.140 ac	Curve number	= 89*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 37.7 min
Total precip.	= 8.40 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(9.850 x 88) + (1.290 x 98)] / 11.140

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Outflow cfs	Time (min)	Outflow cfs
731	33.15	748	45.56
732	34.52	749	45.16
733	35.87	750	44.68
734	37.18	751	44.13
735	38.47	752	43.52
736	39.71	753	42.84
737	40.91	754	42.11
738	42.04	755	41.33
739	43.10	756	40.49
740	44.03	757	39.61
741	44.83	758	38.69
742	45.46	759	37.72
743	45.90	760	36.73
744	46.13	761	35.70
745	46.20	762	34.64
746	46.11	763	33.57
747	45.89	764	32.47

<<

...End

Hydrograph Report

Hyd. No. 2

EX-1A Pond at EL. 6.6

Hydrograph type	= SCS Runoff	Peak discharge	= 71.34 cfs
Storm frequency	= 100 yrs	Time to peak	= 724 min
Time interval	= 1 min	Hyd. volume	= 255,367 cuft
Drainage area	= 8.360 ac	Curve number	= 98
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.0 min
Total precip.	= 8.40 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Outflow cfs)	
720	50.84	
721	57.73	
722	64.16	
723	69.03	
724	71.34	<<
725	70.77	
726	67.64	
727	62.60	
728	56.48	
729	50.06	

...End

Hydrograph Report

Hyd. No. 3

EX-1B

Hydrograph type	= SCS Runoff	Peak discharge	= 19.50 cfs
Storm frequency	= 100 yrs	Time to peak	= 738 min
Time interval	= 1 min	Hyd. volume	= 103,821 cuft
Drainage area	= 4.140 ac	Curve number	= 88*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 28.7 min
Total precip.	= 8.40 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.110 x 98) + (4.030 x 88)] / 4.140

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)
727	13.85	744	18.33
728	14.58	745	17.98
729	15.29	746	17.59
730	15.99	747	17.18
731	16.66	748	16.74
732	17.31	749	16.27
733	17.90	750	15.78
734	18.42	751	15.26
735	18.86	752	14.72
736	19.20	753	14.17
737	19.41		
738	19.50		
739	19.48		
740	19.37		
741	19.18		
742	18.94		
743	18.65		

...End

<<

Hydrograph Report

Hyd. No. 4

EX.-1B Pond at El. 6.6

Hydrograph type	= SCS Runoff	Peak discharge	= 25.26 cfs
Storm frequency	= 100 yrs	Time to peak	= 724 min
Time interval	= 1 min	Hyd. volume	= 90,417 cuft
Drainage area	= 2.960 ac	Curve number	= 98
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.0 min
Total precip.	= 8.40 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time -- (min)	Outflow cfs)	
720	18.00	
721	20.44	
722	22.72	
723	24.44	
724	25.26	<<
725	25.06	
726	23.95	
727	22.17	
728	20.00	
729	17.72	

...End

Hydrograph Report

Hyd. No. 5

EX-2

Hydrograph type	= SCS Runoff	Peak discharge	= 37.02 cfs
Storm frequency	= 100 yrs	Time to peak	= 746 min
Time interval	= 1 min	Hyd. volume	= 232,421 cuft
Drainage area	= 9.200 ac	Curve number	= 88
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 39.2 min
Total precip.	= 8.40 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)
732	26.85	749	36.60
733	27.91	750	36.30
734	28.96	751	35.96
735	29.98	752	35.56
736	30.97	753	35.11
737	31.93	754	34.62
738	32.86	755	34.08
739	33.74	756	33.49
740	34.56	757	32.87
741	35.29	758	32.21
742	35.91	759	31.52
743	36.41	760	30.80
744	36.75	761	30.05
745	36.95	762	29.27
746	37.02	763	28.47
		764	27.66
747	36.97		
		765	26.82
748	36.83		
		766	25.98

<<

Hydrograph Report

Hyd. No. 6

ERC Site Via 60in Pipes

Hydrograph type	= SCS Runoff	Peak discharge	= 394.73 cfs
Storm frequency	= 100 yrs	Time to peak	= 739 min
Time interval	= 1 min	Hyd. volume	= 2,190,067 cuft
Drainage area	= 83.800 ac	Curve number	= 90
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 30.0 min
Total precip.	= 8.40 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)
728	286.97	745	373.62
729	300.89	746	367.03
730	314.50	747	359.83
731	327.74	748	352.04
732	340.56	749	343.70
733	352.76	750	334.82
734	364.00	751	325.44
735	373.97	752	315.62
736	382.35	753	305.41
737	388.76	754	294.84
738	392.89	755	283.97
739	394.73		
<<		...End	
740	394.54		
741	392.64		
742	389.32		
743	384.86		
744	379.57		

Hydrograph Report

Hyd. No. 7

Offsite C

Hydrograph type	= SCS Runoff	Peak discharge	= 57.03 cfs
Storm frequency	= 100 yrs	Time to peak	= 733 min
Time interval	= 1 min	Hyd. volume	= 274,417 cuft
Drainage area	= 10.000 ac	Curve number	= 93
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 20.0 min
Total precip.	= 8.40 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Outflow cfs	Time (min)	Outflow cfs
724	40.83	741	47.17
725	43.57	742	45.35
726	46.26	743	43.45
727	48.84	744	41.49
728	51.21		
729	53.29	*...End*	
730	54.99		
731	56.23		
732	56.90		
733	57.03		
734	56.67		
735	55.92		
736	54.86		
737	53.56		
738	52.11		
739	50.56		
740	48.91		

Hydrograph Report

Hyd. No. 8

Offsite A

Hydrograph type	= SCS Runoff	Peak discharge	= 114.25 cfs
Storm frequency	= 100 yrs	Time to peak	= 727 min
Time interval	= 1 min	Hyd. volume	= 404,023 cuft
Drainage area	= 17.500 ac	Curve number	= 83
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 10.0 min
Total precip.	= 8.40 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Outflow (cfs)	
722	88.25	
723	97.26	
724	105.19	
725	111.13	
726	114.21	
727	114.25	<<
728	111.73	
729	107.16	
730	101.05	
731	93.99	
732	86.68	

...End

Hydrograph Report

Hyd. No. 10

Offsite A,C, and Watershed-1B Pond

Hydrograph type	= Combine	Peak discharge	= 185.25 cfs
Storm frequency	= 100 yrs	Time to peak	= 727 min
Time interval	= 1 min	Hyd. volume	= 768,859 cuft
Inflow hyds.	= 4, 7, 8	Contrib. drain. area	= 30.460 ac

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Hyd. 4 + (cfs)	Hyd. 7 + (cfs)	Hyd. 8 + (cfs)	Outflow (cfs)
721	20.44	32.96	78.96	132.37
722	22.72	35.47	88.25	146.44
723	24.44	38.11	97.26	159.82
724	25.26 <<	40.83	105.19	171.28
725	25.06	43.57	111.13	179.75
726	23.95	46.26	114.21	184.42
727	22.17	48.84	114.25 <<	185.25
<<				
728	20.00	51.21	111.73	182.94
729	17.72	53.29	107.16	178.17
730	15.65	54.99	101.05	171.69
731	13.97	56.23	93.99	164.18
732	12.68	56.90	86.68	156.27
733	11.72	57.03 <<	79.60	148.35
734	11.02	56.67	72.96	140.65
735	10.49	55.92	67.01	133.42

...End

Hydrograph Report

Hyd. No. 11

Watershed EX-1B Combine

Hydrograph type	= Combine	Peak discharge	= 199.11 cfs
Storm frequency	= 100 yrs	Time to peak	= 727 min
Time interval	= 1 min	Hyd. volume	= 872,679 cuft
Inflow hyds.	= 3, 10	Contrib. drain. area	= 4.140 ac

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Hyd. 3 + (cfs)	Hyd. 10 = (cfs)	Outflow (cfs)
721	9.490	132.37	141.86
722	10.17	146.44	156.60
723	10.88	159.82	170.70
724	11.61	171.28	182.89
725	12.36	179.75	192.12
726	13.11	184.42	197.53
727	13.85	185.25 <<	199.11
728	14.58	182.94	197.52
729	15.29	178.17	193.46
730	15.99	171.69	187.68
731	16.66	164.18	180.84
732	17.31	156.27	173.57
733	17.90	148.35	166.25
734	18.42	140.65	159.07
735	18.86	133.42	152.28
736	19.20	126.90	146.10
737	19.41	121.13	140.54

<<

...End

Hydrograph Report

Hyd. No. 12

Flow to WtrShed.-1A

Hydrograph type	= Reservoir	Peak discharge	= 158.61 cfs
Storm frequency	= 100 yrs	Time to peak	= 734 min
Time interval	= 1 min	Hyd. volume	= 872,674 cuft
Inflow hyd. No.	= 11 - Watershed EX-1B Combine	Reservoir name	= Existing Pond Wat
Max. Elevation	= 107.47 ft	Max. Storage	= 200,647 cuft

Storage Indication method used. Wet pond routing start elevation = 106.60 ft.

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
726	197.53	107.36	5.838	-----	-----	-----	22.12	70.06	21.77	-----	-----	119.79
727	199.11 <<	107.39	5.943	-----	-----	-----	23.29	75.09	24.18	-----	-----	128.50
728	197.52	107.41	6.034	-----	-----	-----	24.36	79.73	26.45	-----	-----	136.57
729	193.46	107.43	6.107	-----	-----	-----	25.30	83.81	28.48	-----	-----	143.69
730	187.68	107.45	6.166	-----	-----	-----	26.04	87.05	30.10	-----	-----	149.35
731	180.84	107.46	6.209	-----	-----	-----	26.59	89.46	31.30	-----	-----	153.57
732	173.57	107.47	6.239	-----	-----	-----	26.97	91.10	32.12	-----	-----	156.42
733	166.25	107.47	6.256	-----	-----	-----	27.18	92.03	32.58	-----	-----	158.05
734	159.07	107.47 <<	6.261	-----	-----	-----	27.25	92.35	32.74	-----	-----	158.61
<<												
735	152.28	107.47	6.258	-----	-----	-----	27.21	92.15	32.64	-----	-----	158.25
736	146.10	107.47	6.246	-----	-----	-----	27.06	91.52	32.33	-----	-----	157.16
737	140.54	107.47	6.229	-----	-----	-----	26.84	90.56	31.85	-----	-----	155.49
738	135.48	107.46	6.207	-----	-----	-----	26.57	89.35	31.25	-----	-----	153.38
739	130.82	107.45	6.182	-----	-----	-----	26.25	87.95	30.55	-----	-----	150.93
740	126.41	107.44	6.154	-----	-----	-----	25.89	86.41	29.78	-----	-----	148.24
741	122.11	107.44	6.124	-----	-----	-----	25.51	84.75	28.95	-----	-----	145.34
742	117.74	107.43	6.093	-----	-----	-----	25.11	82.99	28.07	-----	-----	142.27
743	113.24	107.42	6.059	-----	-----	-----	24.69	81.14	27.15	-----	-----	139.04
744	108.63	107.41	6.024	-----	-----	-----	24.24	79.20	26.18	-----	-----	135.64

Continues on next page...

Flow to WtrShed.-1A

Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
745	103.93	107.40	5.987	-----	-----	-----	23.78	77.18	25.18	-----	-----	132.13
746	99.14	107.39	5.946	-----	-----	-----	23.32	75.22	24.24	-----	-----	128.74
747	94.27	107.38	5.903	-----	-----	-----	22.85	73.18	23.26	-----	-----	125.19
748	89.39	107.37	5.859	-----	-----	-----	22.35	71.04	22.24	-----	-----	121.49
749	84.50	107.35	5.813	-----	-----	-----	21.83	68.83	21.18	-----	-----	117.66
750	79.67	107.34	5.765	-----	-----	-----	21.30	66.56	20.09	-----	-----	113.72

...End

Hydrograph Report

Hyd. No. 14

Watershed Pond 1A and Combine Watershed 1B

Hydrograph type	= Combine	Peak discharge	= 193.75 cfs
Storm frequency	= 100 yrs	Time to peak	= 729 min
Time interval	= 1 min	Hyd. volume	= 1,128,042 cuft
Inflow hyds.	= 2, 12	Contrib. drain. area	= 8.360 ac

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Hyd. 2 + (cfs)	Hyd. 12 + (cfs)	Outflow (cfs)
722	64.16	84.49	148.65
723	69.03	92.38	161.41
724	71.34 <<	100.83	172.17
725	70.77	110.44	181.21
726	67.64	119.79	187.43
727	62.60	128.50	191.10
728	56.48	136.57	193.06
729	50.06	143.69	193.75
730	44.20	149.35	193.55
731	39.45	153.57	193.02
732	35.82	156.42	192.24
733	33.11	158.05	191.16
734	31.12	158.61 <<	189.72
735	29.63	158.25	187.88
736	28.46	157.16	185.62
737	27.39	155.49	182.88
738	26.32	153.38	179.70
739	25.25	150.93	176.19
740	24.19	148.24	172.43
741	23.12	145.34	168.46

Continues on next page...

Hydrograph Discharge Table

Time (min)	Hyd. 2 + (cfs)	Hyd. 12 + (cfs)	Outflow (cfs)
742	22.05	142.27	164.32
743	20.98	139.04	160.02
744	19.91	135.64	155.55
745	18.84	132.13	150.97
746	17.77	128.74	146.51
747	16.70	125.19	141.89
748	15.63	121.49	137.12

...End

Hydrograph Report

Hyd. No. 15

Combine Watershed Pond 1A and Watershed 1A

Hydrograph type	= Combine	Peak discharge	= 227.03 cfs
Storm frequency	= 100 yrs	Time to peak	= 733 min
Time interval	= 1 min	Hyd. volume	= 1,412,772 cuft
Inflow hyds.	= 1, 14	Contrib. drain. area	= 11.140 ac

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Hyd. 1 + (cfs)	Hyd. 14 = (cfs)	Outflow (cfs)
722	20.57	148.65	169.22
723	21.89	161.41	183.29
724	23.26	172.17	195.43
725	24.67	181.21	205.87
726	26.09	187.43	213.52
727	27.51	191.10	218.61
728	28.93	193.06	221.99
729	30.35	193.75 <<	224.10
730	31.76	193.55	225.31
731	33.15	193.02	226.17
732	34.52	192.24	226.76
733	35.87	191.16	227.03
<<			
734	37.18	189.72	226.91
735	38.47	187.88	226.35
736	39.71	185.62	225.32
737	40.91	182.88	223.79
738	42.04	179.70	221.74
739	43.10	176.19	219.28
740	44.03	172.43	216.46
741	44.83	168.46	213.29

Continues on next page...

Combine Watershed Pond 1A and Watershed 1A

Hydrograph Discharge Table

Time (min)	Hyd. 1 + (cfs)	Hyd. 14 = (cfs)	Outflow (cfs)
742	45.46	164.32	209.78
743	45.90	160.02	205.92
744	46.13	155.55	201.69
745	46.20 <<	150.97	197.17
746	46.11	146.51	192.62
747	45.89	141.89	187.78
748	45.56	137.12	182.69
749	45.16	132.22	177.38
750	44.68	127.21	171.88
751	44.13	122.12	166.25
752	43.52	117.04	160.56

...End

Hydrograph Report

Hyd. No. 16

Ex. Discharge at 96

Hydrograph type	= Reservoir	Peak discharge	= 171.06 cfs
Storm frequency	= 100 yrs	Time to peak	= 750 min
Time interval	= 1 min	Hyd. volume	= 1,412,771 cuft
Inflow hyd. No.	= 15 - Combine Waters Reserve Pond 1A and Waters Existing Pond Wat		
Max. Elevation	= 107.00 ft	Max. Storage	= 348,775 cuft

Storage Indication method used. Wet pond routing start elevation = 106.60 ft.

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
728	221.99	106.81	122.51	-----	-----	-----	-----	-----	-----	-----	-----	122.51
729	224.10	106.82	126.96	-----	-----	-----	-----	-----	-----	-----	-----	126.96
730	225.31	106.84	131.28	-----	-----	-----	-----	-----	-----	-----	-----	131.28
731	226.17	106.85	135.22	-----	-----	-----	-----	-----	-----	-----	-----	135.22
732	226.76	106.86	138.94	-----	-----	-----	-----	-----	-----	-----	-----	138.94
733	227.03 <<	106.88	142.53	-----	-----	-----	-----	-----	-----	-----	-----	142.53
734	226.91	106.89	145.77	-----	-----	-----	-----	-----	-----	-----	-----	145.77
735	226.35	106.90	148.84	-----	-----	-----	-----	-----	-----	-----	-----	148.84
736	225.32	106.92	151.77	-----	-----	-----	-----	-----	-----	-----	-----	151.77
737	223.79	106.93	154.43	-----	-----	-----	-----	-----	-----	-----	-----	154.43
738	221.74	106.94	156.87	-----	-----	-----	-----	-----	-----	-----	-----	156.87
739	219.28	106.95	159.15	-----	-----	-----	-----	-----	-----	-----	-----	159.15
740	216.46	106.96	161.25	-----	-----	-----	-----	-----	-----	-----	-----	161.25
741	213.29	106.96	163.11	-----	-----	-----	-----	-----	-----	-----	-----	163.11
742	209.78	106.97	164.75	-----	-----	-----	-----	-----	-----	-----	-----	164.75
743	205.92	106.98	166.20	-----	-----	-----	-----	-----	-----	-----	-----	166.20
744	201.69	106.98	167.48	-----	-----	-----	-----	-----	-----	-----	-----	167.48
745	197.17	106.99	168.56	-----	-----	-----	-----	-----	-----	-----	-----	168.56
746	192.62	106.99	169.45	-----	-----	-----	-----	-----	-----	-----	-----	169.45
747	187.78	107.00	170.15	-----	-----	-----	-----	-----	-----	-----	-----	170.15

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Ex. Discharge at 96

Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
748	182.69	107.00	170.66	-----	-----	-----	-----	-----	-----	-----	-----	170.66
749	177.38	107.00	170.96	-----	-----	-----	-----	-----	-----	-----	-----	170.96
750	171.88	107.00 <<	171.06	-----	-----	-----	-----	-----	-----	-----	-----	171.06
751	166.25	107.00	171.01	-----	-----	-----	-----	-----	-----	-----	-----	171.01
752	160.56	107.00	170.78	-----	-----	-----	-----	-----	-----	-----	-----	170.78
753	154.88	107.00	170.33	-----	-----	-----	-----	-----	-----	-----	-----	170.33
754	149.61	106.99	169.72	-----	-----	-----	-----	-----	-----	-----	-----	169.72
755	144.57	106.99	168.96	-----	-----	-----	-----	-----	-----	-----	-----	168.96
756	139.64	106.99	168.05	-----	-----	-----	-----	-----	-----	-----	-----	168.05
757	134.84	106.98	167.01	-----	-----	-----	-----	-----	-----	-----	-----	167.01
758	130.16	106.98	165.84	-----	-----	-----	-----	-----	-----	-----	-----	165.84
759	125.61	106.97	164.56	-----	-----	-----	-----	-----	-----	-----	-----	164.56
760	121.17	106.96	163.16	-----	-----	-----	-----	-----	-----	-----	-----	163.16
761	116.83	106.96	161.64	-----	-----	-----	-----	-----	-----	-----	-----	161.64
762	112.81	106.95	159.97	-----	-----	-----	-----	-----	-----	-----	-----	159.97
763	109.06	106.94	158.22	-----	-----	-----	-----	-----	-----	-----	-----	158.22
764	105.38	106.94	156.40	-----	-----	-----	-----	-----	-----	-----	-----	156.40
765	101.78	106.93	154.51	-----	-----	-----	-----	-----	-----	-----	-----	154.51
766	98.26	106.92	152.54	-----	-----	-----	-----	-----	-----	-----	-----	152.54
767	94.83	106.91	150.41	-----	-----	-----	-----	-----	-----	-----	-----	150.41
768	91.49	106.90	148.24	-----	-----	-----	-----	-----	-----	-----	-----	148.24
769	88.25	106.89	146.02	-----	-----	-----	-----	-----	-----	-----	-----	146.02
770	85.11	106.88	143.77	-----	-----	-----	-----	-----	-----	-----	-----	143.77
771	82.06	106.87	141.37	-----	-----	-----	-----	-----	-----	-----	-----	141.37
772	79.12	106.86	138.89	-----	-----	-----	-----	-----	-----	-----	-----	138.89
773	76.27	106.86	136.39	-----	-----	-----	-----	-----	-----	-----	-----	136.40

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Ex. Discharge at 96

Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
774	73.81	106.85	133.89	-----	-----	-----	-----	-----	-----	-----	-----	133.89
775	71.45	106.84	131.31	-----	-----	-----	-----	-----	-----	-----	-----	131.31
776	69.15	106.83	128.61	-----	-----	-----	-----	-----	-----	-----	-----	128.61
777	66.93	106.82	125.93	-----	-----	-----	-----	-----	-----	-----	-----	125.93
778	64.80	106.81	123.27	-----	-----	-----	-----	-----	-----	-----	-----	123.27
779	62.75	106.80	120.62	-----	-----	-----	-----	-----	-----	-----	-----	120.62

...End

Hydrograph Report

Hyd. No. 18

Ex. Watershed 2 and ERC Site

Hydrograph type	= Combine	Peak discharge	= 429.10 cfs
Storm frequency	= 100 yrs	Time to peak	= 740 min
Time interval	= 1 min	Hyd. volume	= 2,422,489 cuft
Inflow hyds.	= 5, 6	Contrib. drain. area	= 93.000 ac

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Hyd. 5 + (cfs)	Hyd. 6 + (cfs)	Outflow (cfs)
728	22.47	286.97	309.45
729	23.58	300.89	324.46
730	24.68	314.50	339.17
731	25.77	327.74	353.51
732	26.85	340.56	367.41
733	27.91	352.76	380.67
734	28.96	364.00	392.96
735	29.98	373.97	403.95
736	30.97	382.35	413.32
737	31.93	388.76	420.69
738	32.86	392.89	425.75
739	33.74	394.73 <<	428.47
740	34.56	394.54	429.10
741	35.29	392.64	427.93
742	35.91	389.32	425.23
743	36.41	384.86	421.27
744	36.75	379.57	416.33
745	36.95	373.62	410.58
746	37.02 <<	367.03	404.06
747	36.97	359.83	396.80

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Ex. Watershed 2 and ERC Site

Hydrograph Discharge Table

Time (min)	Hyd. 5 + (cfs)	Hyd. 6 + (cfs)	Outflow (cfs)
748	36.83	352.04	388.87
749	36.60	343.70	380.29
750	36.30	334.82	371.12
751	35.96	325.44	361.40
752	35.56	315.62	351.18
753	35.11	305.41	340.52
754	34.62	294.84	329.45
755	34.08	283.97	318.04
756	33.49	272.85	306.34

...End

Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2011 by Autodesk, Inc. v8 Wednesday, Dec 28, 2011

Hyd. No. 19

Ex. Discharge at 108

Hydrograph type	= Reservoir	Peak discharge	= 303.33 cfs
Storm frequency	= 100 yrs	Time to peak	= 756 min
Time interval	= 1 min	Hyd. volume	= 2,422,489 cuft
Inflow hyd. No.	= 18 - Ex. Watershed 2 and EFC Site	Reservoir name	= Ex. Storage at 10
Max. Elevation	= 107.39 ft	Max. Storage	= 1,208,319 cuft

Storage Indication method used. Wet pond routing start elevation = 106.60 ft.

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
733	380.67	106.99	213.05	-----	-----	-----	-----	-----	-----	-----	-----	213.05
734	392.96	107.01	220.01	-----	-----	-----	-----	-----	-----	-----	-----	220.01
735	403.95	107.04	226.50	-----	-----	-----	-----	-----	-----	-----	-----	226.49
736	413.32	107.07	233.11	-----	-----	-----	-----	-----	-----	-----	-----	233.11
737	420.69	107.09	239.79	-----	-----	-----	-----	-----	-----	-----	-----	239.79
738	425.75	107.12	246.02	-----	-----	-----	-----	-----	-----	-----	-----	246.02
739	428.47	107.14	251.98	-----	-----	-----	-----	-----	-----	-----	-----	251.98
740	429.10 <<	107.17	257.80	-----	-----	-----	-----	-----	-----	-----	-----	257.80
741	427.93	107.19	263.42	-----	-----	-----	-----	-----	-----	-----	-----	263.42
742	425.23	107.22	268.48	-----	-----	-----	-----	-----	-----	-----	-----	268.48
743	421.27	107.24	273.17	-----	-----	-----	-----	-----	-----	-----	-----	273.17
744	416.33	107.26	277.58	-----	-----	-----	-----	-----	-----	-----	-----	277.58
745	410.58	107.28	281.70	-----	-----	-----	-----	-----	-----	-----	-----	281.70
746	404.06	107.30	285.51	-----	-----	-----	-----	-----	-----	-----	-----	285.51
747	396.80	107.31	288.80	-----	-----	-----	-----	-----	-----	-----	-----	288.80
748	388.87	107.33	291.73	-----	-----	-----	-----	-----	-----	-----	-----	291.73
749	380.29	107.34	294.35	-----	-----	-----	-----	-----	-----	-----	-----	294.35
750	371.12	107.35	296.65	-----	-----	-----	-----	-----	-----	-----	-----	296.65
751	361.40	107.36	298.62	-----	-----	-----	-----	-----	-----	-----	-----	298.62
752	351.18	107.37	300.24	-----	-----	-----	-----	-----	-----	-----	-----	300.24

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Ex. Discharge at 108

Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
753	340.52	107.38	301.53	-----	-----	-----	-----	-----	-----	-----	-----	301.53
754	329.45	107.38	302.48	-----	-----	-----	-----	-----	-----	-----	-----	302.48
755	318.04	107.39	303.08	-----	-----	-----	-----	-----	-----	-----	-----	303.08
756	306.34	107.39 <<	303.33	-----	-----	-----	-----	-----	-----	-----	-----	303.33
<<												
757	294.39	107.39	303.25	-----	-----	-----	-----	-----	-----	-----	-----	303.25
758	282.26	107.38	302.83	-----	-----	-----	-----	-----	-----	-----	-----	302.83
759	269.98	107.38	302.07	-----	-----	-----	-----	-----	-----	-----	-----	302.08
760	257.62	107.38	300.99	-----	-----	-----	-----	-----	-----	-----	-----	300.99
761	245.21	107.37	299.60	-----	-----	-----	-----	-----	-----	-----	-----	299.59
762	232.83	107.36	297.88	-----	-----	-----	-----	-----	-----	-----	-----	297.88
763	220.57	107.35	295.88	-----	-----	-----	-----	-----	-----	-----	-----	295.88
764	208.58	107.34	293.58	-----	-----	-----	-----	-----	-----	-----	-----	293.58
765	197.02	107.32	291.02	-----	-----	-----	-----	-----	-----	-----	-----	291.02
766	186.04	107.31	288.21	-----	-----	-----	-----	-----	-----	-----	-----	288.21
767	175.79	107.30	285.11	-----	-----	-----	-----	-----	-----	-----	-----	285.11
768	166.44	107.28	281.65	-----	-----	-----	-----	-----	-----	-----	-----	281.65
769	158.01	107.26	278.04	-----	-----	-----	-----	-----	-----	-----	-----	278.04
770	150.38	107.24	274.28	-----	-----	-----	-----	-----	-----	-----	-----	274.28
771	143.45	107.23	270.42	-----	-----	-----	-----	-----	-----	-----	-----	270.42
772	137.11	107.21	266.48	-----	-----	-----	-----	-----	-----	-----	-----	266.48
773	131.25	107.19	262.26	-----	-----	-----	-----	-----	-----	-----	-----	262.26
774	125.75	107.17	257.86	-----	-----	-----	-----	-----	-----	-----	-----	257.86
775	120.56	107.15	253.42	-----	-----	-----	-----	-----	-----	-----	-----	253.43
776	115.66	107.13	248.97	-----	-----	-----	-----	-----	-----	-----	-----	248.97
777	111.04	107.11	244.51	-----	-----	-----	-----	-----	-----	-----	-----	244.51
778	106.69	107.09	239.86	-----	-----	-----	-----	-----	-----	-----	-----	239.86

Continues on next page...

Ex. Discharge at 108

Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
779	102.61	107.07	234.95	-----	-----	-----	-----	-----	-----	-----	-----	234.95
780	98.79	107.05	230.07	-----	-----	-----	-----	-----	-----	-----	-----	230.07
781	95.21	107.03	225.23	-----	-----	-----	-----	-----	-----	-----	-----	225.23
782	91.89	107.02	220.45	-----	-----	-----	-----	-----	-----	-----	-----	220.45
783	88.81	107.00	215.58	-----	-----	-----	-----	-----	-----	-----	-----	215.58

...End

Hydrograph Report

Hyd. No. 22

PR-1B

Hydrograph type	= SCS Runoff	Peak discharge	= 31.47 cfs
Storm frequency	= 100 yrs	Time to peak	= 745 min
Time interval	= 1 min	Hyd. volume	= 195,203 cuft
Drainage area	= 7.510 ac	Curve number	= 90*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 37.7 min
Total precip.	= 8.40 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.760 x 98) + (5.750 x 88)] / 7.510

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)
731	22.65	748	31.02
732	23.58	749	30.74
733	24.49	750	30.41
734	25.38	751	30.04
735	26.25	752	29.61
736	27.09	753	29.15
737	27.91	754	28.65
738	28.68	755	28.11
739	29.39	756	27.54
740	30.02	757	26.94
741	30.56	758	26.31
742	30.98	759	25.65
743	31.27	760	24.97
744	31.43	761	24.27
745	31.47	762	23.55
746	31.40	763	22.81
747	31.25	764	22.07

<<

...End

Hydrograph Report

Hyd. No. 23

PR-2

Hydrograph type	= SCS Runoff	Peak discharge	= 28.00 cfs
Storm frequency	= 100 yrs	Time to peak	= 741 min
Time interval	= 1 min	Hyd. volume	= 157,662 cuft
Drainage area	= 6.200 ac	Curve number	= 88
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 30.5 min
Total precip.	= 8.40 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Outflow cfs)	Time (min)	Outflow cfs)
729	20.55	746	26.74
730	21.50	747	26.32
731	22.42	748	25.86
732	23.33	749	25.36
733	24.20	750	24.82
734	25.03	751	24.24
735	25.80	752	23.62
736	26.49	753	22.97
737	27.07	754	22.30
738	27.52	755	21.60
739	27.83	756	20.87
740	27.98	757	20.13
741	28.00		
<<		*...End*	
742	27.90		
743	27.71		
744	27.44		
745	27.12		

Hydrograph Report

Hyd. No. 24

PR-1A

Hydrograph type	= SCS Runoff	Peak discharge	= 97.10 cfs
Storm frequency	= 100 yrs	Time to peak	= 729 min
Time interval	= 1 min	Hyd. volume	= 437,774 cuft
Drainage area	= 15.000 ac	Curve number	= 97*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 13.6 min
Total precip.	= 8.40 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(14.380 x 98) + (0.620 x 77)] / 15.000

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time -- Outflow (min cfs)	
723	72.72
724	78.51
725	84.05
726	88.94
727	92.92
728	95.71
729	97.10
<<	
730	97.08
731	95.86
732	93.68
733	90.76
734	87.31
735	83.55
736	79.63
737	75.55
738	71.33

...End

Hydrograph Report

Hyd. No. 25

PR-1C

Hydrograph type	= SCS Runoff	Peak discharge	= 12.94 cfs
Storm frequency	= 100 yrs	Time to peak	= 731 min
Time interval	= 1 min	Hyd. volume	= 57,968 cuft
Drainage area	= 2.120 ac	Curve number	= 92*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 15.4 min
Total precip.	= 8.40 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.890 x 98) + (1.230 x 88)] / 2.120

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)
723	9.241	740	9.630
724	9.957	741	9.117
725	10.67		
726	11.33	*...End*	
727	11.91		
728	12.39		
729	12.73		
730	12.92		
731	12.94		
732	12.83		
733	12.61		
734	12.29		
735	11.92		
736	11.51		
737	11.07		
738	10.61		
739	10.13		

<<

Hydrograph Report

Hyd. No. 26

PR-1B Pond at El. 6.6

Hydrograph type	= SCS Runoff	Peak discharge	= 37.46 cfs
Storm frequency	= 100 yrs	Time to peak	= 724 min
Time interval	= 1 min	Hyd. volume	= 134,098 cuft
Drainage area	= 4.390 ac	Curve number	= 98
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.0 min
Total precip.	= 8.40 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Outflow cfs)	
720	26.70	
721	30.32	
722	33.69	
723	36.25	
724	37.46	<<
725	37.16	
726	35.52	
727	32.87	
728	29.66	
729	26.29	

...End

Hydrograph Report

Hyd. No. 27

PR-1C Pond at El. 6.6

Hydrograph type	= SCS Runoff	Peak discharge	= 4.949 cfs
Storm frequency	= 100 yrs	Time to peak	= 724 min
Time interval	= 1 min	Hyd. volume	= 17,717 cuft
Drainage area	= 0.580 ac	Curve number	= 98
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.0 min
Total precip.	= 8.40 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time -- (min)	Outflow cfs)	
720	3.527	
721	4.005	
722	4.451	
723	4.789	
724	4.949	<<
725	4.910	
726	4.693	
727	4.343	
728	3.919	
729	3.473	

...End

Hydrograph Report

Hyd. No. 29

Proposed Watershed 2 and ERC Site

Hydrograph type	= Combine	Peak discharge	= 422.55 cfs
Storm frequency	= 100 yrs	Time to peak	= 739 min
Time interval	= 1 min	Hyd. volume	= 2,347,730 cuft
Inflow hyds.	= 6, 23	Contrib. drain. area	= 90.000 ac

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Hyd. 6 + (cfs)	Hyd. 23 + (cfs)	Outflow (cfs)
728	286.97	19.59	306.56
729	300.89	20.55	321.44
730	314.50	21.50	335.99
731	327.74	22.42	350.16
732	340.56	23.33	363.89
733	352.76	24.20	376.96
734	364.00	25.03	389.04
735	373.97	25.80	399.77
736	382.35	26.49	408.83
737	388.76	27.07	415.83
738	392.89	27.52	420.41
739	394.73 <<	27.83	422.55
<<			
740	394.54	27.98	422.52
741	392.64	28.00 <<	420.64
742	389.32	27.90	417.23
743	384.86	27.71	412.58
744	379.57	27.44	407.02
745	373.62	27.12	400.74
746	367.03	26.74	393.78
747	359.83	26.32	386.16

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Proposed Watershed 2 and ERC Site

Hydrograph Discharge Table

Time (min)	Hyd. 6 + (cfs)	Hyd. 23 + (cfs)	Outflow (cfs)
748	352.04	25.86	377.91
749	343.70	25.36	369.06
750	334.82	24.82	359.63
751	325.44	24.24	349.68
752	315.62	23.62	339.24
753	305.41	22.97	328.38
754	294.84	22.30	317.14
755	283.97	21.60	305.56

...End

Hydrograph Report

Hyd. No. 30

Pr. Discharge at 108

Hydrograph type	= Reservoir	Peak discharge	= 307.70 cfs
Storm frequency	= 100 yrs	Time to peak	= 755 min
Time interval	= 1 min	Hyd. volume	= 2,347,728 cuft
Inflow hyd. No.	= 29 - Proposed Watershed 2 and ERC Site	Reservoir name	= Pr. Storage at 10
Max. Elevation	= 107.41 ft	Max. Storage	= 1,101,803 cuft

Storage Indication method used. Wet pond routing start elevation = 106.60 ft.

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
733	376.96	107.01	218.53	-----	-----	-----	-----	-----	-----	-----	-----	218.53
734	389.04	107.04	225.42	-----	-----	-----	-----	-----	-----	-----	-----	225.42
735	399.77	107.06	232.50	-----	-----	-----	-----	-----	-----	-----	-----	232.50
736	408.83	107.09	239.69	-----	-----	-----	-----	-----	-----	-----	-----	239.69
737	415.83	107.12	246.44	-----	-----	-----	-----	-----	-----	-----	-----	246.44
738	420.41	107.15	252.96	-----	-----	-----	-----	-----	-----	-----	-----	252.96
739	422.55 <<	107.18	259.35	-----	-----	-----	-----	-----	-----	-----	-----	259.35
740	422.52	107.20	265.49	-----	-----	-----	-----	-----	-----	-----	-----	265.49
741	420.64	107.23	270.95	-----	-----	-----	-----	-----	-----	-----	-----	270.95
742	417.23	107.25	276.12	-----	-----	-----	-----	-----	-----	-----	-----	276.12
743	412.58	107.28	280.97	-----	-----	-----	-----	-----	-----	-----	-----	280.97
744	407.02	107.30	285.47	-----	-----	-----	-----	-----	-----	-----	-----	285.47
745	400.74	107.32	289.37	-----	-----	-----	-----	-----	-----	-----	-----	289.37
746	393.78	107.33	292.88	-----	-----	-----	-----	-----	-----	-----	-----	292.88
747	386.16	107.35	296.04	-----	-----	-----	-----	-----	-----	-----	-----	296.04
748	377.91	107.36	298.84	-----	-----	-----	-----	-----	-----	-----	-----	298.84
749	369.06	107.38	301.27	-----	-----	-----	-----	-----	-----	-----	-----	301.27
750	359.63	107.39	303.33	-----	-----	-----	-----	-----	-----	-----	-----	303.33
751	349.68	107.40	305.00	-----	-----	-----	-----	-----	-----	-----	-----	305.00
752	339.24	107.40	306.26	-----	-----	-----	-----	-----	-----	-----	-----	306.26

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Pr. Discharge at 108

Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
753	328.38	107.41	307.10	-----	-----	-----	-----	-----	-----	-----	-----	307.10
754	317.14	107.41	307.58	-----	-----	-----	-----	-----	-----	-----	-----	307.58
755	305.56	107.41 <<	307.70	-----	-----	-----	-----	-----	-----	-----	-----	307.70
756	293.72	107.41	307.45	-----	-----	-----	-----	-----	-----	-----	-----	307.45
757	281.66	107.41	306.85	-----	-----	-----	-----	-----	-----	-----	-----	306.85
758	269.42	107.40	305.89	-----	-----	-----	-----	-----	-----	-----	-----	305.89
759	257.06	107.39	304.50	-----	-----	-----	-----	-----	-----	-----	-----	304.50
760	244.64	107.38	302.75	-----	-----	-----	-----	-----	-----	-----	-----	302.75
761	232.21	107.37	300.66	-----	-----	-----	-----	-----	-----	-----	-----	300.66
762	219.81	107.36	298.23	-----	-----	-----	-----	-----	-----	-----	-----	298.23
763	207.56	107.35	295.47	-----	-----	-----	-----	-----	-----	-----	-----	295.47
764	195.60	107.33	292.42	-----	-----	-----	-----	-----	-----	-----	-----	292.42
765	184.10	107.31	289.08	-----	-----	-----	-----	-----	-----	-----	-----	289.08
766	173.20	107.30	285.43	-----	-----	-----	-----	-----	-----	-----	-----	285.43
767	163.07	107.28	281.34	-----	-----	-----	-----	-----	-----	-----	-----	281.34
768	153.87	107.26	277.04	-----	-----	-----	-----	-----	-----	-----	-----	277.04
769	145.63	107.24	272.59	-----	-----	-----	-----	-----	-----	-----	-----	272.59
770	138.26	107.21	268.03	-----	-----	-----	-----	-----	-----	-----	-----	268.03
771	131.64	107.19	263.25	-----	-----	-----	-----	-----	-----	-----	-----	263.25
772	125.66	107.17	258.14	-----	-----	-----	-----	-----	-----	-----	-----	258.14
773	120.21	107.15	253.01	-----	-----	-----	-----	-----	-----	-----	-----	253.01
774	115.16	107.13	247.88	-----	-----	-----	-----	-----	-----	-----	-----	247.88
775	110.44	107.10	242.75	-----	-----	-----	-----	-----	-----	-----	-----	242.75
776	106.02	107.08	237.22	-----	-----	-----	-----	-----	-----	-----	-----	237.22
777	101.90	107.06	231.63	-----	-----	-----	-----	-----	-----	-----	-----	231.64
778	98.05	107.04	226.12	-----	-----	-----	-----	-----	-----	-----	-----	226.12

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Pr. Discharge at 108

Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
779	94.47	107.02	220.68	-----	-----	-----	-----	-----	-----	-----	-----	220.68

...End

Hydrograph Report

Hyd. No. 32

Combine Flow at PR-1C

Hydrograph type	= Combine	Peak discharge	= 179.35 cfs
Storm frequency	= 100 yrs	Time to peak	= 727 min
Time interval	= 1 min	Hyd. volume	= 754,125 cuft
Inflow hyds.	= 7, 8, 25, 27	Contrib. drain. area	= 30.200 ac

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Hyd. 7 + (cfs)	Hyd. 8 + (cfs)	Hyd. 25 + (cfs)	Hyd. 27 + (cfs)	Outflow (cfs)
722	35.47	88.25	8.548	4.451	136.72
723	38.11	97.26	9.241	4.789	149.41
724	40.83	105.19	9.957	4.949 <<	160.93
725	43.57	111.13	10.67	4.910	170.27
726	46.26	114.21	11.33	4.693	176.50
727	48.84	114.25 <<	11.91	4.343	179.35
728	51.21	111.73	12.39	3.919	179.25
729	53.29	107.16	12.73	3.473	176.66
730	54.99	101.05	12.92	3.066	172.03
731	56.23	93.99	12.94 <<	2.737	165.89
732	56.90	86.68	12.83	2.485	158.90
733	57.03 <<	79.60	12.61	2.297	151.53
734	56.67	72.96	12.29	2.159	144.09
735	55.92	67.01	11.92	2.055	136.90
736	54.86	61.97	11.51	1.974	130.30

<

...End

Hydrograph Report

Hyd. No. 34

Combine Flow at 96

Hydrograph type	= Combine	Peak discharge	= 145.16 cfs
Storm frequency	= 100 yrs	Time to peak	= 728 min
Time interval	= 1 min	Hyd. volume	= 767,075 cuft
Inflow hyds.	= 22, 24, 26	Contrib. drain. area	= 26.900 ac

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Hyd. 22 + (cfs)	Hyd. 24 + (cfs)	Hyd. 26 + (cfs)	Outflow (cfs)
721	13.24	61.67	30.32	105.23
722	14.10	67.02	33.69	114.80
723	14.99	72.72	36.25	123.96
724	15.93	78.51	37.46 <<	131.90
725	16.88	84.05	37.16	138.09
726	17.85	88.94	35.52	142.31
727	18.82	92.92	32.87	144.61
728	19.78	95.71	29.66	145.16
<<				
729	20.75	97.10 <<	26.29	144.13
730	21.70	97.08	23.21	141.99
731	22.65	95.86	20.72	139.23
732	23.58	93.68	18.81	136.07
733	24.49	90.76	17.39	132.64
734	25.38	87.31	16.34	129.03
735	26.25	83.55	15.56	125.36
736	27.09	79.63	14.94	121.66
737	27.91	75.55	14.38	117.84
738	28.68	71.33	13.82	113.83
739	29.39	67.04	13.26	109.68
740	30.02	62.76	12.70	105.49

...End

Hydrograph Report

Hyd. No. 35

Pr. Discharge at 96

Hydrograph type	= Reservoir (Interconnected)	Peak discharge	= 217.80 cfs
Storm frequency	= 100 yrs	Time to peak	= 741 min
Time interval	= 1 min	Hyd. volume	= 1,375,101 cuft
Upper Pond		**Lower Pond**	
Pond name	= Pr. Watershed-1C	Pond name	= Proposed Headwater at 96in F
Inflow hyd.	= 32 - Combine Flow at OPR-1C	Inflow hyd.	= 34 - Combine Flow at
Max. Elevation	= 107.51 ft	Max. Elevation	= 107.25 ft
Max. Storage	= 67,103 cuft	Max. Storage	= 243,597 cuft

Interconnected Pond Routing. Storage Indication method used.

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

	Upper Pond			Lower Pond			
Time (min)	Inflow cfs	Elevation ft	Outflow cfs	Inflow cfs	Other Inflow cfs	Elevation ft	Exfil cfs	Outflow cfs
725	170.27	107.25	133.79	133.79	138.09	106.95	-----	159.17
726	176.50	107.32	141.53	141.53	142.31	106.98	-----	166.93
727	179.35 <<	107.38	147.89	147.89	144.61	107.01	-----	173.92
728	179.25	107.42	153.18	153.18	145.16 <<	107.05	-----	180.12
729	176.66	107.46	156.45	156.45	144.13	107.08	-----	186.21
730	172.03	107.49	157.94 <<	157.94 <<	141.99	107.10	-----	191.94
731	165.89	107.50	155.93	155.93	139.23	107.13	-----	196.82
732	158.90	107.51 <<	154.17	154.17	136.07	107.16	-----	201.25
733	151.53	107.51	151.07	151.07	132.64	107.18	-----	205.21
734	144.09	107.50	146.90	146.90	129.03	107.20	-----	208.66
735	136.90	107.49	142.02	142.02	125.36	107.21	-----	211.40
736	130.30	107.48	136.78	136.78	121.66	107.23	-----	213.59

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Pr. Discharge at 96

Hydrograph Discharge Table

Time (min)	|<----- Inflow cfs	Upper Pond Elevation ft	----->| Outflow cfs	|<--------- Inflow cfs	Lower Pond Other Inflow cfs	Elevation ft	Exfil cfs	---------->| Outflow cfs
737	124.40	107.47	131.45	131.45	117.84	107.24	-----	215.31
738	119.10	107.45	126.28	126.28	113.83	107.24	-----	216.56
739	114.28	107.44	121.45	121.45	109.68	107.25	-----	217.37
740	109.79	107.43	117.02	117.02	105.49	107.25	-----	217.77
741	105.46	107.41	112.80	112.80	101.31	107.25	-----	217.80
742	101.12	107.40	108.66	108.66	97.23	107.25	-----	217.46
743	96.69	107.39	104.64	104.64	93.33	107.24	-----	216.80
744	92.20	107.37	100.71	100.71	89.70	107.24	-----	215.84
745	87.67	107.35	96.83	96.83	86.37	107.23	-----	214.60
746	83.11	107.34	93.15	93.15	83.28	107.22	-----	213.12
747	78.56	107.32	88.46	88.46	80.36	107.21	-----	211.40
748	74.06	107.29	84.46	84.46	77.57	107.20	-----	209.44
749	69.62	107.28	80.62	80.62	74.83	107.19	-----	207.10
750	65.29	107.26	76.92	76.92	72.08	107.17	-----	204.57
751	61.10	107.24	73.22	73.22	69.30	107.16	-----	201.85
752	57.15	107.21	69.54	69.54	66.54	107.14	-----	198.96
753	53.47	107.18	64.79	64.79	63.83	107.13	-----	195.88

Continues on next page...

Pr. Discharge at 96

Hydrograph Discharge Table

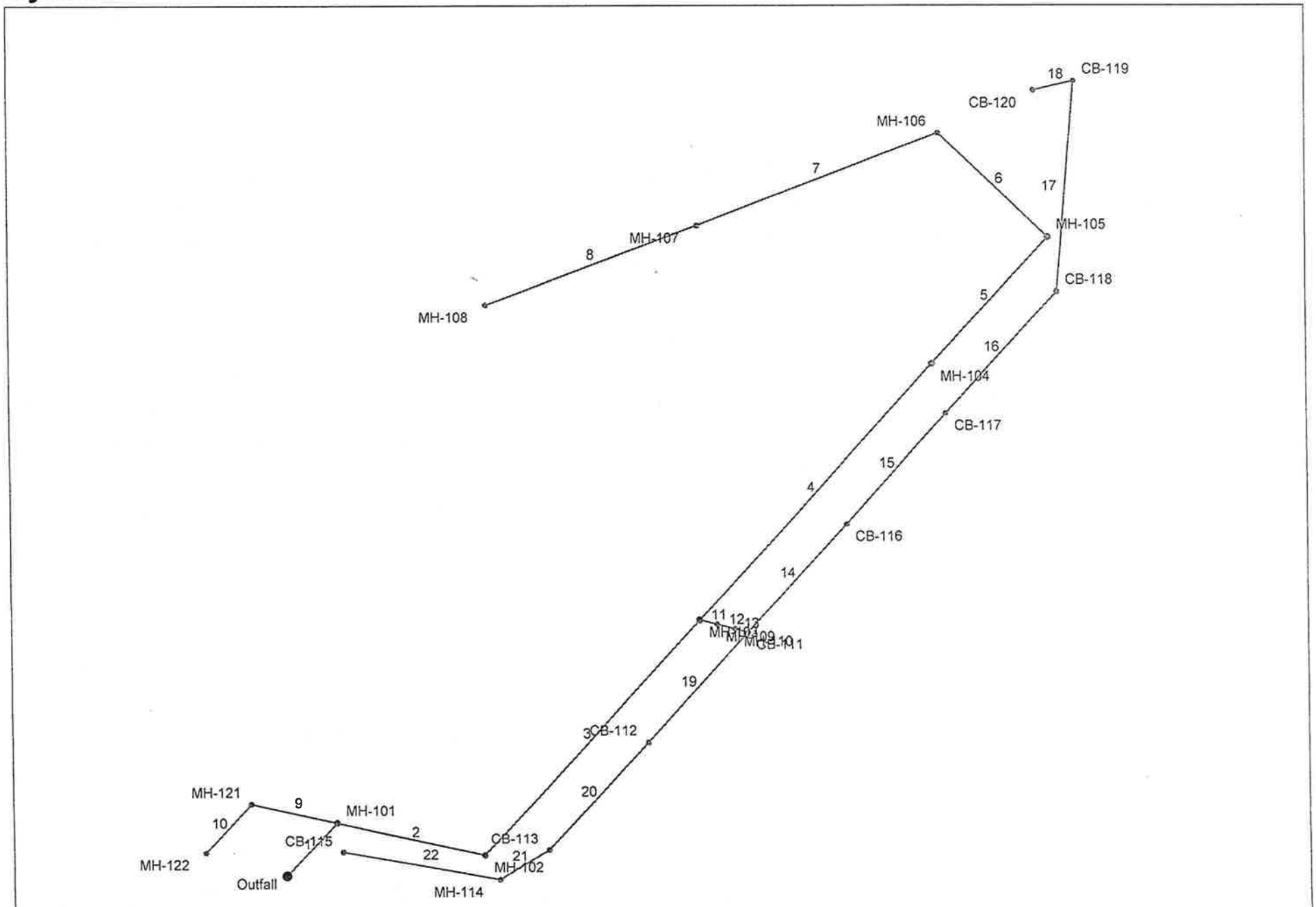
Time (min)	|<----- Inflow cfs	Upper Pond Elevation ft	-----\>| Outflow cfs	|<--------- Inflow cfs	Other Inflow cfs	Lower Pond Elevation ft	Exfil cfs	---------\>| Outflow cfs
754	50.08	107.17	61.91	61.91	61.22	107.11	-----	192.64
755	47.00	107.16	59.48	59.48	58.72	107.09	-----	189.13
756	44.24	107.13	56.70	56.70	56.35	107.07	-----	185.38
757	41.79	107.10	54.21	54.21	54.10	107.05	-----	181.57
758	39.61	107.07	51.87	51.87	51.99	107.03	-----	177.72
759	37.66	107.06	49.66	49.66	50.01	107.01	-----	173.85
760	35.93	107.05	48.39	48.39	48.16	106.99	-----	169.75
761	34.41	107.02	45.83	45.83	46.43	106.97	-----	164.92
762	33.06	106.98	44.57	44.57	44.79	106.95	-----	160.06
763	31.87	106.96	44.47	44.47	43.24	106.93	-----	155.23

...End

APPENDIX B

Stormwater Conveyance Calculations
(25-Year Storm)

Hydraflow Storm Sewers Extension for AutoCAD® Civil 3D® 2011 Plan



Project File: 100.stm	Number of lines: 22	Date: 12/15/2011

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	66.366	0.00	7.72	0.00	0.00	7.16	0.0	12.9	5.3	37.69	67.73	5.33	36	0.74	0.01	0.50	6.60	6.75	3.75	10.59	MH-101 to FES-10
2	1	135.330	0.66	6.46	0.95	0.63	5.96	6.0	12.4	5.4	31.91	62.10	4.51	36	0.62	0.50	1.34	7.19	7.42	10.59	11.20	MH-102 to MH-10
3	2	285.413	0.83	5.80	0.95	0.79	5.33	6.0	11.2	5.6	29.67	62.07	4.20	36	0.62	1.34	3.11	7.70	8.10	11.20	11.45	MH-103 to MH-10
4	3	309.000	0.99	3.56	0.95	0.94	3.38	6.0	8.7	6.1	20.67	29.44	4.21	30	0.37	3.11	4.25	8.35	8.91	11.45	11.54	MH-104 to MH-10
5	4	154.000	0.33	2.57	0.95	0.31	2.44	6.0	8.2	6.2	15.25	28.33	4.85	24	1.12	4.25	5.98	8.95	9.45	11.54	11.21	MH-105 to MH-10
6	5	134.270	0.00	2.24	0.00	0.00	2.13	0.0	7.7	6.4	13.58	21.02	4.32	24	0.62	5.98	6.81	9.82	10.17	11.21	11.99	MH-106 to MH-10
7	6	232.398	0.21	2.24	0.95	0.20	2.13	6.0	6.8	6.6	14.09	21.04	4.49	24	0.62	6.81	8.25	10.43	11.08	11.99	12.13	MH-107 to MH-10
8	7	202.182	2.03	2.03	0.95	1.93	1.93	6.0	6.0	6.9	13.24	21.02	4.22	24	0.62	8.25	9.50	11.12	11.62	12.13	13.49	MH-108 to MH-10
9	1	78.248	0.00	1.26	0.00	0.00	1.20	0.0	6.1	6.8	8.16	10.78	7.02	15	1.99	6.64	8.20	7.76	9.32	10.59	11.31	MH-121 to MH-10
10	9	60.756	1.26	1.26	0.95	1.20	1.20	6.0	6.0	6.9	8.22	5.36	6.88	15	0.49	8.20	8.50	9.33	10.07	11.31	11.70	MH-122 to MH-12
11	3	15.781	0.00	1.41	0.00	0.00	1.16	0.0	11.2	5.6	6.48	8.84	3.67	18	0.51	3.11	3.19	8.35	8.39	11.45	10.64	MH-109 to MH-10
12	11	16.697	0.00	1.41	0.00	0.00	1.16	0.0	11.1	5.6	6.50	17.45	3.68	18	1.98	4.48	4.81	8.42	8.47	10.64	10.27	MH-110 to MH-10
13	12	12.022	0.15	1.41	0.77	0.12	1.16	6.0	11.0	5.6	6.51	7.16	3.68	18	0.33	4.81	4.85	8.50	8.53	10.27	10.00	CB-111 to MH-11
14	13	132.000	0.15	0.75	0.77	0.12	0.61	6.0	10.0	5.8	3.56	7.48	2.01	18	0.36	4.85	5.33	8.85	8.96	10.00	10.00	CB-116 TO CB-11
15	14	132.000	0.15	0.60	0.77	0.12	0.49	6.0	9.0	6.0	2.98	4.51	2.43	15	0.35	5.33	5.79	8.99	9.19	10.00	10.00	CB-117 TO CB-11
16	15	147.907	0.16	0.45	0.82	0.13	0.38	6.0	7.8	6.3	2.41	4.53	1.96	15	0.35	5.79	6.31	9.24	9.39	10.00	10.00	CB-118 TO CB-11
17	16	186.664	0.04	0.29	0.95	0.04	0.25	6.0	6.3	6.8	1.68	2.48	2.14	12	0.35	6.31	6.96	9.45	9.74	10.00	10.00	CB-119 to CB-118
18	17	36.716	0.25	0.25	0.84	0.21	0.21	6.0	6.0	6.9	1.44	2.50	1.84	12	0.35	6.96	7.09	9.85	9.89	10.00	10.00	CB-120 to CB-119
19	13	132.000	0.15	0.51	0.77	0.12	0.44	6.0	8.7	6.1	2.67	4.84	2.17	15	0.40	4.85	5.38	8.85	9.01	10.00	10.00	CB-112 TO CB-11
20	19	132.000	0.15	0.36	0.81	0.12	0.32	6.0	7.9	6.3	2.03	2.67	2.58	12	0.40	5.38	5.91	9.05	9.36	10.00	10.00	CB-113 TO CB-11
21	20	51.699	0.00	0.21	0.00	0.00	0.20	0.0	7.4	6.5	1.29	2.68	1.64	12	0.41	5.91	6.12	9.41	9.46	10.00	10.66	MH-114 TO CB-11
22	21	142.491	0.21	0.21	0.95	0.20	0.20	6.0	6.0	6.9	1.37	2.66	1.74	12	0.40	6.12	6.69	9.49	9.64	10.66	10.00	CB-115 TO MH-11

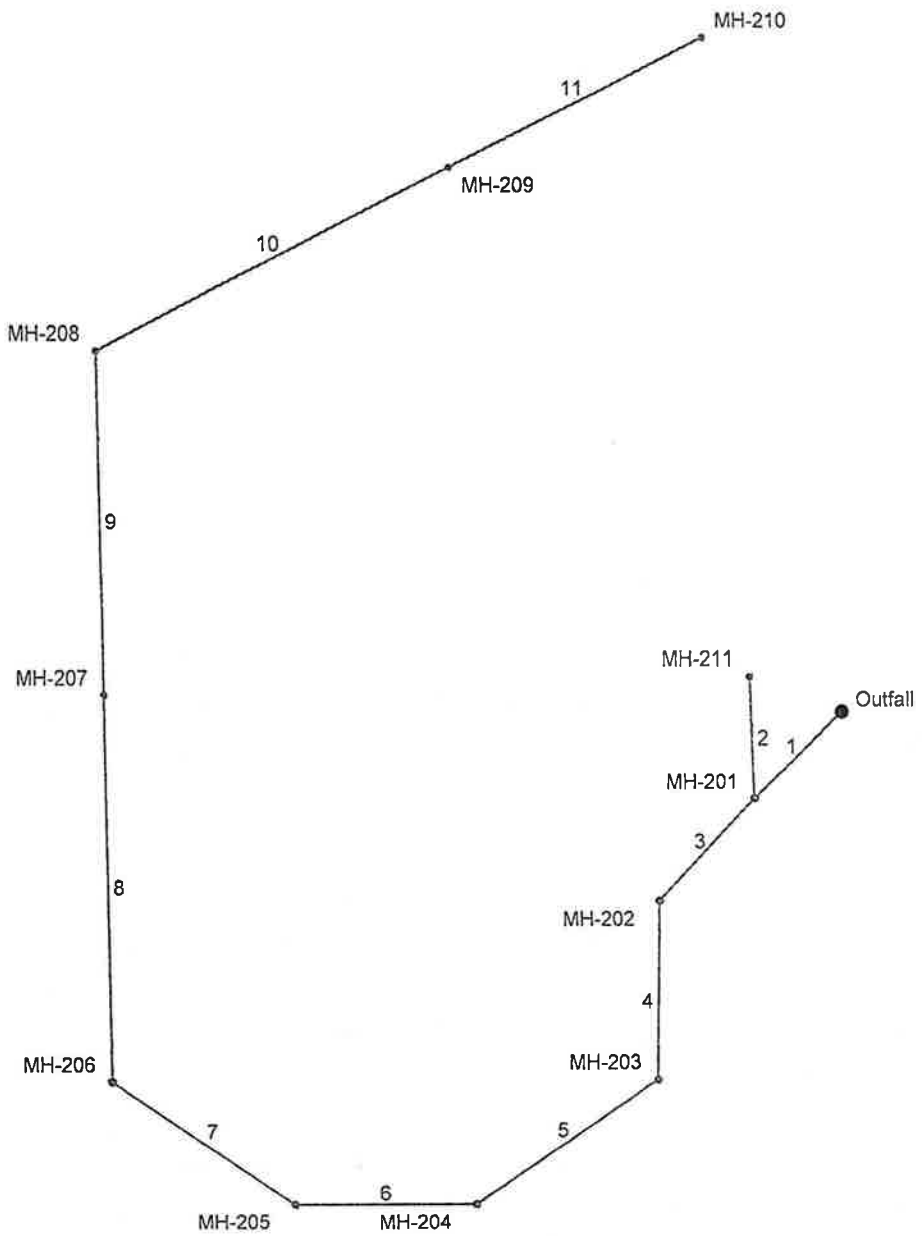
Project File: 100.stm

Number of lines: 22

Run Date: 12/15/2011

NOTES:Intensity = 52.97 / (Inlet time + 9.90) ^ 0.74 ; Return period =Yrs. 25 ; c = cir e = ellip b = box

Hydraflow Storm Sewers Extension for AutoCAD® Civil 3D® 2011 Plan



Project File: 200.stm	Number of lines: 11	Date: 12/15/2011

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	91.111	0.00	7.06	0.00	0.00	6.71	0.0	13.6	5.1	34.49	75.77	3.59	42	0.41	0.01	0.38	6.60	6.68	3.75	10.50	MH-201 to HW-200
2	1	88.445	0.71	0.71	0.95	0.67	0.67	6.0	6.0	6.9	4.63	7.61	5.14	15	0.99	7.28	8.16	8.14	9.02	10.50	11.41	MH-211 to MH-201
3	1	104.859	0.00	6.35	0.00	0.00	6.03	0.0	13.1	5.2	31.56	76.14	3.28	42	0.41	0.38	0.81	6.88	6.95	10.50	11.44	MH-202 to MH-201
4	3	131.151	1.11	6.35	0.95	1.05	6.03	6.0	12.4	5.3	32.24	76.29	3.35	42	0.41	0.81	1.35	7.07	7.17	11.44	10.74	MH-203 to MH-202
5	4	164.404	0.00	5.24	0.00	0.00	4.98	0.0	11.7	5.5	27.25	50.32	3.86	36	0.41	1.35	2.02	7.31	7.51	10.74	11.59	MH-204 to MH-203
6	5	134.259	0.00	5.24	0.00	0.00	4.98	0.0	11.1	5.6	27.80	50.45	3.93	36	0.41	2.02	2.57	7.65	7.82	11.59	10.90	MH-205 to MH-204
7	6	162.917	0.00	5.24	0.00	0.00	4.98	0.0	10.5	5.7	28.47	50.55	4.03	36	0.41	2.57	3.24	7.97	8.18	10.90	10.37	MH-206 to MH-205
8	7	285.804	1.29	5.24	0.95	1.23	4.98	6.0	9.3	6.0	29.71	50.43	4.20	36	0.41	3.24	4.41	8.40	8.80	10.37	10.50	MH-207 to MH-206
9	8	249.667	0.88	3.95	0.95	0.84	3.75	6.0	8.1	6.3	23.54	50.38	3.33	36	0.41	4.41	5.43	8.84	9.07	10.50	10.41	MH-208 to MH-207
10	9	292.787	1.04	3.07	0.95	0.99	2.92	6.0	6.8	6.6	19.29	31.03	3.93	30	0.41	5.43	6.63	9.22	9.69	10.41	11.57	MH-209 to MH-208
11	10	210.172	2.03	2.03	0.95	1.93	1.93	6.0	6.0	6.9	13.24	17.10	4.22	24	0.41	6.63	7.49	9.72	10.24	11.57	11.19	MH-210 to MH-209

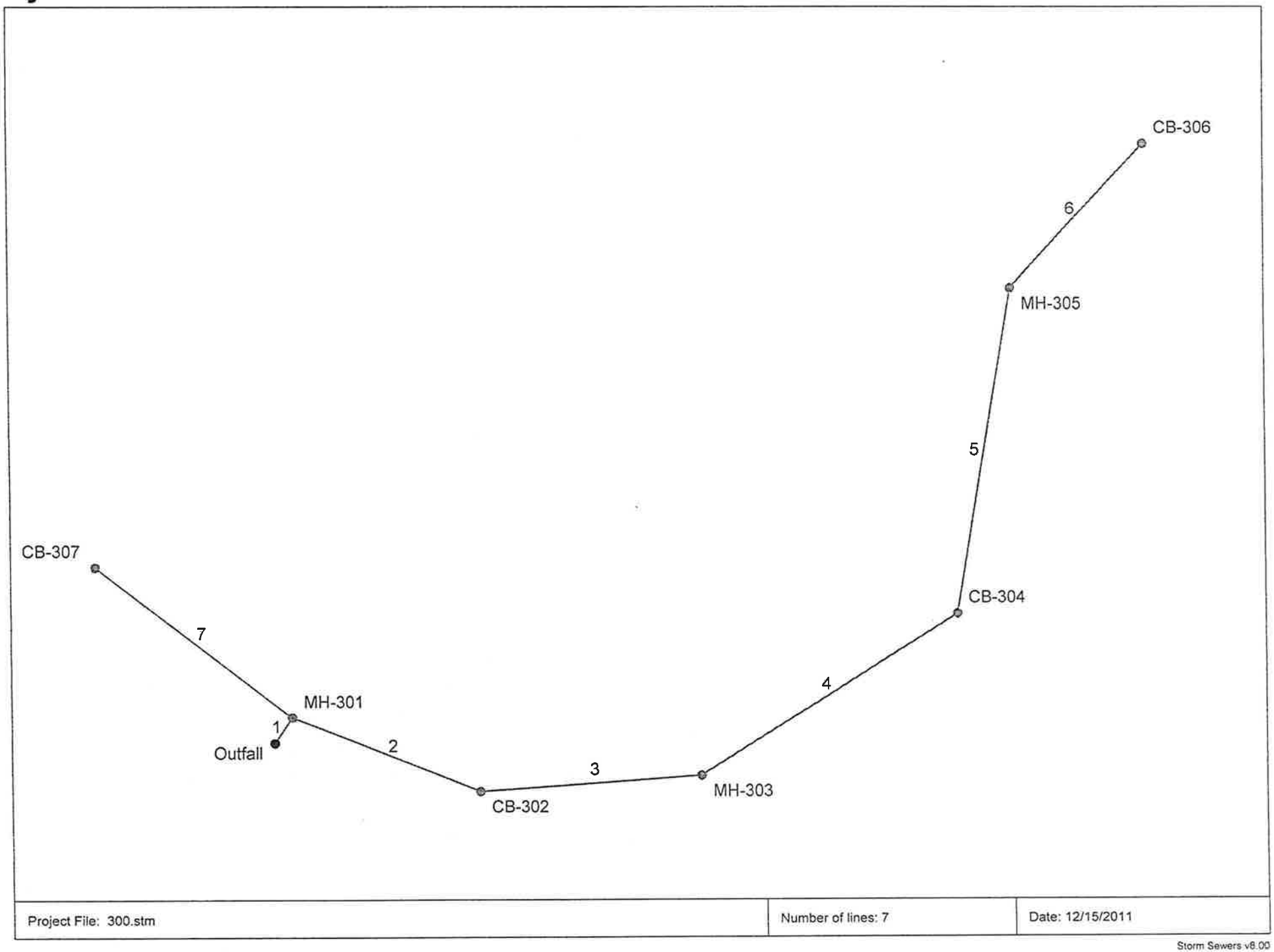
Project File: 200.stm

Number of lines: 11

Run Date: 12/15/2011

NOTES:Intensity = 52.97 / (Inlet time + 9.90) ^ 0.74 ; Return period =Yrs. 25 ; c = cir e = ellip b = box

Hydraflow Storm Sewers Extension for AutoCAD® Civil 3D® 2011 Plan



Project File: 300.stm	Number of lines: 7	Date: 12/15/2011

Storm Sewers v8.00

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	15.322	0.00	0.83	0.00	0.00	0.79	0.0	10.0	5.8	4.59	5.51	3.74	15	0.52	4.28	4.36	6.60	6.66	6.45	11.08	MH-301 to HW-300
2	1	98.511	0.20	0.63	0.95	0.19	0.60	6.0	9.6	5.9	3.54	2.97	4.50	12	0.50	4.36	4.85	6.87	7.57	11.08	10.00	CB-302 to MH-301
3	2	108.361	0.00	0.43	0.00	0.00	0.41	0.0	9.0	6.0	2.47	2.97	3.14	12	0.50	4.85	5.39	7.80	8.17	10.00	11.19	MH-303 to CB-302
4	3	148.900	0.20	0.43	0.95	0.19	0.41	6.0	8.3	6.2	2.54	2.97	3.24	12	0.50	5.39	6.13	8.25	8.79	11.19	10.00	CB-304 to MH-303
5	4	157.723	0.00	0.23	0.00	0.00	0.22	0.0	6.8	6.6	1.45	2.98	1.84	12	0.50	6.13	6.92	8.99	9.17	10.00	10.98	MH-304 to CB-304
6	5	94.630	0.23	0.23	0.95	0.22	0.22	6.0	6.0	6.9	1.50	3.00	1.91	12	0.51	6.92	7.40	9.20	9.32	10.98	10.00	CB-306 to MH-305
7	1	119.996	0.20	0.20	0.95	0.19	0.19	6.0	6.0	6.9	1.30	2.98	3.46	12	0.50	6.80	7.40	7.28	7.88	11.08	10.00	CB-307 to MH-301

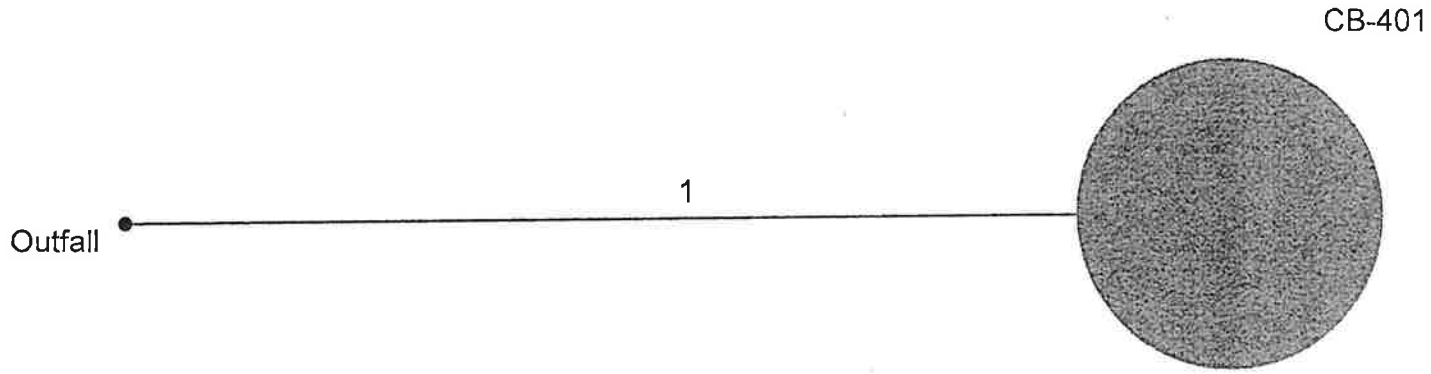
Project File: 300.stm

Number of lines: 7

Run Date: 12/28/2011

NOTES:Intensity = 52.97 / (Inlet time + 9.90) ^ 0.74 ; Return period =Yrs. 25 ; c = cir e = ellip b = box

Hydraflow Storm Sewers Extension for AutoCAD® Civil 3D® 2011 Plan



Project File: 400.stm	Number of lines: 1	Date: 12/15/2011

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	14.500	0.21	0.21	0.95	0.20	0.20	6.0	6.0	6.9	1.37	4.28	1.74	12	1.03	4.85	5.00	6.60	6.62	6.73	10.00	CB-401 to HW-400

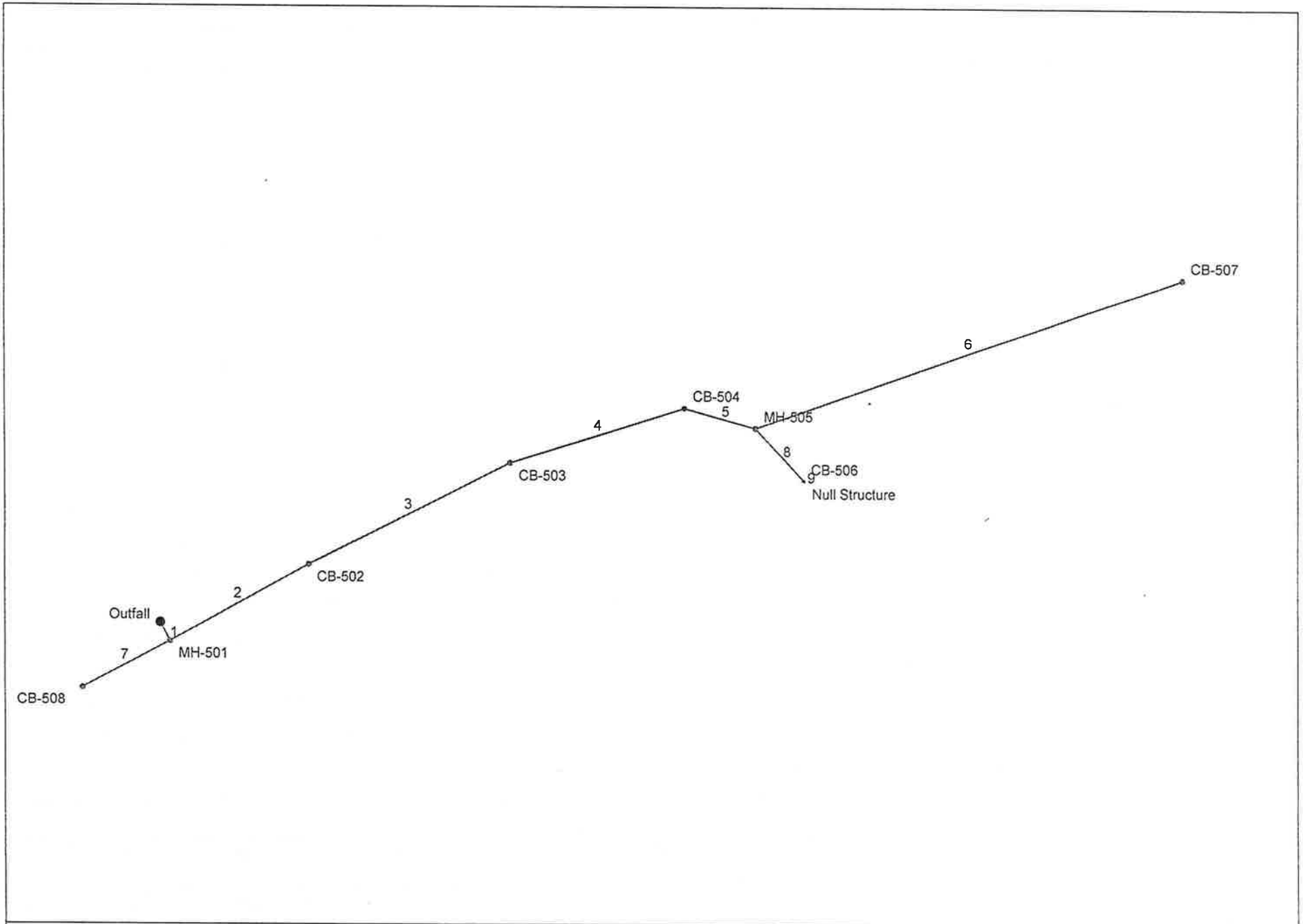
Project File: 400.stm

Number of lines: 1

Run Date: 12/15/2011

NOTES:Intensity = 52.97 / (Inlet time + 9.90) ^ 0.74 ; Return period =Yrs. 25 ; c = cir e = ellip b = box

Hydraflow Storm Sewers Extension for AutoCAD® Civil 3D® 2011 Plan



Project File: 500.stm	Number of lines: 9	Date: 12/15/2011

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	18.554	0.00	1.37	0.00	0.00	1.18	6.0	11.5	5.5	6.50	15.20	2.83	24	0.32	5.20	5.26	6.60	6.61	7.87	10.99	MH-501 to HW-500
2	1	140.958	0.16	1.17	0.95	0.15	0.99	6.0	10.8	5.6	5.59	7.01	3.36	18	0.32	5.26	5.71	6.74	6.97	10.99	10.30	CB-502 to MH-501
3	2	200.000	0.15	1.01	0.87	0.13	0.84	6.0	9.8	5.9	4.90	7.02	3.42	18	0.32	5.71	6.35	7.06	7.35	10.30	10.30	CB-503 to CB-502
4	3	162.364	0.22	0.86	0.71	0.16	0.71	6.0	9.1	6.0	4.26	6.89	3.53	18	0.31	6.35	6.85	7.47	7.71	10.30	10.00	CB-504 to CB-503
5	4	65.524	0.00	0.64	0.00	0.00	0.55	6.0	8.7	6.1	3.37	6.86	2.68	18	0.31	6.85	7.05	7.94	7.98	10.00	11.24	MH-505 to CB-504
6	5	401.765	0.22	0.22	0.84	0.18	0.18	6.0	6.0	6.9	1.27	2.74	2.52	12	0.42	7.05	8.75	8.06	9.23	11.24	11.75	CB-507 to MH-505
7	1	87.441	0.20	0.20	0.95	0.19	0.19	6.0	6.0	6.9	1.30	4.20	3.04	12	0.99	6.13	7.00	6.74	7.48	10.99	10.00	CB-508 to MH-501
8	5	62.415	0.14	0.42	0.89	0.12	0.37	6.0	6.0	6.9	2.51	7.03	2.23	18	0.32	7.05	7.25	8.06	8.09	11.24	10.65	CB-506 to MH-505
9	8	1.794	0.28	0.28	0.86	0.24	0.24	6.0	6.0	6.9	1.65	2.73	3.03	10	1.12	7.25	7.27	8.13	8.14	10.65	8.00	Truckwell to CB-504

Project File: 500.stm

Number of lines: 9

Run Date: 12/15/2011

NOTES:Intensity = 52.97 / (Inlet time + 9.90) ^ 0.74 ; Return period =Yrs. 25 ; c = cir e = ellip b = box

APPENDIX C

Existing and Proposed
Time of Concentration, IDF Curve, and NRCS NJ 24-Hr Rainfall data

Project: American Dream - Disney Parcel | By: JO | Date: 12/15/2011

Location: East Rutherford, NJ | Checked: | Date:

Circle One: Present Developed | Existing Watershed 1A

Circle One: T_c T_t through subarea

NOTES: Space for as many as two segments per flow type can be used for each worksheet.

Include a map, schematic, or description of flow segments.

Sheet flow (Applicable to T_c Only)

		Segment ID		
1. Surface description (table 3-1)		Light Brush		
2. Manning's roughness coeff., n (table 3-1)		0.400		
3. Flow Length, L (total L ≤ 150 ft)	ft	150		
4. Two-yr 24-hr rainfall, P_2	in	3.3		
5. Land slope, s	ft/ft	0.011		
6. $T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5} s^{0.4}}$	Compute T_t hr	0.619	+ 0.000	= 0.619

Shallow concentrated flow

		Segment ID		
7. Surface description (paved or unpaved)		UNPAVED	UNPAVED	
8. Flow length, L	ft	62		
9. Watercourse slope, s	ft/ft	0.011		
10. Average velocity, V (figure 3-1)	ft/s	1.8		
11. $T_t = \frac{L}{3600\ V}$	Compute T_t hr	0.010	+	= 0.010

Channel flow

		Segment ID		
12. Cross sectional flow area, a	ft^2			
13. Wetted perimeter, p_w	ft			
14. Hydraulic radius, r $r = \frac{a}{p_w}$	Compute r ft			
15. Channel slope, s	ft/ft			
16. Manning's roughness coeff., n				
17. $V = \frac{1.49\ r^{2/3}\ s^{1/2}}{n}$	Compute V ft/s			
18. Flow length, L	ft	0		
19. $T_t = \frac{L}{3600\ V}$	Compute T_t hr	0.000	+ 0.000	= 0.000

20. Watershed or subarea T_c or T_t (add T_t in steps 6, 11, 19) hr 0.629

Project: **American Dream - Disney Parcel** By: **JO** Date: **12/15/2011**

Location: **East Rutherford, NJ** Checked: _____ Date: _____

Circle One: Present Developed — **Existing Watershed 1B**

Circle One: T_c T_t through subarea

NOTES: Space for as many as two segments per flow type can be used for each worksheet.

Include a map, schematic, or description of flow segments.

Sheet flow (Applicable to T_c Only)		Segment ID		
1. Surface description (table 3-1)		Light Brush		
2. Manning's roughness coeff., n (table 3-1)		0.400		
3. Flow Length, L (total L ≤ 150 ft)	ft	150		
4. Two-yr 24-hr rainfall, P_2	in	3.3		
5. Land slope, s	ft/ft	0.025		
6. $T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5} s^{0.4}}$	Compute T_t hr	0.446	+ 0.000	= 0.446

Shallow concentrated flow		Segment ID		
7. Surface description (paved or unpaved)		UNPAVED		
8. Flow length, L	ft	161		
9. Watercourse slope, s	ft/ft	0.008		
10. Average velocity, V (figure 3-1)	ft/s	1.4		
11. $T_t = \frac{L}{3600\ V}$	Compute T_t hr	0.032	+	= 0.032

Channel flow		Segment ID		
12. Cross sectional flow area, a	ft^2			
13. Wetted perimeter, p_w	ft			
14. Hydraulic radius, r $r = \frac{a}{p_w}$	Compute r ft			
15. Channel slope, s	ft/ft			
16. Manning's roughness coeff., n				
17. $V = \frac{1.49\ r^{2/3} s^{1/2}}{n}$	Compute V ft/s			
18. Flow length, L	ft			
19. $T_t = \frac{L}{3600\ V}$	Compute T_t hr	0.000	+ 0.000	= 0.000

20. Watershed or subarea T_c or T_t (add T_t in steps 6, 11, 19) hr **0.478**

Project: American Dream - Disney Parcel | By: JO | Date: 12/15/2011

Location: East Rutherford, NJ | Checked: | Date:

Circle One: Present Developed | Existing Watershed 2

Circle One: T_c T_t through subarea

NOTES: Space for as many as two segments per flow type can be used for each worksheet.

Include a map, schematic, or description of flow segments.

Sheet flow (Applicable to T_c Only)		Segment ID						
1. Surface description (table 3-1)			LIGHT BRUSH					
2. Manning's roughness coeff., n (table 3-1)			0.400					
3. Flow Length, L (total L ≤ 150 ft)		ft	150					
4. Two-yr 24-hr rainfall, P_2		in	3.3					
5. Land slope, s		ft/ft	0.010					
6. $T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5} s^{0.4}}$	Compute T_t	hr	0.643	+	0.000	=	0.643	
Shallow concentrated flow		Segment ID	1					
7. Surface description (paved or unpaved)			UNPAVED					
8. Flow length, L		ft	116					
9. Watercourse slope, s		ft/ft	0.0294					
10. Average velocity, V (figure 3-1)		ft/s	3.2					
11. $T_t = \frac{L}{3600\ V}$	Compute T_t	hr	0.010	+	0.000	=	0.010	
Channel flow		Segment ID						
12. Cross sectional flow area, a		ft^2						
13. Wetted perimeter, p_w		ft						
14. Hydraulic radius, r $r = \frac{a}{p_w}$	Compute r	ft						
15. Channel slope, s		ft/ft						
16. Manning's roughness coeff., n								
17. $V = \frac{1.49\ r^{2/3} s^{1/2}}{n}$	Compute V	ft/s						
18. Flow length, L		ft						
19. $T_t = \frac{L}{3600\ V}$	Compute T_t	hr	0.000	+	0.000	=	0.000	
20. Watershed or subarea T_c or T_t (add T_t in steps 6, 11, 19)							hr	0.653

Project	American Dream - Disney Parcel	By	JO	Date	12/15/2011
Location	East Rutherford, NJ	Checked		Date	

Circle One: Present Developed — Proposed Watershed 1A

Circle One: T_c T_t through subarea — At 10-YR Tidal Surge (El. 6.6)

NOTES: Tc for Watershed 1A based on stormwater conveyance of system 200.

Sheet flow (Applicable to T_c Only)		Segment ID						
1. Surface description (table 3-1)								
2. Manning's roughness coeff., n (table 3-1)								
3. Flow Length, L (total L ≤ 150 ft)		ft						
4. Two-yr 24-hr rainfall, P_2		in						
5. Land slope, s		ft/ft						
6. $T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5} s^{0.4}}$	Compute T_t	hr	0.000	+	0.000	=	0.000	
Shallow concentrated flow		Segment ID						
7. Surface description (paved or unpaved)			UNPAVED		UNPAVED			
8. Flow length, L		ft						
9. Watercourse slope, s		ft/ft						
10. Average velocity, V (figure 3-1)		ft/s						
11. $T_t = \frac{L}{3600\ V}$	Compute T_t	hr	0.000	+		=	0.000	
Channel flow		Segment ID						
12. Cross sectional flow area, a		ft^2						
13. Wetted perimeter, p_w		ft						
14. Hydraulic radius, r $r = \frac{a}{p_w}$	Compute r	ft						
15. Channel slope, s		ft/ft						
16. Manning's roughness coeff., n								
17. $V = \frac{1.49\ r^{2/3} s^{1/2}}{n}$	Compute V	ft/s						
18. Flow length, L		ft	0					
19. $T_t = \frac{L}{3600\ V}$	Compute T_t	hr	0.000	+	0.000	=	0.000	
20. Tt = Stormwater Conveyance of system 200							hr	0.226

Project: American Dream - Disney Parcel | By: JO | Date: 12/15/2011

Location: East Rutherford, NJ | Checked: | Date:

Circle One: Present Developed — Proposed Watershed 1B

Circle One: T_c T_t through subarea — At 10-YR Tidal Surge (El. 6.6)

NOTES: Space for as many as two segments per flow type can be used for each worksheet.

Include a map, schematic, or description of flow segments.

Sheet flow (Applicable to T_c Only)

Segment ID					
1. Surface description (table 3-1)		Light Brush			
2. Manning's roughness coeff., n (table 3-1)		0.400			
3. Flow Length, L (total L ≤ 150 ft)	ft	150			
4. Two-yr 24-hr rainfall, P_2	in	3.3			
5. Land slope, s	ft/ft	0.011			
6. $T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5} s^{0.4}}$ Compute T_t	hr	0.619	+ 0.000	=	0.619

Shallow concentrated flow

Segment ID					
7. Surface description (paved or unpaved)		UNPAVED	UNPAVED		
8. Flow length, L	ft	62			
9. Watercourse slope, s	ft/ft	0.011			
10. Average velocity, V (figure 3-1)	ft/s	1.8			
11. $T_t = \frac{L}{3600\ V}$ Compute T_t	hr	0.010	+	=	0.010

Channel flow

Segment ID					
12. Cross sectional flow area, a	ft^2				
13. Wetted perimeter, p_w	ft				
14. Hydraulic radius, r $r = \frac{a}{p_w}$ Compute r	ft				
15. Channel slope, s	ft/ft				
16. Manning's roughness coeff., n					
17. $V = \frac{1.49\ r^{2/3}\ s^{1/2}}{n}$ Compute V	ft/s				
18. Flow length, L	ft	0			
19. $T_t = \frac{L}{3600\ V}$ Compute T_t	hr	0.000	+ 0.000	=	0.000

20. Watershed or subarea T_c or T_t (add T_t in steps 6, 11, 19) hr 0.629

Project	American Dream - Disney Parcel	By	JO	Date	12/15/2011
Location	East Rutherford, NJ	Checked		Date	

Circle One: Present Developed — Proposed Watershed 1C

Circle One: T_c T_t through subarea — at 10-YR Tidal Surge (El. 6.6)

NOTES: Space for as many as two segments per flow type can be used for each worksheet.

Include a map, schematic, or description of flow segments.

Sheet flow (Applicable to T_c Only)		Segment ID					
1. Surface description (table 3-1)			Dense Grass	Dense Grass			
2. Manning's roughness coeff., n (table 3-1)			0.240	0.240			
3. Flow Length, L (total L ≤ 150 ft)		ft	75	75			
4. Two-yr 24-hr rainfall, P_2		in	3.3	3.3			
5. Land slope, s		ft/ft	0.090	0.036			
6. $T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5} s^{0.4}}$	Compute T_t	hr	0.102	+ 0.147	=	0.249	

Shallow concentrated flow		Segment ID					
7. Surface description (paved or unpaved)			UNPAVED				
8. Flow length, L		ft	66				
9. Watercourse slope, s		ft/ft	0.02				
10. Average velocity, V (figure 3-1)		ft/s	2.3				
11. $T_t = \frac{L}{3600\ V}$	Compute T_t	hr	0.008	+	=	0.008	

Channel flow		Segment ID					
12. Cross sectional flow area, a		ft^2					
13. Wetted perimeter, p_w		ft					
14. Hydraulic radius, r $r = \frac{a}{p_w}$	Compute r	ft					
15. Channel slope, s		ft/ft					
16. Manning's roughness coeff., n							
17. $V = \frac{1.49\ r^{2/3}\ s^{1/2}}{n}$	Compute V	ft/s					
18. Flow length, L		ft	0				
19. $T_t = \frac{L}{3600\ V}$	Compute T_t	hr	0.000	+ 0.000	=	0.000	

20. Watershed or subarea T_c or T_t (add T_t in steps 6, 11, 19) hr 0.257

Project: American Dream - Disney Parcel | By: JO | Date: 12/15/2011

Location: East Rutherford, NJ | Checked: | Date:

Circle One: Present Developed — Proposed Watershed 2

Circle One: T_c T_t through subarea

NOTES: Space for as many as two segments per flow type can be used for each worksheet.

Include a map, schematic, or description of flow segments.

Sheet flow (Applicable to T_c Only)

		Segment ID		
1. Surface description (table 3-1)		LIGHT BRUSH		
2. Manning's roughness coeff., n (table 3-1)		0.400		
3. Flow Length, L (total L ≤ 150 ft)	ft	150		
4. Two-yr 24-hr rainfall, P_2	in	3.3		
5. Land slope, s	ft/ft	0.018		
6. $T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5} s^{0.4}}$ Compute T_t	hr	0.508	+ 0.000	= 0.508

Shallow concentrated flow

		Segment ID		
7. Surface description (paved or unpaved)				
8. Flow length, L	ft			
9. Watercourse slope, s	ft/ft			
10. Average velocity, V (figure 3-1)	ft/s			
11. $T_t = \frac{L}{3600\ V}$ Compute T_t	hr	0.000	+ 0.000	= 0.000

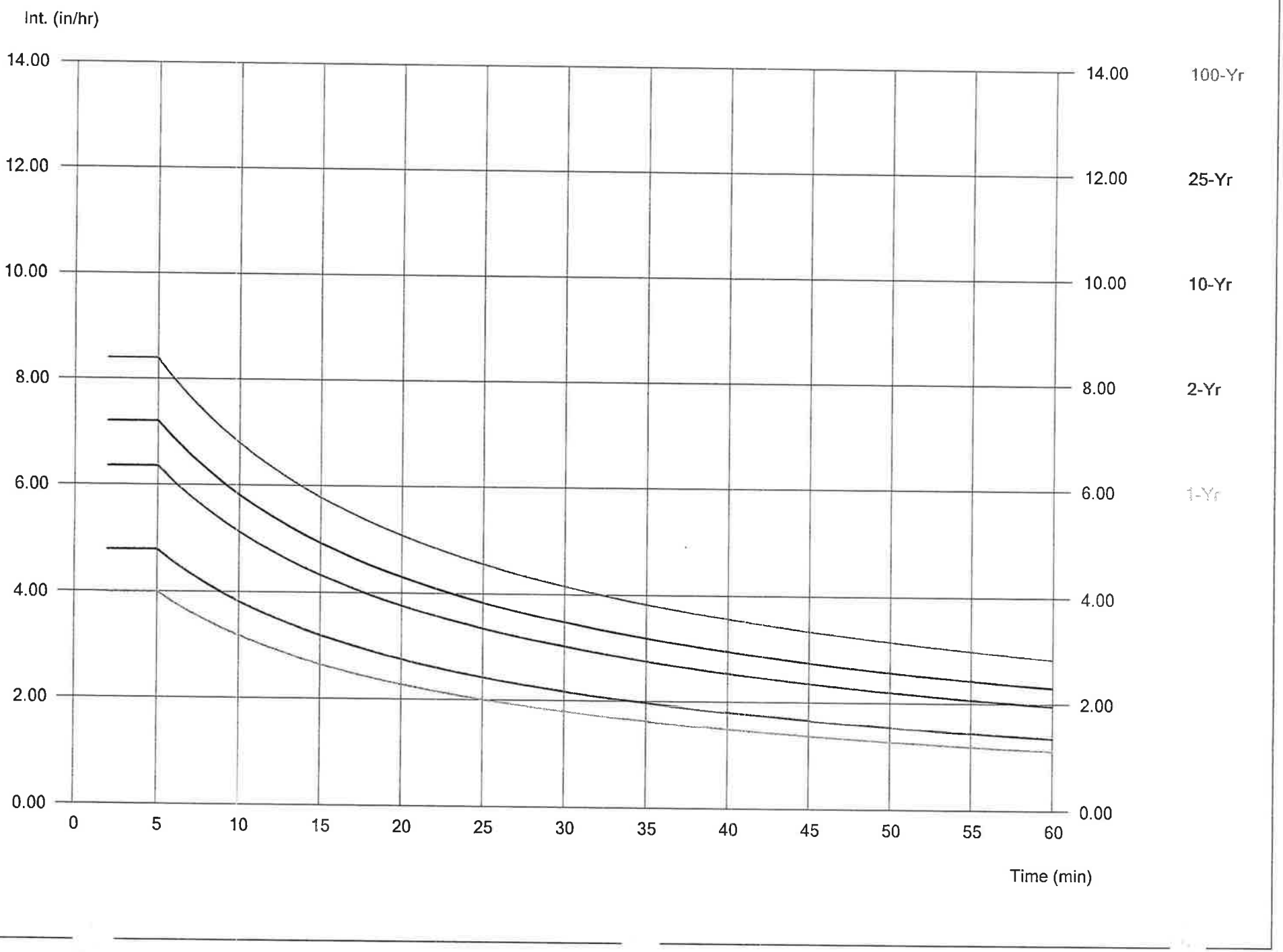
Channel flow

		Segment ID		
12. Cross sectional flow area, a	ft^2			
13. Wetted perimeter, p_w	ft			
14. Hydraulic radius, r $r = \frac{a}{p_w}$ Compute r	ft			
15. Channel slope, s	ft/ft			
16. Manning's roughness coeff., n				
17. $V = \frac{1.49\ r^{2/3}\ s^{1/2}}{n}$ Compute V	ft/s			
18. Flow length, L	ft			
19. $T_t = \frac{L}{3600\ V}$ Compute T_t	hr	0.000	+ 0.000	= 0.000

20. Watershed or subarea T_c or T_t (add T_t in steps 6, 11, 19) hr 0.508

Storm Sewer IDF Curves

IDF file: East Rutherford American Dream.IDF



United States Department of Agriculture
NRCS Natural Resources Conservation Service

New Jersey

NEW JERSEY 24 HOUR RAINFALL FREQUENCY DATA

Chapter 2 Estimating Runoff and Peak Discharges Part 650 Engineering Field Handbook NJ Supplement

October 2008

County	1 year	2 year	5 year	10 year	25 year	50 year	100 year
Atlantic	2.72	3.31	4.30	5.16	6.46	7.61	8.90
Bergen	2.75	3.33	4.26	5.06	6.25	7.29	8.43
Burlington	2.77	3.36	4.34	5.18	6.45	7.56	8.81
Camden	2.73	3.31	4.25	5.06	6.28	7.33	8.51
Cape May	2.68	3.27	4.24	5.08	6.37	7.50	8.77
Cumberland	2.69	3.27	4.25	5.09	6.37	7.50	8.77
Essex	2.84	3.44	4.40	5.22	6.44	7.50	8.67
Gloucester	2.71	3.29	4.23	5.04	6.27	7.34	8.52
Hudson	2.74	3.31	4.24	5.02	6.18	7.19	8.30
Hunterdon	2.80	3.38	4.26	5.00	6.09	7.02	8.03
Mercer	2.74	3.31	4.23	5.02	6.20	7.21	8.35
Middlesex	2.76	3.35	4.30	5.12	6.36	7.43	8.63
Monmouth	2.79	3.38	4.37	5.23	6.52	7.66	8.93
Morris	2.94	3.54	4.46	5.23	6.36	7.31	8.35
Ocean	2.81	3.42	4.45	5.33	6.68	7.87	9.20
Passaic	2.87	3.47	4.42	5.24	6.45	7.49	8.64
Salem	2.69	3.26	4.20	5.01	6.23	7.29	8.47
Somerset	2.77	3.34	4.25	5.02	6.17	7.16	8.24
Sussex	2.68	3.22	4.02	4.70	5.72	6.60	7.58
Union	2.79	3.38	4.34	5.17	6.41	7.48	8.68
Warren	2.78	3.34	4.18	4.89	5.93	6.83	7.82

Notes: The average point rainfall amounts listed above were developed from data contained in NOAA Atlas 14 Volume 2.

Point rainfall estimates for specific locations may be obtained from the Precipitation Frequency Data Server located at http://hdsc.nws.noaa.gov.

For most hydrologic design procedures, the rainfall amounts listed above may be rounded to the nearest tenth of an inch.

Last Modified: July 14, 2011

APPENDIX D

Proposed Water Quality Calculations

Project: **American Dream Meadowlands - Amusement Park and Water Park Project**

Purpose: To calculate the required stomwater quality design for 80% TSS removal in accordance with NJDEP BMP manual.

Procedure: 1. Compute Water Quality Design Storm for each watershed using:

$$Q_{TSS} = CIA \text{ where:}$$

where: QTSS= water quality run off rate (cfs)
C = Rational Method Coefficient
I = Rainfall intensity (0.625 inches/hour = 1.25 inches per 2 hour NJDEP water quality design storm)
A = Contributing Area (acres)

Water Quality Watershed	A (acres)	Impervious (Ac)	C (Calculated)	I (inch/hour)	Q_{TSS} required (cfs)
1 - Wet Pond	2.40	2.20	0.90	0.625	1.34
2 - Treatment Device	1.41	1.13	0.82	0.625	0.72

Provide a JF-8 Imbrium Jellyfish filter which provides treatment of 0.78 cfs.

For Wet Ponds Water Quality Volume (V_{TSS}) = Q_{TSS} x storm duration

V_{TSS} = 1.34 x 2 hours x 3600 seconds/hour

V_{TSS} =	9,675 cf

The following is a table that demonstrates adherence to the basin design requirements in the BMP manual.

Wet Pond Summary

Design Parameter	Requirement	Proposed
*Min. Permanent Pool Volume for 80%, cf	29,025	55,204
Mean Permanent Pool Depth	3- 6 feet	3 feet
Min. Permanent Pool Surface Area, sf	10,890	29,959
Min. Drainage Area	20 acres	57 acres

*Permanent pool volume needs to be 3x the Q_{TSS} to provide 80% TSS removal.

APPENDIX E

Low Impact Development Calculations
(NSPS and LID Checklist)

NJDEP Nonstructural Strategies Points System (NSPS)

Version: January 31, 2006

Note: Input Values in Yellow Cells Only

Project:	Amusement Park and Water Park Project
Date:	December 20, 2011
User:	Jacob Oldenburger, Langan
Notes:	American Dream Meadowlands

Step 1 - Provide Basic Major Development Site Information

A. Specify Total Area in Acres of Development Site Described in Steps 2 and 3 = 21.8 **Acres**

B. Specify by Percent the Various Planning Areas Located within the Development Site:

State Plan Planning Area:	PA-1	PA-2	PA-3	PA-4	PA-4B	PA-5	Total % Area
Percent of Each Planning Area within Site:	100.0%						100.0%

Note: See User's Guide for Equivalent Zones within Designated Centers and the NJ Meadowlands, Pinelands, and Highlands Districts

Step 2 - Describe Existing or Pre-Developed Site Conditions

A. Specify Existing Land Use/Land Cover Descriptions and Areas:

Site Segment	Land Use/Land Cover Description	Specify Land Use/Land Cover in Acres for Each HSG				Use/Cover Subtotals	Points
		HSG A	HSG B	HSG C	HSG D		
1	Wetlands and Undisturbed Stream Buffers				7.2	7.2	110
2	Lawn and Open Space			0.1		0.1	1
3	Brush and Shrub					0.0	0
4	Meadow, Pasture, Grassland, or Range				13.7	13.7	148
5	Row Crop					0.0	0
6	Small Grain and Legumes					0.0	0
7	Woods - Indigenous					0.0	0
8	Woods - Planted					0.0	0
9	Woods and Grass Combination					0.0	0
10	Ponds, Lakes, and Other Open Water				0.1	0.1	1
11	Gravel and Dirt			0.0	0.6	0.6	3
12	Porous and Permeable Paving					0.0	0
13	Directly Connected Impervious				0.1	0.1	0
14	Unconnected Impervious with Small D/S Pervious					0.0	0
15	Unconnected Impervious with Large D/S Pervious					0.0	0
	HSG Subtotals (Acres):	0.0	0.0	0.2	21.6	**Total Area:**	21.8
	HSG Subtotals (%):	0.0%	0.0%	0.7%	99.3%	**Total % Area:**	100.0%

Points Subtotal: 262

Total Existing Site Points: 262

Step 3 - Describe Proposed or Post-Developed Site Conditions

A. Specify Proposed Land Use/Land Cover Descriptions and Areas:

Site Segment	Land Use/Land Cover Description	Specify Land Use/Land Cover in Acres for Each HSG				Use/Cover Subtotals	Points
		HSG A	HSG B	HSG C	HSG D		
1	Wetlands and Undisturbed Stream Buffers				1.9	1.9	29
2	Lawn and Open Space			0.2	0.7	0.8	7
3	Brush and Shrub					0.0	0
4	Meadow, Pasture, Grassland, or Range				2.6	2.6	28
5	Row Crop					0.0	0
6	Small Grain and Legumes					0.0	0
7	Woods - Indigenous					0.0	0
8	Woods - Planted					0.0	0
9	Woods and Grass Combination					0.0	0
10	Ponds, Lakes, and Other Open Water				0.5	0.5	6
11	Gravel and Dirt					0.0	0
12	Porous and Permeable Paving					0.0	0
13	Directly Connected Impervious				15.9	15.9	0
14	Unconnected Impervious with Small D/S Pervious					0.0	0
15	Unconnected Impervious with Large D/S Pervious					0.0	0
	HSG Subtotals (Acres):	0.0	0.0	0.2	21.6	**Total Area:**	21.8
	HSG Subtotals (%):	0.0%	0.0%	0.7%	99.3%	**Total % Area:**	100.0%

Points Subtotal: 70

B. Compare Proposed Impervious Coverage with Maximum Allowable Impervious Coverage:

Total Directly Connected Impervious Coverage =	73%	% of Site
Total Unconnected Impervious Coverage with Small D/S Pervious =	0%	% of Site
Total Unconnected Impervious Coverage with Large D/S Pervious =	0%	% of Site
Total Site Impervious Coverage =	73%	% of Site
Effective Site Impervious Coverage =	73%	% of Site
Specify Source of Maximum Allowable Impervious Coverage:	Table	(None or Table)
Allowable Site Impervious Cover from Maximum Impervious Cover Table:	85%	

Note: See Maximum Impervious Cover Table Worksheet for Details

Points Subtotal: 5

C. Compare Proposed Site Disturbance with Maximum Allowable Site Disturbance:

Total Proposed Site Disturbance =	88%	% of Site
Maximum Allowable Site Disturbance by Municipal Ordinance =	100%	% of Site

Points Subtotal: 4

D. Describe Proposed Runoff Conveyance System:

Total Length of Runoff Conveyance System =	6700	Feet
Length of Vegetated Runoff Conveyance System =	850	Feet
% of Total Runoff Conveyance System That is Vegetated =	13%	

Points Subtotal: 9

E. Residential Lot Clustering:

Percent of Total Site Area that will be Clustered =	0%	% of Site
Minimum Standard Lot Size as Per Zoning (Note: 1/2 Acre or Greater) =	0.000	Acres
Maximum Proposed Cluster Lot Size (Note:1/4 Acre or Less) =	0.000	Acres
Percent of Clustered Portion of Site to be Preserved as Vegetated Open Space =	0%	% of Clustered Site Portion

Points Subtotal: 0

F. Will the Following be Utilized to Minimize Soil Compaction?

Proposed Lawn Areas will be Graded with Lightweight Construction Equipment:	No	(Yes or No)
Percent of Proposed Lawn Areas to be Graded with Such Equipment:	0%	% of Lawn Areas

Points Subtotal: 0

G. Are Any of the Following Stormwater Management Standards Met Using Only Nonstructural Strategies and Measures?

Groundwater Recharge Standards (NJAC 7:8-5.4-a-2):	Yes	(Yes or No)
Stormwater Runoff Quality Standards (NJAC 7:8-5.5):	No	(Yes or No)
Stormwater Runoff Quantity Standards (NJAC 7:8-5.4-a-3):	No	(Yes or No)

Points Subtotal: 70

Note: If the Answers to All Three Questions at G Above are "Yes", Adequate Nonstructural Measures have been Utilized.

Total Proposed Site Points: 159

Ratio of Proposed to Existing Site Points: 61%

Required Site Points Ratio: 80%

Nonstructural Point System Results: Further Review of Proposed Nonstructural Measures is Necessary

New Jersey Stormwater Best Management Practices Manual

February 2004

http://www.state.nj.us/dep/watershedmgt/bmpmanualfeb2004.htm

APPENDIX A

Low Impact Development Checklist

A checklist for identifying nonstructural stormwater management strategies incorporated into proposed land development

According to the NJDEP Stormwater Management Rules at N.J.A.C. 7:8, the groundwater recharge, stormwater quality, and stormwater quantity standards established by the Rules for major land development projects must be met by incorporating nine specific nonstructural stormwater management strategies into the project's design to the maximum extent practicable.

To accomplish this, the Rules require an applicant seeking land development approval from a regulatory board or agency to identify those nonstructural strategies that have been incorporated into the project's design. In addition, if an applicant contends that it is not feasible to incorporate any of the specific strategies into the project's design, particularly for engineering, environmental, or safety reasons, the Rules further require that the applicant provide a basis for that contention.

This checklist has been prepared to assist applicants, site designers, and regulatory boards and agencies in ensuring that the nonstructural stormwater management requirements of the Rules are met. It provides an applicant with a means to identify both the nonstructural strategies incorporated into the development's design and the specific low impact development BMPs (LID-BMPs) that have been used to do so. It can also help an applicant explain the engineering, environmental, and/or safety reasons that a specific nonstructural strategy could not be incorporated into the development's design.

The checklist can also assist municipalities and other land development review agencies in the development of specific requirements for both nonstructural strategies and LID-BMPs in zoning and/or land use ordinances and regulations. As such, where requirements consistent with the Rules have been adopted, they may supersede this checklist.

Finally, the checklist can be used during a pre-design meeting between an applicant and pertinent review personnel to discuss local nonstructural strategies and LID-BMPs requirements in order to optimize the development's nonstructural stormwater management design.

Part 1: Description of Nonstructural Approach to Site Design

In narrative form, provide an overall description of the nonstructural stormwater management approach and strategies incorporated into the proposed site's design. Attach additional pages as necessary. Details of each nonstructural strategy are provided in Part 3 below.

NJAC 7:8-5.2(a) requires that the design of any major development must incorporate nonstructural stormwater management strategies" to the maximum extent practicable." Groundwater recharge is one of the stormwater management standards that is met entirely with nonstructural strategies. Groundwater recharge is not required for this site because the existing soils are so poor. We therefore meet the groundwater recharge standards because 100% of the pre-developed recharge rate would be maintained by default. Vegetation and Landscaping were design with the intent of nonstructural stormwater management. Although wetlands disturbance is necessary in order to implement proposed development, the proposed plan minimizes the wetlands disturbance as much as practicable by providing a layout which limits disturbance to only what is required to build the building and perimeter road. Native plants have been chosen and used throughout the site. Stormwater is routed through a vegetated channel above a wet pond which flows over preserved existing vegetated areas (wetlands) prior to discharging to the unnamed tributary to Hackensack River. Land disturbance was minimized on site through the use of steep slopes and gabion walls. Disturbance is limited to only that which is required for construction. The placement of the building allows for the use of vehicular parking available for the ERC. Therefore, the Amusement Park and Water Park Project does not provide for any patron parking areas on the site. This sharing of parking resources reduces the land mass required for the Amusement Park and Water Park Project compared to locating the parks on their own site. This reduced footprint avoids potential environmental impacts and further disturbance. Impervious areas have been minimized by designing minimal widths for all the parking, loading, sidewalks, and driveways for safe and proper vehicle/pedestrian movement. Although there are no medians or islands that are provided some impervious areas have been disconnected. Clean runoff from the roof is kept separate from the pavement runoff. Pavement runoff is distributed to various outfalls throughout the site prior to being treated and discharged rather than treating it all at one

Part 4: Compliance with Nonstructural Requirements of NJDEP Stormwater Management Rules

1. Based upon the checklist responses above, indicate which nonstructural strategies have been incorporated into the proposed development's design in accordance with N.J.A.C. 7:8-5.3(b):

No.	Nonstructural Strategy	Yes	No
1.	Protect areas that provide water quality benefits or areas particularly susceptible to erosion and sediment loss.	X	
2.	Minimize impervious surfaces and break up or disconnect the flow of runoff over impervious surfaces.	X	
3.	Maximize the protection of natural drainage features and vegetation.	X	
4.	Minimize the decrease in the pre-construction time of concentration.	X	
5.	Minimize land disturbance including clearing and grading.	X	
6.	Minimize soil compaction.	X	
7.	Provide low maintenance landscaping that encourages retention and planting of native vegetation and minimizes the use of lawns, fertilizers, and pesticides.	X	
8.	Provide vegetated open-channel conveyance systems discharge into and through stable vegetated areas.	X	
9.	Provide preventative source controls.	X	

2. For those strategies that have not been incorporated into the proposed development's design, provide engineering, environmental, and/or safety reasons. Attached additional pages as necessary.

The site has been designed to minimize the pre-construction time of concentration through native plants and vegetated wet pond. Tc has decreased due to roof runoff lower Tc rates. This is considered clean runoff.

3.5 Preventative Source Controls

The most effective way to address water quality concerns is by pollution prevention. This section of the checklist helps identify those nonstructural strategies and LID-BMPs that have been incorporated into the proposed development's design to reduce the exposure of pollutants to prevent their release into the stormwater runoff.

A. Trash Receptacles

Specify the number of trash receptacles provided: *0*

Specify the spacing between the trash receptacles: *0*

Compare trash receptacles proposed with those required by regulations:

Proposed: *N/A* Regulations: *N/A*

B. Pet Waste Stations

Specify the number of pet waste stations provided: *0*

Specify the spacing between the pet waste stations: *N/A*

Compare pet waste stations proposed with those required by regulations:

Proposed: *0* Regulations: *0*

C. Inlets, Trash Racks, and Other Devices that Prevent Discharge of Large Trash and Debris

Specify percentage of total inlets that comply with the NJPDES storm drain inlet criteria: *100%*

D. Maintenance

Specify the frequency of the following maintenance activities:

Street sweeping: Proposed: *TBD* Regulations: *N/A*

Litter collection: Proposed: *TBD* Regulations: *N/A*

Identify other stormwater management measures on the site that prevent discharge of large trash and debris:

Water Quality Unit and wet pond. Phase II compliant storm grates reduce amount of trash and debris entering storm system.

D. Compare proposed parking space dimensions with those required by regulations:

Proposed: *N/A* Regulations: *N/A*

E. Compare proposed number of parking spaces with those required by regulations:

Proposed: *0* Regulations: *N/A*

F. Specify percentage of total site impervious cover created by buildings: *58%*

By driveways and parking: *15%* By roadways: *0%*

G. What design criteria and/or site changes would be required to reduce the percentages in F above?

An alternative analysis was prepared which concluded that this layout and design is the least environmentally damaging practical alternative that meets the project purpose and therefore is preferred.

H. Specify percentage of total impervious area that will be unconnected:

Total site: *0%* Buildings: _____ Driveways and parking: _____ Roads: _____

I. Specify percentage of total impervious area that will be porous:

Total site: *0%* Buildings: _____ Driveways and parking: _____Roads: _____

J. Specify percentage of total building roof area that will be vegetated: *0%*

K. Specify percentage of total parking area located beneath buildings: *0%*

L. Specify percentage of total parking located within multi-level parking deck: *0%*

E. What design criteria and/or site changes would be required to reduce the percentages in C and D above?
An alternative analysis was prepared which concluded that this layout and design is the least environmentally damaging practical alternative that meets the project purpose and therefore is preferred.

F. Specify site's hydrologic soil group (HSG) percentages:

HSG A: _____ HSG B: _____ HSG C: *1%* HSG D: *99%*

G. Specify percentage of each HSG that will be permanently disturbed:

HSG A: _____ HSG B: _____ HSG C: *5%* HSG D: *88%*

H. Locating site disturbance within areas with less permeable soils (HSG C and D) and minimizing disturbance within areas with greater permeable soils (HSG A and B) can help maintain groundwater recharge rates and reduce runoff volume increases. In light of the HSG percentages in F and G above, what other practical measures if any can be taken to achieve this?

The site is already located entirely within areas of less permeable soils (HSG C and D).

I. Does the site include Karst topography? Yes: _____ No: *X*

If yes, discuss measures taken to limit Karst impacts:

_____

D. If vegetated filter strips or buffers are utilized, specify their functions:

Reduce runoff volume increases through lower runoff coefficient:
Yes: _____ No: *N/A*

Reduce runoff pollutant loads through runoff treatment:
Yes: _____ No: *N/A*

Maintain groundwater recharge by preserving natural areas:
Yes: _____ No: *N/A*

Part 2: Review of Local Stormwater Management Regulations

Title and date of stormwater management regulations used in development design:

NJ Stormwater Management Rules NJAC 7:8 last amended April 19, 2010

NJ Stormwater BMP Manual dated February 2009

NJSEA reference to NJDEP requirements

Do regulations include nonstructural requirements?
Yes: _____ No: *X*

If yes, briefly describe: *The NJDEP BMP Manual and NJ Stormwater Management Rules.*

List LID-BMPs prohibited by local regulations: _____

Pre-design meeting held? Yes: _____ Date: _____ No: _____

Meeting held with: _____

Pre-design site walk held? Yes: _____ Date: _____ No: _____

Site walk held with: _____

Other agencies with stormwater review jurisdiction:

Name: *NJDEP*

Required approval: *NJDEp Land Use Regulations Permit, TWA, Approval of RAWP, Wetland Permits, Flood Hazard, NJPDES*

Name: _____

Required approval: *Bergen County SESC*

Name: _____

Required approval: _____

APPENDIX F

Ground Water Recharge Worksheet

New Jersey Groundwater Recharge Spreadsheet
Version 2.0
November 2003

Annual Groundwater Recharge Analysis (based on GSR-32)

Select Township ↓	Average Annual P (in)	Climatic Factor
BERGEN CO., EAST RUTHERFORD BORO	43.6	1.41

Project Name:	Amusement Park/Water Park
Description:	Groundwater Recharge
Analysis Date:	11/02/11

Pre-Developed Conditions

Land Segment	Area (acres)	TR-55 Land Cover	Soil	Annual Recharge (in)	Annual Recharge (cu.ft)
1	0.53	Impervious areas	Udorthents	0.0	-
2	21.07	Meadow, Pasture, Grassland or range	Udorthents	0.0	-
3	0.03	Impervious areas	Urban Land*	0.0	-
4	0.12	Open space	Urban Land*	0.0	-
5	0				
6	0				
7	0				
8	0				
9	0				
10	0				
11	0				
12	0				
13	0				
14	0				
15	0				
Total =	21.8			Total Annual Recharge (in)	Total Annual Recharge (cu-ft)
				0.0	-

Post-Developed Conditions

Land Segment	Area (acres)	TR-55 Land Cover	Soil	Annual Recharge (in)	Annual Recharge (cu.ft)
1	15.9	Impervious areas	Udorthents	0.0	-
2	5.7	dow, Pasture, Grassland or ra	Udorthents	0.0	-
3	0.15	Open space	Urban Land*	0.0	-
4	0				
5	0				
6	0				
7	0				
8	0				
9	0				
10	0				
11	0				
12	0				
13	0				
14	0				
15	0				
Total =	21.8			Total Annual Recharge (in)	Total Annual Recharge (cu.ft)
				0.0	-

Annual Recharge Requirements Calculation ↓		Total Impervious Area (sq.ft)
% of Pre-Developed Annual Recharge to Preserve =	100%	692,604
Post-Development Annual Recharge Deficit=	*0*	(cubic feet)

Recharge Efficiency Parameters Calculations (area averages)

RWC= #N/A	(in)	DRWC= #N/A	(in)
ERWC = #N/A	(in)	EDRWC= #N/A	(in)

Procedure to fill the Pre-Development and Post-Development Conditions Tables

For each land segment, first enter the area, then select TR-55 Land Cover, then select Soil. Start from the top of the table and proceed downward. Don't leave blank rows (with A=0) in between your segment entries. Rows with A=0 will not be displayed or used in calculations. For impervious areas outside of standard lots select "Impervious Areas" as the Land Cover. Soil type for impervious areas are only required if an infiltration facility will be built within these areas.

APPENDIX G

Outfall Protection Calculations

Based on "Standards for Soil Erosion and Sediment Control in New Jersey," dated 1999

TABLE 12-1 ALLOWABLE VELOCITIES FOR VARIOUS SOILS

SOIL TEXTURE	ALLOWABLE VELOCITY (ft./sec.)
1. Sand	1.8
2. Sandy Loam	2.5
3. Silt loam (also high lime clay), loam	3.0
4. Sandy clay loam	3.5
5. Clay loam	4.0
6. Clay, fine gravel, gradded loam to gravel	5.0
7. Cobbles	5.5
8. Shale (non-weathered)	6.0

Soil type where outfall is located = 2 (Note: Select number designating soil texture above)
allowable velocity = 2.5 ft/sec
v (velocity) = 5.24 ft/sec
Scour Hole required? 1 (1 = yes, 0 = no)

Given:

D_o (max inside height) = 3 feet
W_o (max inside width) = 3 feet
Q (discharge) = 37.69 cfs (25 year storm)
*q (unit discharge, = Q/W_o) = 12.6 cfs / foot
** T_w (tail water) = 3 feet

* for the conduit design storm or the 25 year storm, whichever is greater
** for areas where T_w cannot be computed, use $T_w = 0.2\ D_o$. For discharge into detention basins, Tw shall equal the 2 year storm elevation in the basin.

Preformed Scour Hole Median Stone Diameter and Riprap Lining Thickness

Preformed scour holes may be utilized, where conditions dictate the impractical use of flat aprons. The median stone diameter, D50, in feet, shall be determined from the following formulas:

$$D_{50} = \frac{0.0125}{T_w} q^{1.33}$$ where Y = ½D_o = 1.5 **D_{50} = 0.12 feet**

$$D_{50} = \frac{0.0082}{T_w} q^{1.33}$$ where Y = D_o = 3 D_{50} = 0.08 feet

Y = depth of scour hole below culvert invert

The use of scour holes shall comply with county or local ordinances which would restrict the use of such devices due to possible problems with mosquito breeding.

Riprap lining shall have a thickness of at least three times the D_{50} size if a filter layer is not used and a thickness of at least two times the D_{50} size is a filter layer is used. A mimimum thickness shall be 6 inches

Liner not used = $3D_{50}$ = 0.36 feet
Liner used = $2D_{50}$ = 0.24 feet < 0.50 feet **Lining Thickness = 0.50 feet**

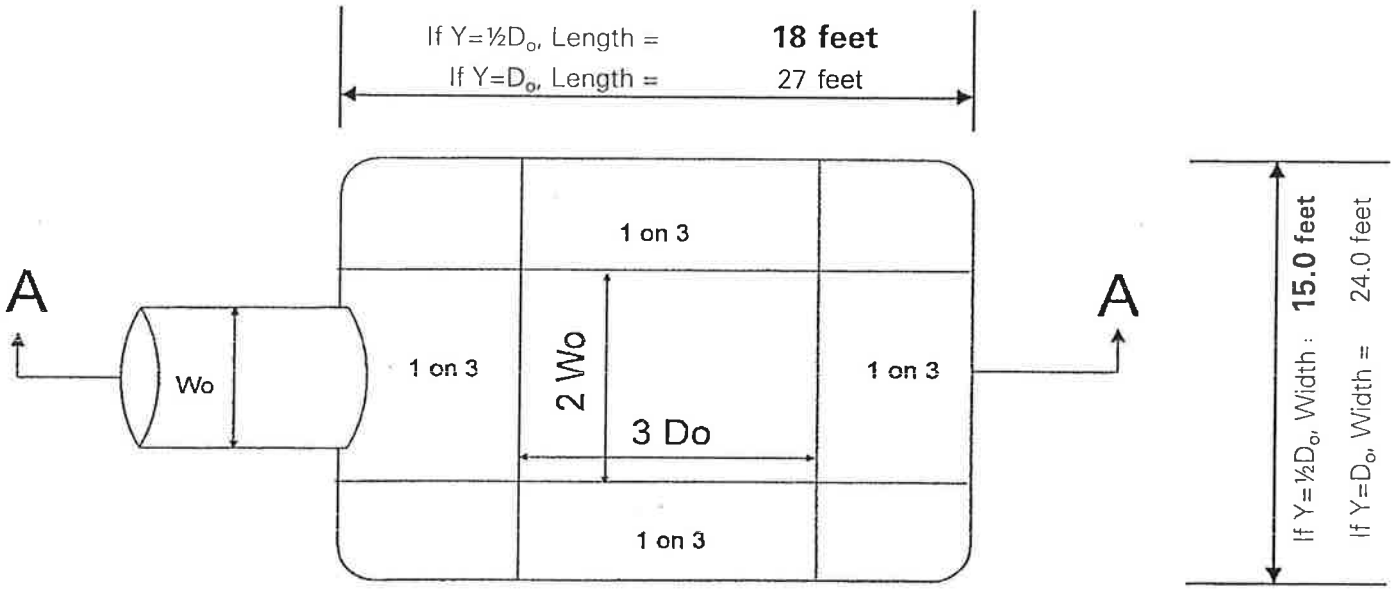
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SCOUR HOLE - FES-100
EAST RUTHERFORD **NEW JERSEY**

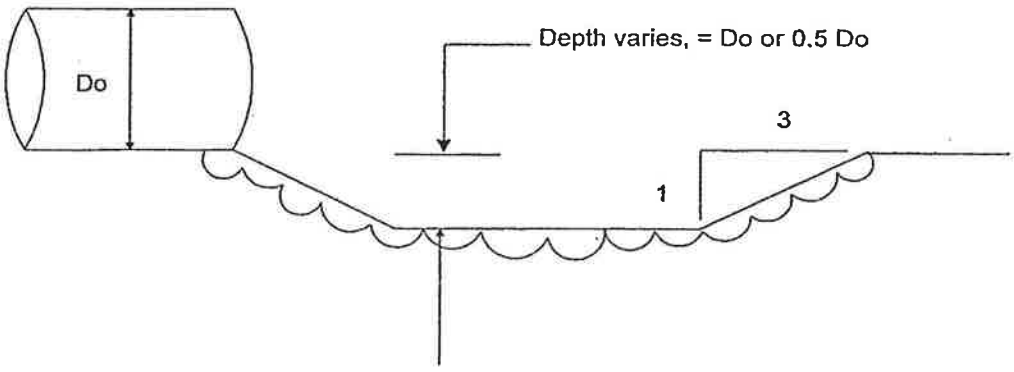
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Preformed Scour Hole Dimensions

$2W_o$ =	6 feet
$3D_o$ =	9 feet
Y (Depth) =	1.5 feet



PLAN



Section A - A

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SCOUR HOLE - FES-100
EAST RUTHERFORD NEW JERSEY

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Gabion Basket Alternative:

Maintaining the scour hole dimensions, a gabion basket alternative could be substituted in lieu of placed stone.

The exiting velocity at the pipe outfall is approximately 5.24 ft/s, say 6 ft/s.

According to section 23, page 23-5, Table 23-1, an appoximate 0.50-foot thick plastic coated loire mesh gabion basket underlain by a geotextile fabric may be used to line and stabilize the preformed scour hole. The rock used to fill the baskets shall be 3-inch to 4-inch stone provided that the mesh opening is small enough to contain the stone and appoved by the engineer prior to placement.

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Project No.	Date:	By:	Ckd:	Sheet No.
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Based on "Standards for Soil Erosion and Sediment Control in New Jersey," dated 1999

TABLE 12-1 ALLOWABLE VELOCITIES FOR VARIOUS SOILS

SOIL TEXTURE	ALLOWABLE VELOCITY (ft./sec.)
1. Sand	1.8
2. Sandy Loam	2.5
3. Silt loam (also high lime clay), loam	3.0
4. Sandy clay loam	3.5
5. Clay loam	4.0
6. Clay, fine gravel, gradded loam to gravel	5.0
7. Cobbles	5.5
8. Shale (non-weathered)	6.0

Soil type where outfall is located = 2 (Note: Select number designating soil texture above)
allowable velocity = 2.5 ft/sec
v (velocity) = 3.59 ft/sec
Scour Hole required? 1 (1 = yes, 0 = no)

Given:

D_o (max inside height) = 3.5 feet
W_o (max inside width) = 3.5 feet
Q (discharge) = 34.49 cfs (25 year storm)
*q (unit discharge, = Q/W_o) = 9.9 cfs / foot
** T_w (tail water) = 3 feet

* for the conduit design storm or the 25 year storm, whichever is greater
** for areas where T_w cannot be computed, use $T_w = 0.2\ D_o$. For discharge into detention basins, Tw shall equal the 2 year storm elevation in the basin.

Preformed Scour Hole Median Stone Diameter and Riprap Lining Thickness

Preformed scour holes may be utilized, where conditions dictate the impractical use of flat aprons. The median stone diameter, D50, in feet, shall be determined from the following formulas:

$$D_{50} = \frac{0.0125}{T_w} q^{1.33}$$

where Y = ½D_o = 1.75 **D_{50} = 0.09 feet**

$$D_{50} = \frac{0.0082}{T_w} q^{1.33}$$

where Y = D_o = 3.5 D_{50} = 0.06 feet

Y = depth of scour hole below culvert invert

The use of scour holes shall comply with county or local ordinances which would restrict the use of such devices due to possible problems with mosquito breeding.

Riprap lining shall have a thickness of at least three times the D_{50} size if a filter layer is not used and a thickness of at least two times the D_{50} size is a filter layer is used. A mimimum thickness shall be 6 inches

Liner not used = $3D_{50}$ = 0.26 feet
Liner used = $2D_{50}$ = 0.17 feet < 0.50 feet **Lining Thickness = 0.50 feet**

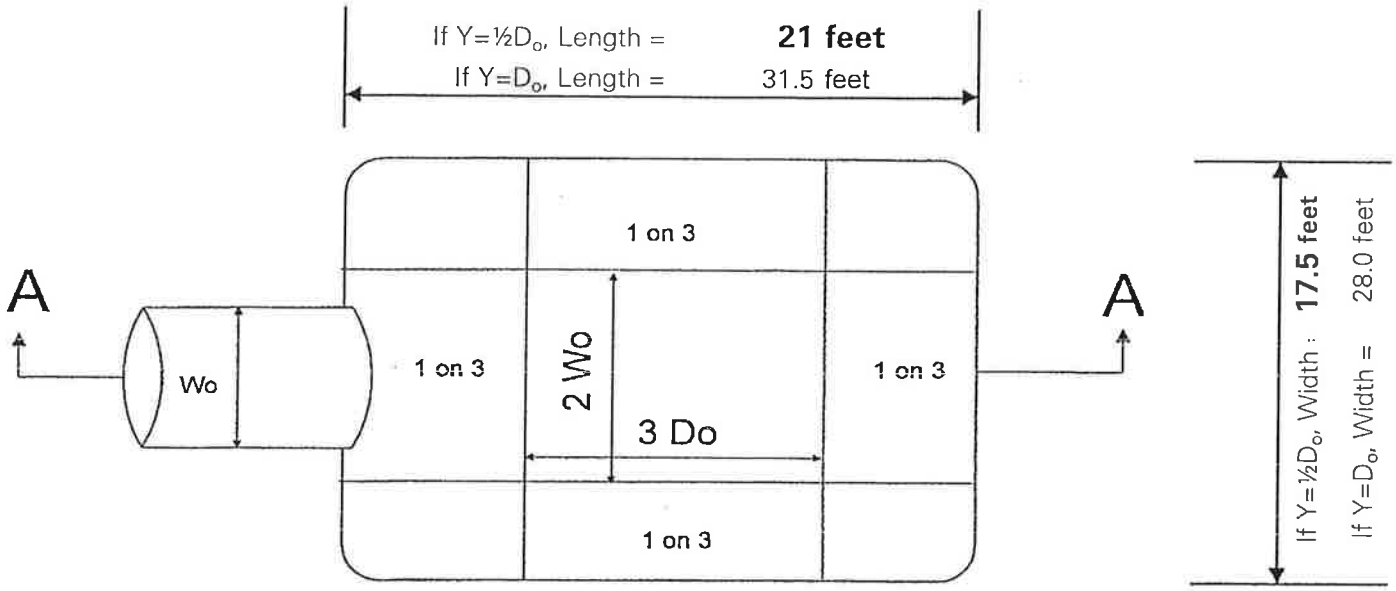
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SCOUR HOLE - FES-200
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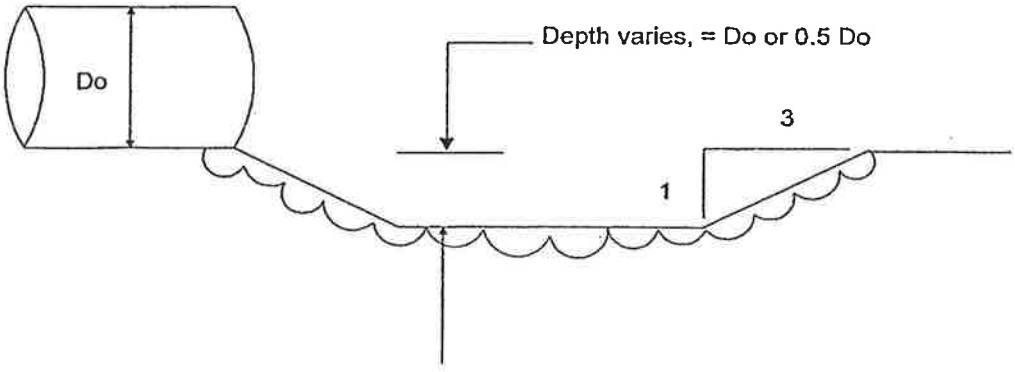
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Preformed Scour Hole Dimensions

$2W_o$ =	7 feet
$3D_o$ =	10.5 feet
Y (Depth) =	1.5 feet



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Section A - A

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EAST RUTHERFORD				NEW JERSEY
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Gabion Basket Alternative:

Maintaining the scour hole dimensions, a gabion basket alternative could be substituted in lieu of placed stone.

The exiting velocity at the pipe outfall is approximately 3.59 ft/s, say 4 ft/s.

According to section 23, page 23-5, Table 23-1, an appoximate 0.50-foot thick plastic coated loire mesh gabion basket underlain by a geotextile fabric may be used to line and stabilize the preformed scour hole. The rock used to fill the baskets shall be 3-inch to 4-inch stone provided that the mesh opening is small enough to contain the stone and appoved by the engineer prior to placement.

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EAST RUTHERFORD **NEW JERSEY**

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Based on "Standards for Soil Erosion and Sediment Control in New Jersey," dated 1999

TABLE 12-1 ALLOWABLE VELOCITIES FOR VARIOUS SOILS

SOIL TEXTURE	ALLOWABLE VELOCITY (ft./sec.)
1. Sand	1.8
2. Sandy Loam	2.5
3. Silt loam (also high lime clay), loam	3.0
4. Sandy clay loam	3.5
5. Clay loam	4.0
6. Clay, fine gravel, gradded loam to gravel	5.0
7. Cobbles	5.5
8. Shale (non-weathered)	6.0

Soil type where outfall is located = 2 (Note: Select number designating soil texture above)
allowable velocity = 2.5 ft/sec
v (velocity) = 2.83 ft/sec
Scour Hole required? 1 (1 = yes, 0 = no)

Given:

D_o (max inside height) = 2 feet
W_o (max inside width) = 2 feet
Q (discharge) = 6.51 cfs (25 year storm)
*q (unit discharge, = Q/W_o) = 3.3 cfs / foot
** T_w (tail water) = 0.8 feet

* for the conduit design storm or the 25 year storm, whichever is greater
** for areas where T_w cannot be computed, use $T_w = 0.2\ D_o$. For discharge into detention basins, Tw shall equal the 2 year storm elevation in the basin.

Preformed Scour Hole Median Stone Diameter and Riprap Lining Thickness

Preformed scour holes may be utilized, where conditions dictate the impractical use of flat aprons. The median stone diameter, D50, in feet, shall be determined from the following formulas:

$$D_{50} = \frac{0.0125}{T_w} q^{1.33}$$ where Y = ½D_o = 1 **D_{50} = 0.08 feet**

$$D_{50} = \frac{0.0082}{T_w} q^{1.33}$$ where Y = D_o = 2 D_{50} = 0.05 feet

Y = depth of scour hole below culvert invert

The use of scour holes shall comply with county or local ordinances which would restrict the use of such devices due to possible problems with mosquito breeding.

Riprap lining shall have a thickness of at least three times the D_{50} size if a filter layer is not used and a thickness of at least two times the D_{50} size is a filter layer is used. A mimimum thickness shall be 6 inches

Liner not used = $3D_{50}$ = 0.23 feet
Liner used = $2D_{50}$ = 0.15 feet < 0.50 feet **Lining Thickness = 0.50 feet**

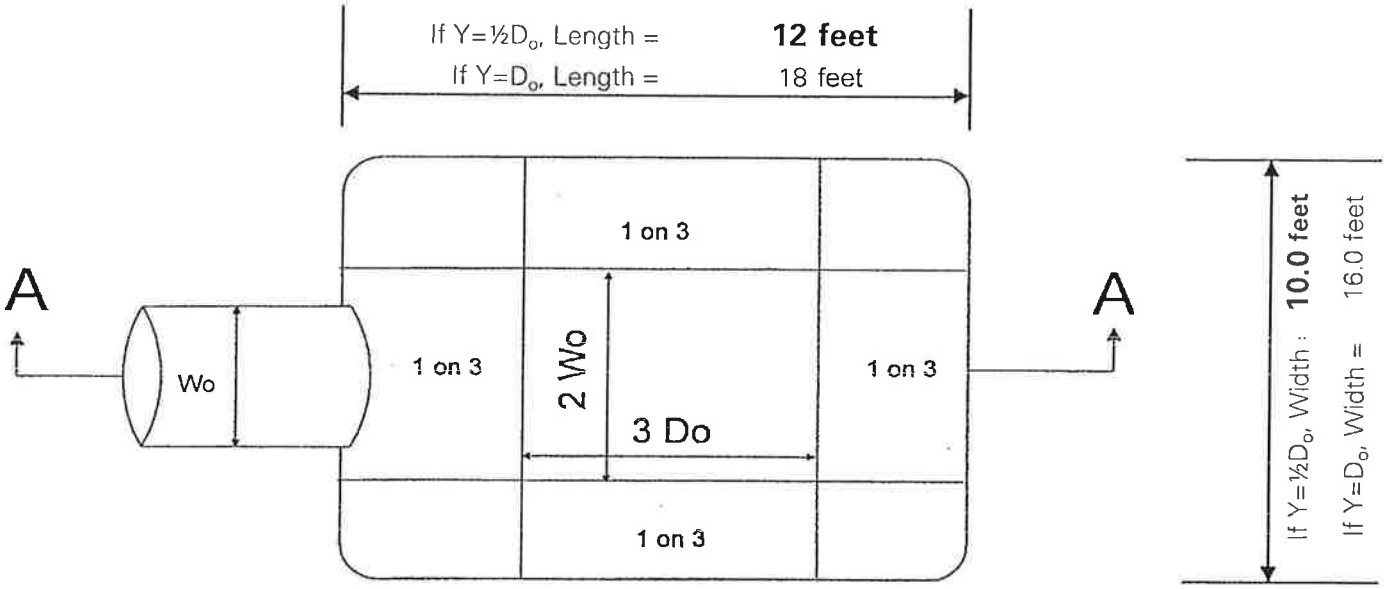
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SCOUR HOLE - FES-500
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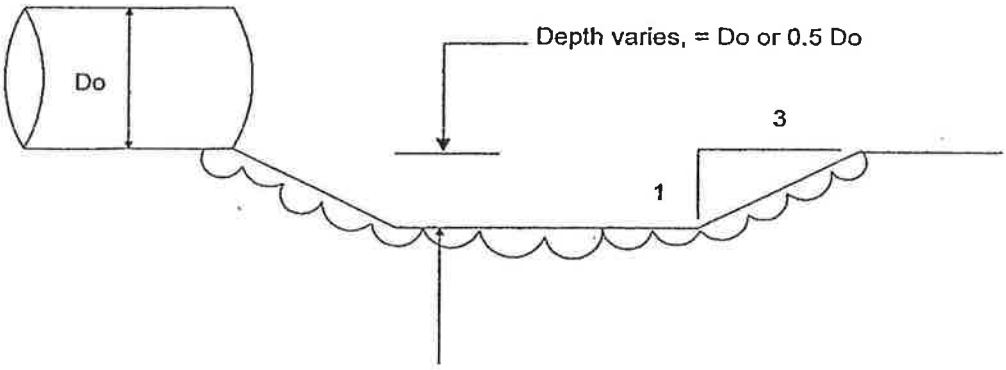
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Preformed Scour Hole Dimensions

$2W_o$ =	4 feet
$3D_o$ =	6 feet
Y (Depth) =	1.5 feet



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Section A - A

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SCOUR HOLE - FES-500
EAST RUTHERFORD NEW JERSEY

Project No.	Date:	By:	Ckd:	Sheet. No.
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Gabion Basket Alternative:

Maintaining the scour hole dimensions, a gabion basket alternative could be substituted in lieu of placed stone.

The exiting velocity at the pipe outfall is approximately 2.83 ft/s, say 3 ft/s.

According to section 23, page 23-5, Table 23-1, an appoximate 0.50-foot thick plastic coated loire mesh gabion basket underlain by a geotextile fabric may be used to line and stabilize the preformed scour hole. The rock used to fill the baskets shall be 3-inch to 4-inch stone provided that the mesh opening is small enough to contain the stone and appoved by the engineer prior to placement.

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EAST RUTHERFORD **NEW JERSEY**

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Based on "Standards for Soil Erosion and Sediment Control in New Jersey," dated 1999

TABLE 12-1 ALLOWABLE VELOCITIES FOR VARIOUS SOILS

SOIL TEXTURE	ALLOWABLE VELOCITY (ft./sec.)
1. Sand	1.8
2. Sandy Loam	2.5
3. Silt loam (also high lime clay), loam	3.0
4. Sandy clay loam	3.5
5. Clay loam	4.0
6. Clay, fine gravel, gradded loam to gravel	5.0
7. Cobbles	5.5
8. Shale (non-weathered)	6.0

Soil type where outfall is located = 2 (Note: Select number designating soil texture above)
allowable velocity = 2.5 ft/sec
v (velocity) = 9.07 ft/sec
Scour Hole required? 1 (1 = yes, 0 = no)

Given:

D_o (max inside height) = 8 feet
W_o (max inside width) = 8 feet
Q (discharge) = 213.2 cfs (25 year storm)
*q (unit discharge, = Q/W_o) = 26.7 cfs / foot
** T_w (tail water) = 3.8 feet

* for the conduit design storm or the 25 year storm, whichever is greater
** for areas where T_w cannot be computed, use $T_w = 0.2\ D_o$. For discharge into detention basins, Tw shall equal the 2 year storm elevation in the basin.

Riprap Median Stone Diameter

The median stone diameter, D_{50}, in feet, shall be determined from the formula:

$$D_{50} = \frac{0.016}{T_w} q^{1.33}$$

Where $q = Q/D_o$

$T_w = 0.2\ D_o$, where T_w cannot be computed

D_{50} = 0.33 ft *OR* **D_{50} = 4.0 inches**

Note: For discharge into Detention Basins, analyze the hydraulic characteristics of the basin for the design storm to determine the combination of conduit discharge and tailwater that results in the largest required D50 stone size.

Riprap Lining Thickness

The thickness of riprap lining shall meet at least one of the following criteria:

1. A thickness of at least three times the D_{50} size if a filter layer is not used. **t = 11.9 inches**
2. A thickness of at least two times the D_{50} size if a filter layer is used. **t = 8.0 inches**

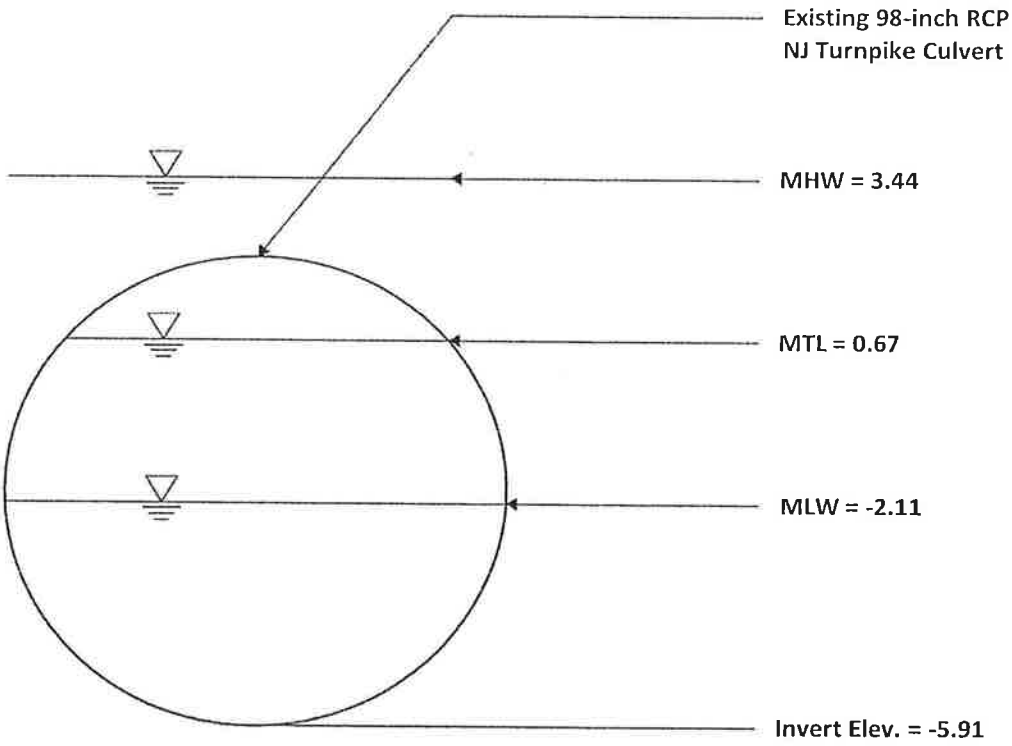
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NJ Certificate of Authorization No: 24GA27996400

Project: AMUSEMENT PARK AND WATER PARK PROJECT
SCOUR HOLE - 96-INCH TURNPIKE CULVERT
EAST RUTHERFORD NEW JERSEY

Project No.	Date:	By:	Ckd:	Sheet. No.
100234201	12/16/2011	BDH	–	1 of 4

Constant Presence of Water

The depth of the scour hole has been limited to only 6-inches below the submerged invert due to a proposed riprap apron located between the oufall pipe and the scour hole. Futhermore, as seen in the sketch below, the constant presence of water within the pipe will provide additional energy dissipation to reduce erosion.



Preformed Scour Hole Median Stone Diameter and Riprap Lining Thickness

Preformed scour holes may be utilized, where conditions dictate the impractical use of flat aprons. The median stone diameter, D50, in feet, shall be determined from the following formulas:

$$D_{50} = \frac{0.0125}{T_w} q^{1.33}$$

where Y = 0.5

D_{50} = **0.26 feet**

Y = depth of scour hole below culvert invert

The use of scour holes shall comply with county or local ordinances which would restrict the use of such devices due to possible problems with mosquito breeding.

Riprap lining shall have a thickness of at least three times the D_{50} size if a filter layer is not used and a thickness of at least two times the D_{50} size is a filter layer is used. A mimimum thickness shall be 6 inches

Liner not used = $3D_{50}$ = 0.78 feet

Liner used = $2D_{50}$ = 0.52 feet < 0.50 feet **Lining Thickness = 0.50 feet**

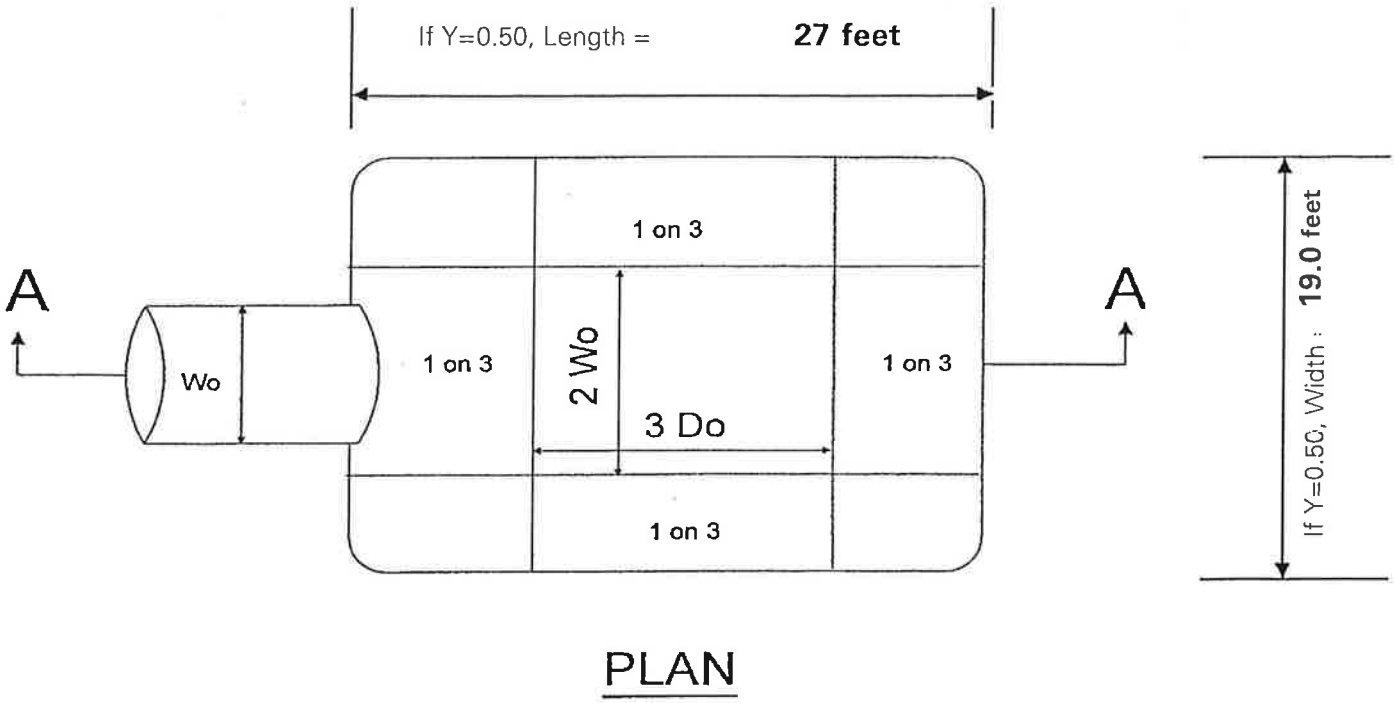
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SCOUR HOLE - 96-INCH TURNPIKE CULVERT
EAST RUTHERFORD NEW JERSEY

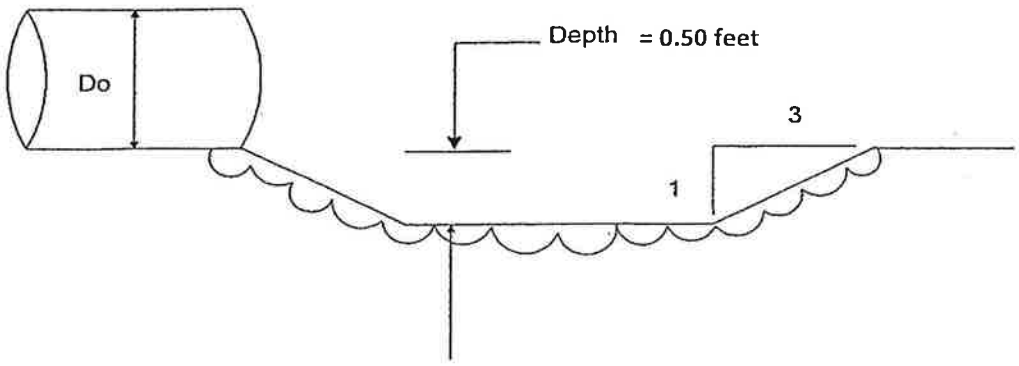
Project No.	Date:	By:	Ckd:	Sheet. No.
100234201	12/16/2011	BDH	–	2 of 4

Preformed Scour Hole Dimensions

$2W_o$ =	16 feet
$3D_o$ =	24 feet
Y (Depth) =	0.5 feet



PLAN



Section A - A

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Project No.	Date:	By:	Ckd:	Sheet No.
100234201	12/16/2011	BDH	–	3 of 4

Gabion Basket Alternative:

Maintaining the scour hole dimensions, a gabion basket alternative could be substituted in lieu of placed stone.

The exiting velocity at the pipe outfall is approximately 9.07 ft/s, say 10 ft/s.

According to section 23, page 23-5, Table 23-1, an appoximate 0.75-foot thick plastic coated loire mesh gabion basket underlain by a geotextile fabric may be used to line and stabilize the preformed scour hole. The rock used to fill the baskets shall be 4-inch to 7-inch angular block-shaped stone and must be approved by the engineer prior to placement.

Appendix H

Stormwater Maintenance Plan

Stormwater Maintenance Plan

AMUSEMENT PARK AND WATER PARK PROJECT
AMERICAN DREAM MEADOWLANDS
Block 107.02, Lot 3
Borough of East Rutherford
Bergen County, New Jersey

Submitted To:

New Jersey Department of Environmental Protection
Division of Land Use Regulation
501 East State Street
P.O. Box 420
Trenton, NJ 08625

Prepared For:

Metro Central, LLC
c/o Triple Five Development
60 East Broadway
Bloomington, MN 55425

Prepared By:

Langan Engineering & Environmental Services, Inc.
River Drive Center 1
Elmwood Park, NJ 07407
NJ Certificate of Authorization No.: 24GA27996400

29 December 2011
100234201

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ENGINEERING & ENVIRONMENTAL SERVICES

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STORMWATER MAINTENANCE OBJECTIVE	2
MAINTENANCE OF CONVEYANCE SYSTEMS	3
MAINTENANCE OF EXTENDED DETENTION BASINS AND WET PONDS	4
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Figure 2	Grading and Drainage Plan

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Attachment B	Breakdown of Maintenance Costs
Attachment C	Maintenance of Manufactured Treatment Device

INTRODUCTION

This plan addresses the maintenance components of stormwater management facilities for the American Dream Meadowlands Amusement Park and Water Park development to ensure their effective, efficient, and enduring service. This plan contains preventative and corrective maintenance tasks and procedures and is consistent with the requirements set forth in the NJDEP BMP Manual.

The party responsible for the preventative and corrective maintenance of the stormwater measures described herein is:

Metro Central, LLC
c/o Triple Five Development
60 East Broadway
Bloomington, MN 55425

PROJECT DESCRIPTION

The Amusement Park and Water Park Project will be located on the former Radio Tower Site located to the south of the Arena Site of the Meadowlands Sports Complex in East Rutherford, Bergen County, New Jersey (Refer to Figure 1). The Radio Tower Site is bordered by the New Jersey Turnpike to the east, U.S. Route 3 to the south and U.S. Route 120 to the west. The Radio Tower Site is designated as Block 107.02, Lot 3 on the East Rutherford Tax Map

The project site is approximately 21.75 acres and is currently occupied by one radio tower transmission building and three radio towers. There are no other structures on the property. The radio towers are no longer operational and will be taken down. The operation of the towers was moved to a site in North Bergen. The radio tower transmission building will also be razed as part of the project.

The site will be improved with a proposed indoor Amusement Park and Water Park facility contained within one structure of approximately 639,000 square feet gross buildable area (GBA). The structure will be comprised of a 554,000 sf, ground-floor building footprint, a 79,000 sf mezzanine area, and a 6,000 sf pedestrian bridge (partly offsite). Total onsite covered area will be approximately 577,000 sf. The Amusement Park and Water Park Project, including the perimeter access road around the building, wet pond, and grading will have a total onsite area of approximately 19 acres (refer to the Site plan -Drawing CS-101-0101).

Associated stormwater conveyance and water quality measures will be constructed for the Project (Refer to Figure 2). Maintenance of the offsite stormwater systems in the Turnpike Authority ROW (96- and 108-inch culverts and associated tributaries and headwalls) will be by the Turnpike Authority.

STORMWATER MAINTENANCE OBJECTIVE

This maintenance plan has been prepared to help ensure that the stormwater management facilities in place on the project site (Block 107.02, Lot 3) are operating efficiently and reliably. The responsible party shall ensure the long-term/perpetual operation, maintenance, repair, and safety of the stormwater management facilities. **The maintenance plan and any future changes to this maintenance plan shall be recorded upon the deed of record of the property in accordance with N.J.A.C. 7:8-5.8.** The person responsible for maintenance shall evaluate the effectiveness of this maintenance plan at least once per year and adjust the plan and deed as needed. Upon request by a public entity, this maintenance plan and all related documents shall be made available by the person responsible for maintenance.

Maintenance procedures are required to maintain safe operation of the stormwater management facility by reducing the occurrence of problems and malfunctions. To be effective, maintenance shall be performed on a regular basis and include such routine procedures as training of staff, periodic inspections, silt and debris removal, and review of maintenance and inspection work to identify where the maintenance program could be more effective.

Repair procedures are required to correct a problem or malfunction at a stormwater management facility and to restore the facility's intented means of operation and safe condition. Based upon the severity of the problem, repairs shall be performed on an as-needed or emergency basis and include such procedures as structural repairs, removal of debris, sediment and trash which threaten discharge capacity or system performance, erosion repair, snow and ice removal, and restoration of vegetation.

In the event that the stormwater management facility becomes a danger to public safety or public health, or if it is in need of maintenance, the NJSEA may notify the responsible party in writing. Upon receipt of that notice, the responsible person shall have fourteen (14) days to initiate maintenance and repair of the facility. If the responsible party fails or refuses to perform such maintenance and repair, the NJSEA may immediately proceed to do so and shall bill the cost thereof to the responsible party.

MAINTENANCE OF CONVEYANCE SYSTEMS

Conveyance systems including catch basins and pipes are expected to receive and/or accumulate debris and sediment. These systems must be inspected for clogging and excessive debris and sediment accumulation at least annually as well as after every storm exceeding 1-inch of rainfall. Sediment removal should take place when all runoff has drained from the conveyance network and the systems are reasonably dry. Disposal of debris, trash, sediment, and other waste material shall be done at suitable disposal/recycling sites and in compliance with all applicable local, county, State and federal waste regulations.

All structural components including headwalls must be inspected for cracking, subsidence, breaching, wearing, and deterioration at least annually. The integrity of all hardware shall be inspected. Structural damage to the headwalls shall be repaired promptly. The analysis of structural damage and the design and performance of structural repairs should only be undertaken by qualified personnel. The condition of surrounding above ground areas shall be inspected for evidence of potential failures or deterioration of buried stormwater facilities.

Damage to embankments and side slopes shall be repaired promptly. Typical problems include settlement, scouring, cracking, sloughing, seepage, and rutting. The analysis of damage and the design and performance of geotechnical repairs should only be undertaken by qualified personnel. The vegetative cover should be maintained at 85 percent of the design vegetated area. If vegetation has greater than 50 percent damage, the area should be reestablished.

The routine equipment expected to be utilized for the maintenance tasks include a jet vacuum vehicle, shovels, lighting equipment, and a wheel barrow or truck for the hauling of debris. Water and concrete repair materials may also be required depending on the condition of the structures. No manufacturer's instructions or user manuals are available for these components. Sample maintenance inspection forms and logs can be found in Attachment A. The cost to perform routine maintenance tasks including inspection of the facilities and removal of debris, sediment and trash is estimated to be $3,500 per year.

MAINTENANCE OF EXTENDED DETENTION BASINS AND WET PONDS

Extended detention basins and wet ponds shall be inspected for accumulated sediment at least twice annually as well as after every storm exceeding 1-inch of rainfall. Sediment should be removed before it threatens the operation or the storage volume of the basin. Sediment removal should take place when the basin is dry or water levels are at a seasonal low elevation. Disposal of debris, trash, sediment, and other waste material shall be done at suitable disposal/recycling sites and in compliance with all applicable local, county, State and federal waste regulations. Care shall be taken during the sediment removal process to avoid damaging basin inlets or riprap.

Basin inlet and outlet structures and headwalls shall be inspected for cracking, subsidence, breaching, wearing, and deterioration at least annually. The condition of the ground surface above the inlets and outlets shall be inspected for evidence of potential failures or deterioration. Structural damage to the inspected structures shall be repaired promptly. The analysis of structural damage and the design and performance of structural repairs should only be undertaken by qualified personnel.

Mowing and/or trimming of vegetation must be performed at least monthly during the growing season where appropriate. Vegetated areas must be inspected at least annually for erosion and scour. Any depressions that develop in the basin bottoms or side slopes shall be filled and replanted. Vegetated areas should also be inspected at least annually for unwanted growth, which should be removed with minimum disruption to the channel bottom or side slopes and remaining vegetation. If vegetation has greater than 50 percent damage, the area should be reestablished. All vegetation deficiencies should be addressed without the use of fertilizers and pesticides whenever possible.

Damage to dams, embankments, and side slopes shall be repaired promptly. Typical problems include settlement, scouring, cracking, sloughing, seepage, and rutting. The analysis of damage and the design and performance of geotechnical repairs should only be undertaken by qualified personnel. Snow and ice shall be removed as needed to assure the proper functioning of the basin outlets during the winter months.

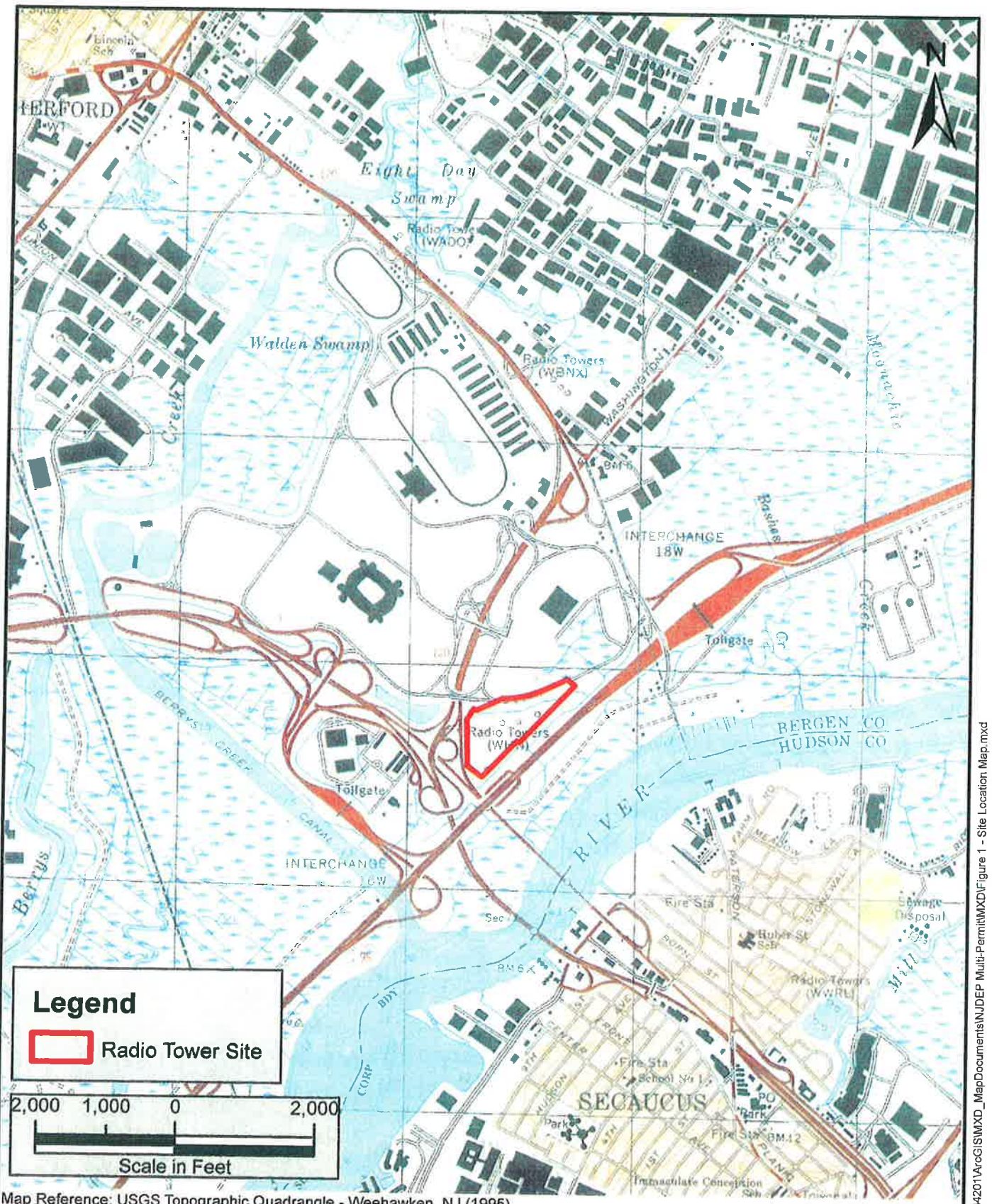
The routine equipment expected to be utilized for the maintenance tasks include shovels, leaf rakes, soil rakes, topsoil, grass seed, soil amenities such as lime and fertilizer, chemicals such as pesticides and herbicides, riding mower, hand mower, lighting equipment, and a wheel barrow or truck for the hauling of debris. Water and concrete repair materials may also be required depending on the condition of the outlet structures. No manufacturer's instructions or user

manuals are available for the outlet structures. Sample maintenance inspection forms and logs can be found in Attachment A. The cost to perform routine maintenance tasks including vegetation trimming and maintenance, inspection of the facilities, and removal of debris, sediment and trash is estimated to be $5,000 per year.

MAINTENANCE OF MANUFACTURED TREATMENT DEVICES

Maintenance of the manufactured treatment device shall be in accordance with the manufacturer recommended maintenance procedures, refer to Attachment C. Sample maintenance inspection forms and logs can be found in Attachment A.

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Map Reference: USGS Topographic Quadrangle - Weehawken, NJ (1995)

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USGS SITE LOCATION MAP

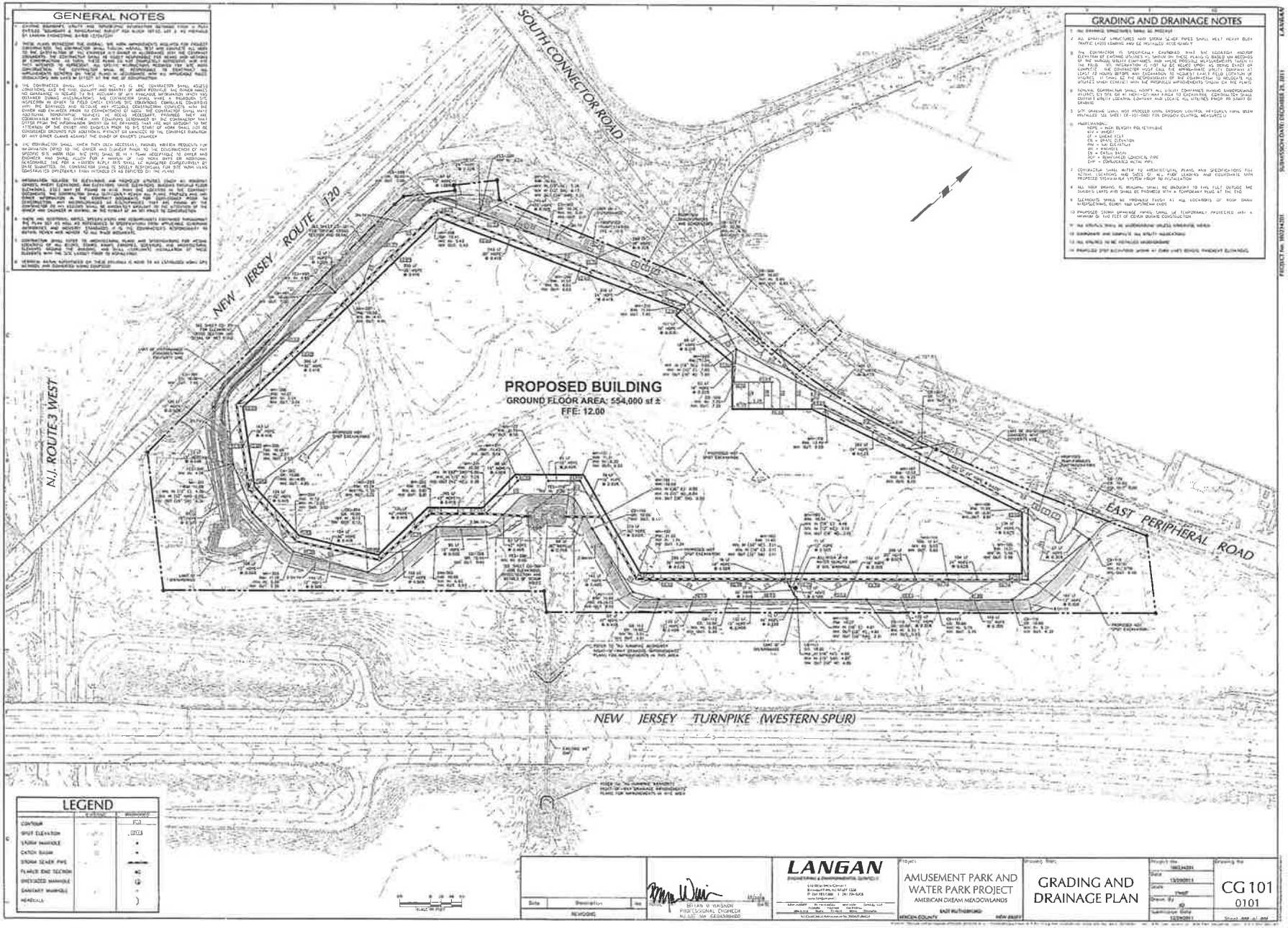
AMUSEMENT PARK AND WATER PARK
AMERICAN DREAM MEADOWLANDS
BLOCK 107.02, LOT 3

EAST RUTHERFORD NEW JERSEY

Project No.	Date	Scale	Figure No.
100234201	11/03/11	1"= 2000'	1

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\\langan.com\data\EP\data2\100234201\ArcGIS\MXD_MapDocuments\NJDEP Multi-Permit\MXD\Figure 1 - Site Location Map.mxd


GENERAL NOTES
GRADING AND DRAINAGE NOTES
SOUTH CONNECTOR ROAD
NEW JERSEY ROUTE 120
N.J. ROUTE 3 WEST
PROPOSED BUILDING
GROUND FLOOR AREA: 554,000 sf ±
FFE: 12.00
EAST PERIPHERAL ROAD
NEW JERSEY TURNPIKE (WESTERN SPUR)
LEGEND
CONTOUR
SPOT ELEVATION
STORM MANHOLE
CATCH BASIN
STORM SEWER PIPE
FLARED END SECTION
ENCASED MANHOLE
SANITARY MANHOLE
HEADWALL
SCALE: 1" = 100'
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AMUSEMENT PARK AND WATER PARK PROJECT
AMERICAN DREAM MEADOWLANDS
GRADING AND DRAINAGE PLAN
CG 101
0101

MAINTENANCE INSPECTION FOR EXTENDED DETENTION BASINS AND WET PONDS

AMERICAN DREAM
AMUSEMENT PARK AND WATER PARK

NOTE: INSPECTIONS TO BE PERFORMED DURING A PERIOD OF DRY WEATHER.

Yes	No	Maintenance Evaluation	Action(s) Required if Answer "Yes"
❑	❑	Is there a buildup of sediment in a localized area of the basin?	Remove and dispose of sediment in accordance with local, county, state and federal requirements.
❑	❑	Is there an excessive buildup of sediment that threatens the storage volume of the basin?	Remove and dispose of sediment in accordance with local, county, state and federal requirements.
❑	❑	Is there a buildup of trash, debris or any other stormwater pollution?	Remove and dispose of debris in accordance with local, county, state and federal requirements.
❑	❑	Are there any areas of settlement or rutting?	Regrade areas to remove the depressions and then reestablish vegetation.
❑	❑	Are there any areas of settlement, scouring, cracking, sloughing, seepage, or rutting on the embankments?	Consult engineer to determine safety and/or stability of the system.
❑	❑	Are there any areas of erosion or scouring at the conveyance system outfalls?	Regrade the areas and reestablish vegetation. Repair/replace rip-rap apron if it has been disturbed.
❑	❑	Are there any areas of erosion or scouring at the basin outfall headwall?	Consult engineer to determine safety and/or stability of the system.
❑	❑	Is there a buildup of sediment (in excess of 3 inches), trash, debris or any other storm water pollution at the outlet structure?	Evaluate downstream systems for clogging or trash sediment buildup.
❑	❑	Are there visible signs of cracking, subsidence, erosion or deterioration at the outlet weir?	Consult engineer to determine safety and/or stability of the system.
❑	❑	Are there any root intrusions or any other vegetation within the outlet weir?	Remove roots and dispose vegetation in accordance with local, county, state and federal requirements.
❑	❑	Are trash racks missing, damaged or only partially in place at the outlet structure?	Repair or replace.
❑	❑	Are there any areas with damaged vegetation or a lack of vegetation?	Evaluate causes of vegetation damage and reestablish vegetation.
❑	❑	Is the vegetation improperly mowed/trimmed?	Evaluate if proper maintenance procedures are being followed.
❑	❑	Does the existing maintenance program need to be amended to provide a more effective maintenance program?	Address suggested changes to the responsible party for the stormwater maintenance facility.

MAINTENANCE LOG
FOR EXTENDED DETENTION BASIN AND WET PONDS

American Dream
Amusement Park and Water Park

INSTRUCTIONS:
THIS LOG SHALL BE UPDATED TO INCLUDE ALL MAINTENANCE PERFORMED AT A SPECIFIC STORMWATER MEASURE.

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DATE	PERSON CONDUCTING MAINTENANCE	AREA OF MAINTENANCE	PROBLEM(S) FOUND	ACTION(S) TAKEN

MAINTENANCE LOG
FOR
MANUFACTURED TREATMENT DEVICE

American Dream
Amusement Park and Water Park

INSTRUCTIONS:
THIS LOG SHALL BE UPDATED TO INCLUDE ALL MAINTENANCE PERFORMED AT A SPECIFIC STORMWATER MEASURE.

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DATE	PERSON CONDUCTING MAINTENANCE	AREA OF MAINTENANCE	PROBLEM(S) FOUND	ACTION(S) TAKEN

MAINTENANCE INSPECTION FOR CONVEYANCE SYSTEMS

AMERICAN DREAM
AMUSEMENT PARK AND WATER PARK

NOTE: INSPECTIONS TO BE PERFORMED DURING A PERIOD OF DRY WEATHER.

Yes	No	Maintenance Evaluation	Action(s) Required if Answer "Yes"
❑	❑	Is there a buildup of sediment (in excess of 3 inches), trash, debris or any other stormwater pollution?	Remove sediment and evaluate on-site upstream systems. Dispose debris in accordance with local, county, state and federal requirements.
❑	❑	Is there standing water?	Evaluate downstream systems for clogging or trash sediment buildup.
❑	❑	Is there any structural failure?	Consult engineer to determine safety and/or stability of the system.
❑	❑	Are there visible signs of cracking, subsidence, erosion or deterioration of any of the storm conveyance systems?	Consult engineer to determine safety and/or stability of the system.
❑	❑	Are there any root intrusions or any other vegetation within catch basins?	Remove roots and dispose vegetation in accordance with local, county, state and federal requirements.
❑	❑	Are ladder rungs in catch basins or manholes damaged, missing or misaligned?	Repair or replace.
❑	❑	Are grates or covers missing, damaged or only partially in place at any catch basin or manhole?	Repair or replace.
❑	❑	Does the existing maintenance program need to be amended to provide a more effective maintenance program?	Address suggested changes to the responsible party for the stormwater maintenance facility.
❑	❑		
❑	❑		

MAINTENANCE LOG FOR CONVEYANCE SYSTEMS

American Dream
Amusement Park and Water Park

INSTRUCTIONS:
THIS LOG SHALL BE UPDATED TO INCLUDE ALL MAINTENANCE PERFORMED AT A SPECIFIC STORMWATER MEASURE.

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DATE	PERSON CONDUCTING MAINTENANCE	AREA OF MAINTENANCE	PROBLEM(S) FOUND	ACTION(S) TAKEN

CONVEYANCE MAINTENANCE COSTS	
Task	**Cost**
Inspect conveyance systems for clogging, excessive debris and sediment accumulation at least annually	$100
Inspect conveyance systems for clogging, excessive debris and sediment accumulation after every storm exceeding 1 inch of rainfall	$400
Inspect all structural components at least annually	$100
Remove Debris and Sediment accumulation	$2,000
Jet-vacuum cleaning of storm drainage system	$1,117
Sub-Total	$3,717

WET PONDS MAINTENANCE COSTS	
Task	**Cost**
Inspect basin components for clogging, excessive debris and sediment accumulation four times a year	$100
Inspect basin components for clogging, excessive debris and sediment accumulation after every storm exceeding 1 inch of rainfall	$400
Remove Debris and Sediment accumulation	$4,000
Inspect vegetation health biweekly until vegetation is established	$100
Inspect health, density and diversity at least twice annually	$100
Inspect all structural components at least annually	$100
Sub-Total	$4,800

TOTAL BMP MAINTENANCE COST $8,517

BMP Inspection @ $50 per hour
Jet vac services @ $300 per hour and 1,800 feet of pipe cleaned per hour
Assume 8 storms with rainfall that exceeds 1 inch (NJ average annual total rainfall=45 in)
Growing season from May-October
Two months assumed to establish vegetation

Jellyfish™ Filter System
Inspection and Maintenance Information

Jellyfish™ Inspection and Maintenance

Regular inspection and maintenance are proven, cost-effective ways to maximize water resource protection for all stormwater pollution control practices, and are required to insure proper functioning of the Jellyfish filter system. Inspection of the Jellyfish filter system is easily performed from the surface, while proper maintenance requires a combination of procedures conducted from the surface and with worker entry into the structure. The Jellyfish filter system's patent pending technology has no moving parts, keeping the process simple.

Please refer to the following information and guidelines before conducting inspection and maintenance activities.

When is inspection needed?

- Post-construction inspection is required prior to putting the Jellyfish filter system into service.
- Routine inspections are recommended during the first year of operation to accurately assess the sediment and floatable pollutant accumulation, and to ensure that the automatic backwash feature is functioning properly.
- Specifically for New Jersey installations, regulations require all BMPs to be inspected a minimum four times per year and after every storm with greater than one inch of rainfall.
- Inspections should also be performed immediately after an oil, fuel or other chemical spill.

When is maintenance service needed?

- For optimum performance, the unit should be cleaned out once the sediment depth reaches 12 inches of accumulation. Generally, the minimum cleaning frequency is once annually, although the frequency can be based on historical inspection results.
- Filter cartridges should be cleaned and re-commissioned, or replaced, every 12 months or when the automatic backwash feature no longer functions, whichever occurs first. The automatic backwash function will be disabled if the filter cartridges become saturated with sediment. This saturated condition is indicated if the backwash pool contains more than 3 inches depth of water after 12 or more hours of dry weather have elapsed since the most recent rainfall/runoff event.
- The unit should be cleaned out immediately after an oil, fuel or chemical spill.

What conditions can compromise the Jellyfish filter system's performance?

- If sediment accumulates beyond 12 inches in depth, filter cartridge life and sediment removal efficiency may be reduced.
- If filter cartridges become saturated with sediment, the system may not provide filtration treatment at the designed water quality flow rate, and unfiltered water may bypass the filter cartridges.

- If an oil spill(s) exceeds the oil capacity of the system, subsequent spills may not be captured and may cause fouling of the filter cartridges.
- If debris clogs the inlet of the system, removal efficiency of sediment, hydrocarbons, and gross pollutants may be reduced.
- If a downstream blockage occurs, a backwater condition may occur in the system and removal efficiency of sediment, hydrocarbons, and gross pollutants may be reduced.

What training is required?

The Jellyfish filter system is inspected and maintained by professional vacuum cleaning service providers with experience in the maintenance of underground tanks, sewers and catch basins. Since some of the maintenance procedures require manned entry into the Jellyfish structure, only professional maintenance service providers trained in confined space entry procedures should enter the vessel. Service provider companies typically have personnel who are trained and certified in confined space entry procedures according to local, state, and federal standards.

For typical inspection and maintenance activities, no specific supplemental training is required for the Jellyfish filter system. Information provided in this document or the Jellyfish Filter System Operation and Maintenance Manual (provided to the system owner) contains sufficient guidance to maintain the system properly.

What equipment is typically required for inspection?

- Manhole access cover lifting tool
- Oil dipstick or sampling tool
- Sediment probe
- Flashlight
- Camera
- Data log
- Safety cones and caution tape
- Hard hat, safety shoes, safety glasses, and chemical-resistant gloves

How is the Jellyfish filter system inspected?

- The Jellyfish filter system can be inspected from the surface through the standard surface manhole access cover or custom doors.
- Sediment and oil depth inspections are performed with a sediment probe and oil dipstick. Sediment and oil depth are measured through the 30-inch diameter maintenance access pipe.
- Visual inspection for floatable pollutant accumulation such as litter and hydrocarbons is also performed by shining a flashlight into the 30-inch diameter maintenance access pipe.
- Visual inspection of the backwash pool (6-inch high kidney-shaped or oval-shaped weir) should also be performed to check for standing water in the pool. If at least 12 hours of dry weather have elapsed since the most recent rainfall/runoff event and the backwash pool contains more than 3 inches of water, this condition indicates that the filter cartridges are saturated with sediment and should be cleaned or replaced.

- Inspections also involve a visual inspection of the internal components of the system for obvious damage.

What equipment is typically required for maintenance?

- Vacuum truck equipped with water hose and jet nozzle
- Small pump and tubing for oil removal, if necessary
- Manhole access cover lifting tool
- Oil dipstick or sampling tool
- Sediment probe
- Flashlight
- Camera
- Data log
- Safety cones and caution tape
- Hard hats, safety shoes, safety glasses, chemical-resistant gloves, and hearing protection for service providers
- Gas analyzer, respiratory gear, and safety harness for specially trained personnel if confined space entry is required
- Replacement cartridges are required if manual cleaning and re-commissioning of existing cartridges is not possible or adequate to restore proper system function.
- Jellyfish Cartridge Backflush Pipe

How is the Jellyfish filter system maintained?

- The Jellyfish filter system can be maintained through the standard surface manhole access cover. All access covers should be removed to provide additional light and ventilation. If custom doors were installed instead of frames and covers, open all doors
- Insert the oil dipstick or sampling tool into the 30-inch diameter maintenance access pipe. If oil is present, pump off the oil layer into separate containment using a small pump and tubing. Some maintenance service providers may elect to use the vacuum hose if the oil amount is small.
- Maintenance cleaning of accumulated floatable litter and sediment is performed with a vacuum hose inserted through the 30-inch diameter maintenance access pipe.
- Using the vacuum hose, decant the water from the lower chamber to the sanitary sewer, if permitted by the local regulating authority, or into a separate containment tank.
- Remove the sludge from the bottom of the unit using the vacuum hose.
- For larger Jellyfish systems, (8-ft, 10-ft, 12-ft diameter), complete sediment removal may be facilitated by inserting a water hose with jet nozzle through a hole in the cartridge deck where a filter cartridge has been removed. Use the water jet to break up sediment on the bottom of vessel that is farthest from the 30-inch diameter maintenance access pipe. Rinse this sediment toward the maintenance access pipe for easy vacuum removal.
- To access the cartridge deck for manual cleaning or replacement of filter cartridges, descend the ladder that is built into structure's sidewall, observing all precautions for safe and proper confined space entry. Note that the cartridge

deck may be slippery. Care should be taken to avoid stepping directly onto the cartridge heads or onto the backwash pool weir.

- A manual backflush of the cartridges is recommended to remove a high percentage of accumulated sediment from the filtration tentacles, restore flow capacity, and extend the service life of the cartridges. A Jellyfish Cartridge Backflush Pipe (12-inch diameter x 3-feet length threaded plastic pipe with flapper valve) may be purchased from Imbrium Systems that allows each cartridge to be selectively backwashed using water that is supplied from either (a) the previously decanted water stored in a vactor truck compartment; (b) clean water from a separate water truck delivered to the site; or (c) water from a nearby fire hydrant or other clean water source.
- Manual backflush procedure: Twist the threaded lid on the cartridge head counter-clockwise to remove the lid and expose the tentacle holes. Carefully screw in the threaded Jellyfish Cartridge Backwash Pipe over the exposed tentacle holes. Do not over-tighten. Fill the Pipe with water (approximately 16 gallons). Pull the cord to open the flapper valve and backflush the water through the cartridge. Refill the Pipe and backflush a second time. The full Pipe contents should drain within approximately 20 seconds to remove a high percentage of accumulated sediment and restore the flow capacity of the cartridge. Remove the Pipe and re-install the lid hand-tight.
- Inspection of cartridge after manual backflushing: After manually backwashing the first cartridge, a visual inspection of the filtration tentacles is recommended. With the threaded lid removed, lift the cartridge (using the lifting loops in the cartridge head) so that most or all of the filtration tentacle bundle is exposed. If upon visual inspection the degree or nature of any remaining sediment accumulation on the tentacles shows that the manual backwash was not effective, provisions must be made to replace all the spent cartridges with new cartridges as soon as possible. To re-commission a cleaned and regenerated cartridge, or to install a new cartridge, place the cartridge into the cartridge hole and re-install the threaded lid hand-tight to secure the cartridge.
- New cartridges are lightweight (less than 20 pounds), and can be easily lowered down to a worker on the cartridge deck. Care should be taken not to bend or otherwise damage the tentacles during the handling and installation procedures.
- For maximum safety, it is recommended that each spent cartridge be removed and replaced one at a time, such that there is never more than one cartridge hole exposed. Removable cartridge hole cover plates can be purchased from Imbrium Systems if required.
- Remove spent cartridges from the vessel.
- After cartridge service has been completed, the backflush water may be removed by vacuum hose.
- Re-fill the lower chamber with water where required by the local jurisdiction.

What is required for proper disposal?

- Disposal requirements for recovered pollutants and spent filter cartridges may vary depending on local guidelines. In most areas the sediment and spent filter cartridges, once dewatered, can be disposed of in a sanitary landfill. It is not anticipated that the sediment would be classified as hazardous waste.

What about oil spills?

- Petroleum-based pollutants captured by the Jellyfish filter system (oil/chemical/fuel spills) should be removed and disposed of by a licensed waste management company.
- Although the Jellyfish filter system captures virtually all free oil, a sheen at the outlet **does not** mean the unit isn't working. A rainbow or sheen can be visible at oil concentrations of less than 10 mg/L (ppm).

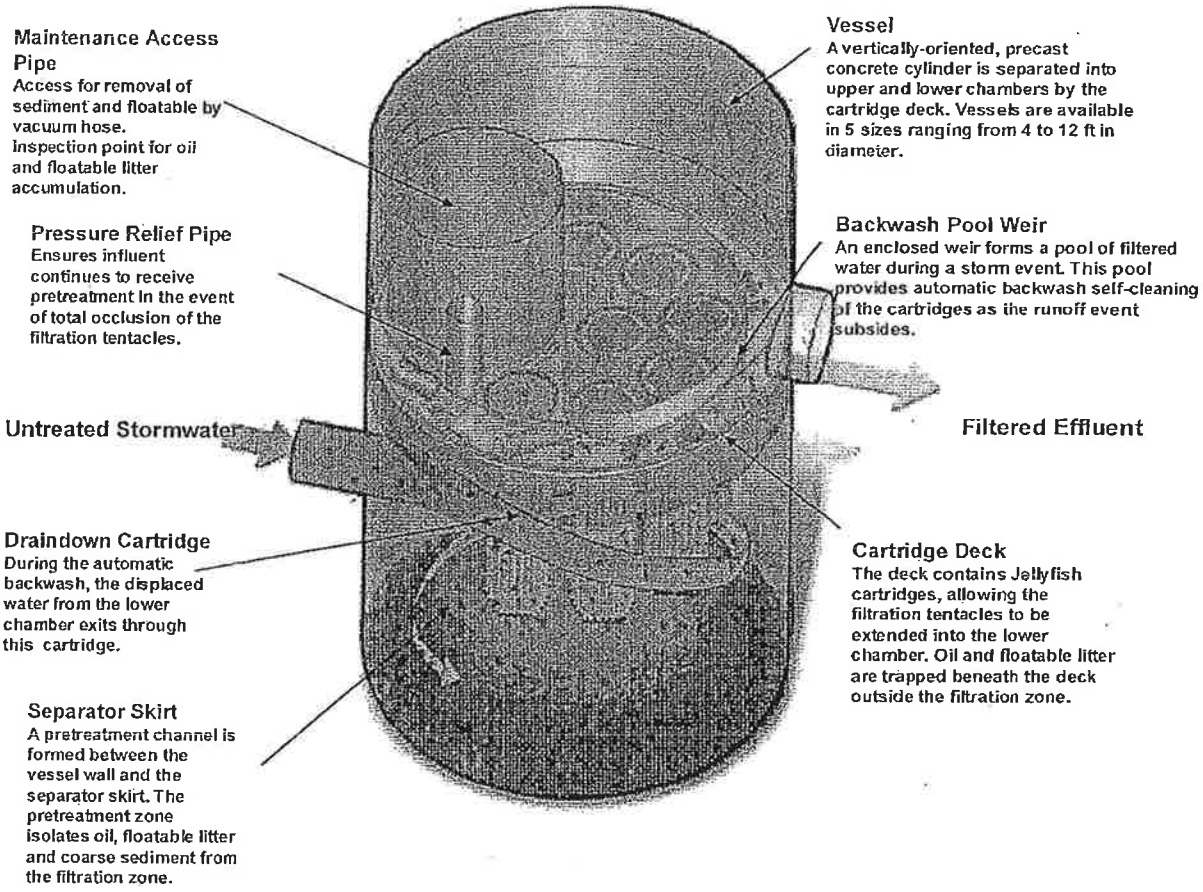
What factors affect the costs involved with inspection/maintenance?

- Inspection and maintenance costs are based on unit size, cartridge count, sediment/oil/hazardous material loads, transportation distances, tipping fees, disposal requirements and other local regulations. Maintenance costs are anticipated to be substantially lower in instances where dirty cartridges are manually cleaned and re-commissioned rather than replaced with new cartridges.

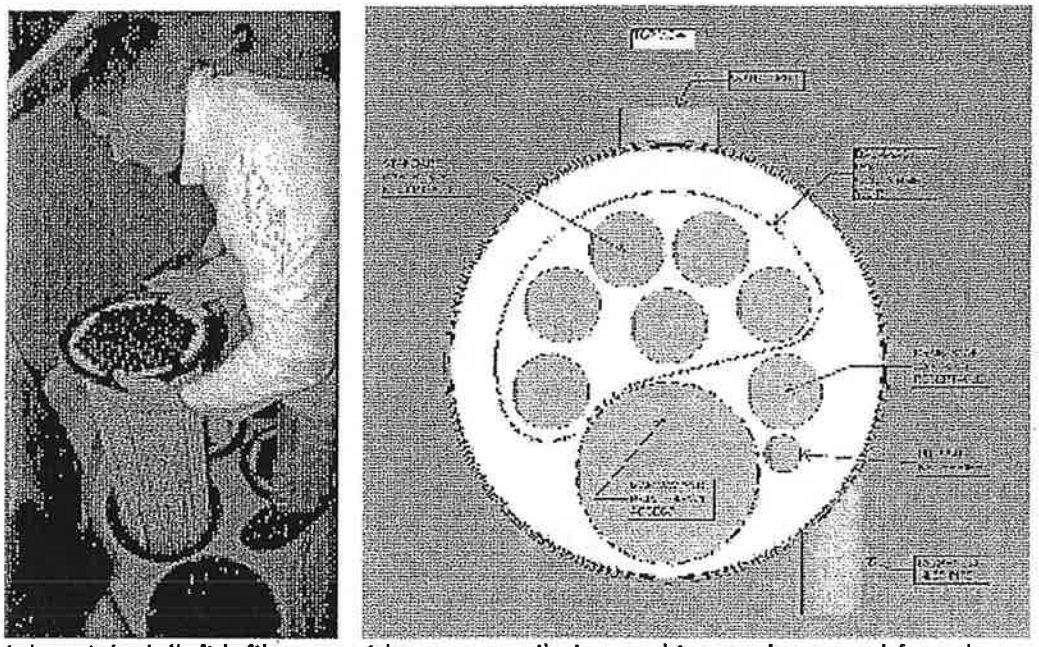
System schematic and component functions

Below is a schematic of the Jellyfish filter system with key components identified and their functions briefly described (6-ft diameter system is depicted).

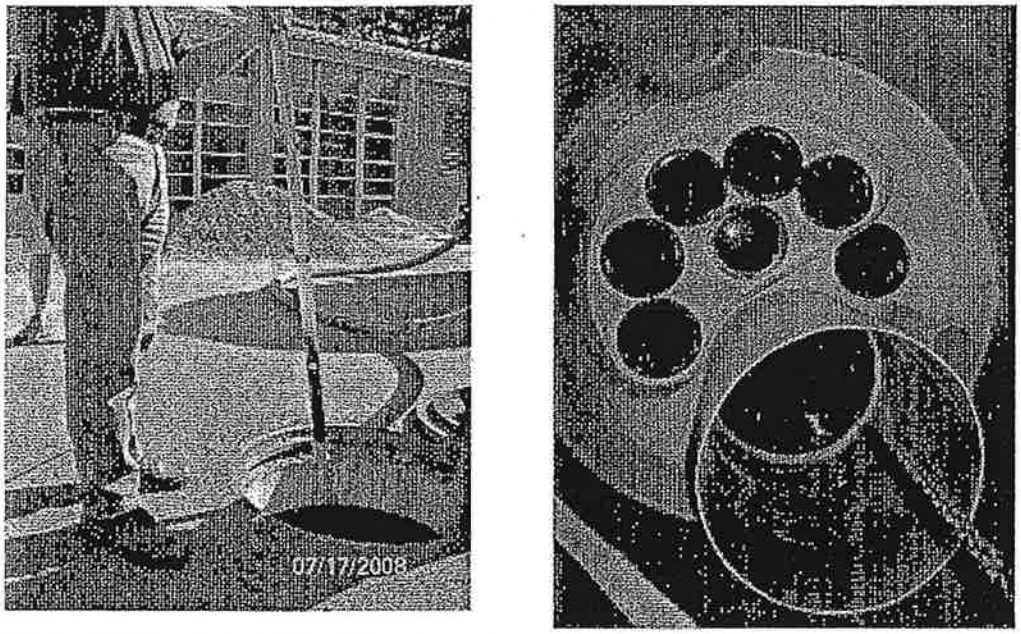
Jellyfish™ Filter System



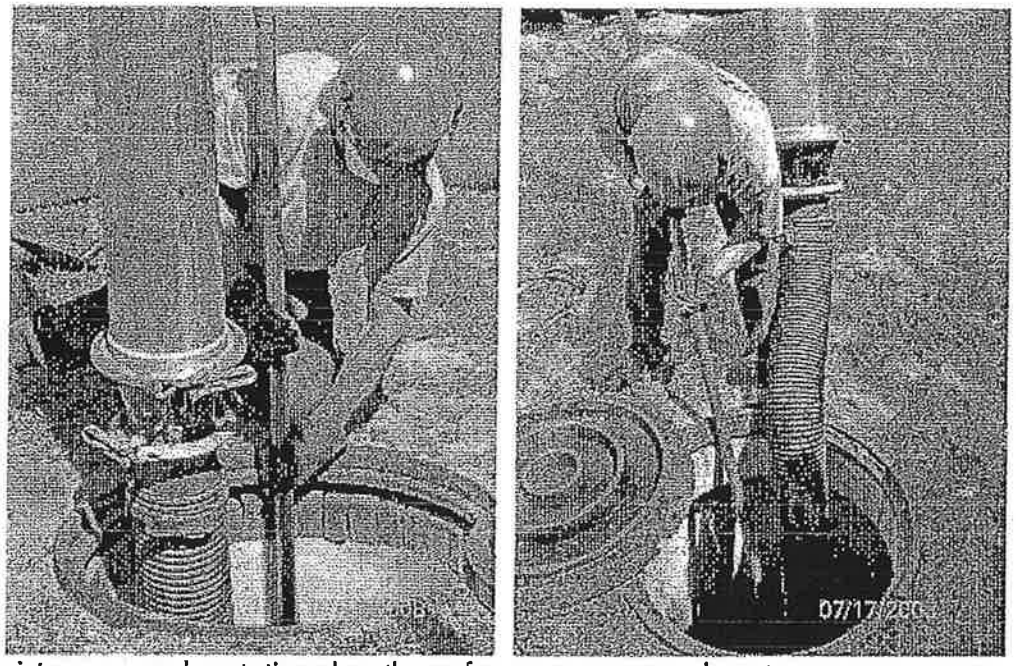
The Jellyfish filter system has no moving parts to wear out and therefore maintenance activities are generally focused on pollutant removal and filter cartridge service.



Lightweight Jellyfish filter cartridges are easily inserted into and removed from the cartridge deck by hand. The top view schematic (above right) and top view photo (below right) depict the 6-ft diameter system. Note the 6 standard cartridges enclosed by the kidney-shaped backwash pool weir. A single draindown cartridge is located outside the weir.



The depth of sediment and oil can be measured from the surface by using a sediment probe or dipstick tube equipped with a ball check valve and inserted through the 30-inch maintenance access pipe. This large port provides convenient access for inspection and vacuum removal of water and pollutants.



A maintenance worker stationed on the surface uses a vacuum hose to evacuate water, sediment, and debris from the system.

The benefits of regular inspection and maintenance are many – from ensuring maximum operation efficiency, to keeping maintenance costs low, to the continued protection of natural waterways – and provide the key to the Jellyfish filter system's long and effective service life.

Ordering Replacement Parts

Jellyfish filter cartridges, cartridge hole cover plates, Jellyfish Cartridge Backflush Pipes (for manual backflushing), and other system components can be ordered by contacting:

Imbrium Systems Corporation
1-888-279-8826
www.imbriumsystems.com

(revised 5-29-09)

Appendix I

Manufactured Treatment Device

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
401-02B
Bureau of Nonpoint Pollution Control
Division of Water Quality
Post Office Box 420
Trenton, New Jersey 08625-0420
609-633-7021 Fax: 609-777-0432
http://www.state.nj.us/dep/dwq/bnpc_home.htm

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

BOB MARTIN
Commissioner

August 31, 2011

Joel Garbon
Imbrium Systems
3811 S.W. Corbett Avenue
Portland, OR 97239

Re: MTD Laboratory Test Certification for the Jellyfish Filter by Imbrium Systems Corporation

Effective Date: September 1, 2011
Expiration Date: September 1, 2013
TSS Removal Rate: 80%

Dear Mr. Garbon:

The Stormwater Management Rules at N.J.A.C. 7:8 allow the use of manufactured treatment devices (MTDs) for compliance with the design and performance standards provided that the pollutant removal rates have been verified by New Jersey Corporation for Advanced Technology, NJCAT, and certified by the New Jersey Department of Environmental Protection (NJDEP).

The certification process was revised through the "Transition for Manufactured Treatment Devices," dated July 15, 2011. NJDEP has determined that Jellyfish Filter by Imbrium Systems Corporation is consistent with the criteria under *A. Manufactured Treatment Devices with Interim Certifications.* Therefore, **NJDEP certifies the use of the 54-inch long filtration tentacles of the Jellyfish Filter by Imbrium Systems Corporation with an 80% TSS removal rate, provided that the project design is consistent with the following conditions:**

1. The various models and associated water quality flow capacities shall be sized for the peak flow of the New Jersey Water Quality Design Storm per N.J.A.C. 7:8-5.

2. The peak inflow of the Water Quality Design Storm is limited to 0.11 cfs per cartridge. The maximum inflow area per cartridge is limited to 0.17 acres of impervious area.

3. Sufficient draindown cartridges must be placed in any system to ensure that the draindown time for the Water Quality Design Storm does not exceed thirty-six (36) hours.

4. The bottom of the Jellyfish tentacles must be a minimum of 2 feet above the bottom of the vault. Each cartridge must have a minimum of 26.2 cf of wet volume.

5. The Jellyfish Filter can only be used off-line. Any flow above the New Jersey Water Quality Design Storm must be bypassed around the system.

6. This certification does not extend to the enhanced removal rates under N.J.A.C. 7:8 – 5.5 through the addition of settling chambers (such as hydrodynamic separators) or media filtration practices (such as a sand filter).

7. The maintenance plan for the sites using this device shall incorporate at a minimum, the maintenance requirements for the Jellyfish Filter shown attached.

In addition to the attached, any project with a Stormwater BMP subject to the Stormwater Management Rules, N.J.A.C. 7:8, must include a detailed maintenance plan. The detailed maintenance plan must include all of the items identified in Stormwater Management Rules, N.J.A.C. 7:8-5.8. Such items include, but are not limited to, the list of inspection and maintenance equipment and tools, specific corrective and preventative maintenance tasks, indication of problems in the system, and training of maintenance personnel. Additional information can be found in Chapter 8: Maintenance of the New Jersey Stormwater Best Management Manual.

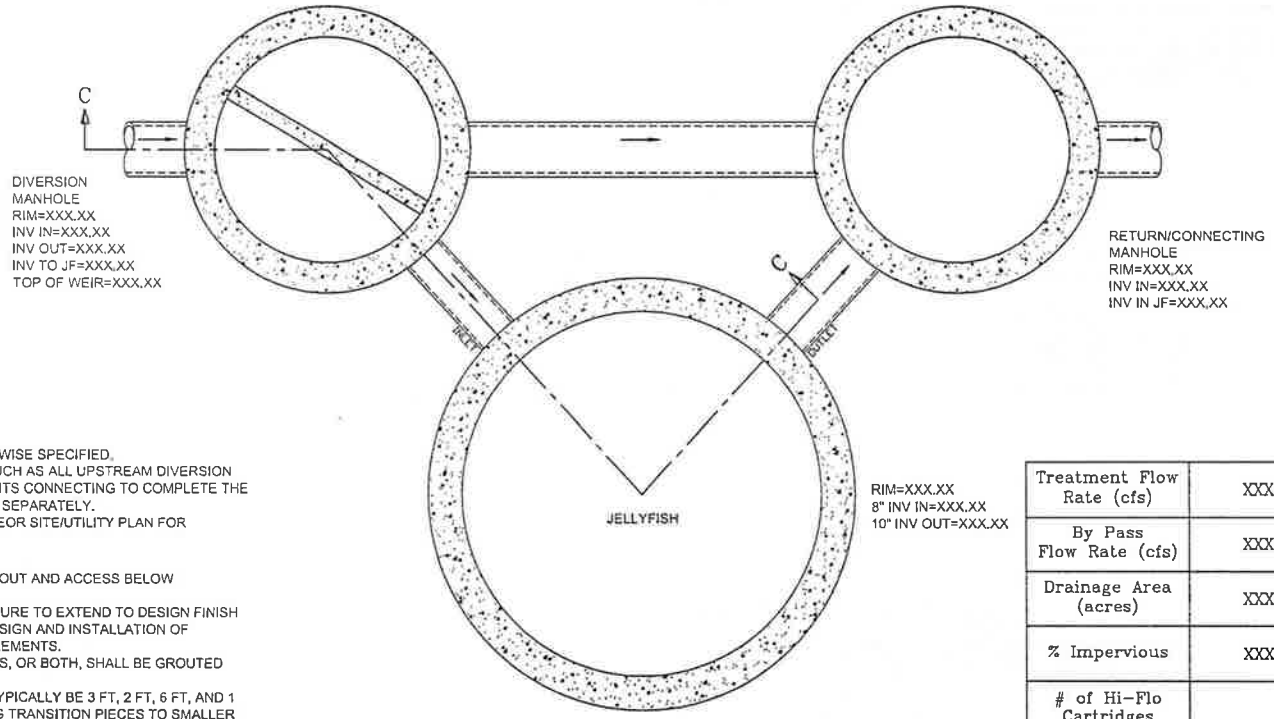
NJDEP anticipates proposing further adjustments to this process through the readoption of the Stormwater Management Rules. Additional information regarding the implementation of the Stormwater Management Rules, N.J.A.C. 7:8, are available at www.njstormwater.org. If you have any questions regarding the above information, please contact Ms. Sandra Blick of my office at (609) 633-7021.

Sincerely,

Ed Frankel, P.P., Acting Bureau Chief
Bureau of Nonpoint Pollution Control

C: Richard S. Magee, NJCAT
Chron file

DRAWING NOT TO BE USED FOR CONSTRUCTION



SITE PLAN

GENERAL NOTES:

1. ALL DIMENSIONS INDICATED ARE IN INCHES UNLESS OTHERWISE SPECIFIED.
2. UNLESS OTHERWISE NOTED, BYPASS INFRASTRUCTURE, SUCH AS ALL UPSTREAM DIVERSION STRUCTURES, CONNECTING STRUCTURES, OR PIPE CONDUITS CONNECTING TO COMPLETE THE JELLYFISH SYSTEM SHALL BE PROVIDED AND ADDRESSSED SEPARATELY.
3. DRAWING FOR INFORMATION PURPOSES ONLY. REFER TO EOR SITE/UTILITY PLAN FOR STRUCTURE ORIENTATION.

JELLYFISH STRUCTURE & DESIGN NOTES:

1. 30" Ø MAINTENANCE ACCESS WALL TO BE USED FOR CLEANOUT AND ACCESS BELOW CARTRIDGE DECK.
2. CASTINGS OR DOORS OF THE JELLYFISH MANHOLE STRUCTURE TO EXTEND TO DESIGN FINISH GRADE. DEPTHS IN EXCESS OF 12 FT MAY REQUIRE THE DESIGN AND INSTALLATION OF INTERMEDIATE SAFETY GRATES OR OTHER STRUCTURAL ELEMENTS.
3. CASTINGS AND GRADE RINGS, OR DOORS AND DOOR RISERS, OR BOTH, SHALL BE GROUTED FOR WATERTIGHTNESS.
4. CONCRETE RISER SECTIONS FROM BOTTOM TO TOP WILL TYPICALLY BE 3 FT, 2 FT, 6 FT, AND 1 FT, WITH OTHER SECTIONS ADDED AS REQUIRED INCLUDING TRANSITION PIECES TO SMALLER DIAMETER RISERS FOR SURFACE ACCESSES WHERE WARRANTED BY SERVICING DEPTH.
5. IF MINIMUM DEPTH FROM TOP OF CARTRIDGE DECK TO BOTTOM OF STRUCTURAL TOP SLAB (5.5 FT) CANNOT BE ACHIEVED DUE TO PIPING INVERT ELEVATIONS OR OTHER SITE CONSTRAINTS. ALTERNATIVE CUSTOM TOP SLAB DESIGN AND HATCH CONFIGURATIONS MAY BE AVAILABLE. HATCH DOORS SHOULD BE SIZED TO PROVIDE ACCESS ABOVE THE CARTRIDGES TO ACCOMMODATE MAINTENANCE.
6. STEPS TO BE APPROXIMATELY 1'1" APART AND DIMENSIONS MUST MEET LOCAL STANDARDS. STEPS MUST BE INSTALLED AFTER CARTRIDGE DECK IS IN PLACE.
7. CONFIGURATION OF INLET AND OUTLET CAN VARY TO MEET SITE'S NEEDS.
8. ALL SECTIONS AND PARTS TO MEET OR EXCEED ASTM C-478, ASTM C-443, AND ASTM D-4097 CORRESPONDING TO AASHTO SPECIFICATIONS, AND ANY OTHER SITE OR LOCAL STANDARDS.
9. THIS DRAWING MUST BE VIEWED IN CONJUNCTION WITH THE STANDARD JELLYFISH SPECIFICATION, AND STORMWATER QUALITY FILTER TREATMENT JELLYFISH DOCUMENTS.

Treatment Flow Rate (cfs)	XXX.XX
By Pass Flow Rate (cfs)	XXX.XX
Drainage Area (acres)	XXX.XX
% Impervious	XXX.XX
# of Hi-Flo Cartridges	
# of Draindown Cartridges	
Model	

XXX.XX INFORMATION TO BE SUPPLIED BY ENGINEER OF RECORD

FOR SITE SPECIFIC DRAWINGS PLEASE CONTACT YOUR LOCAL IMBRIUM SYSTEMS REPRESENTATIVE. SITE SPECIFIC DRAWINGS ARE BASED ON THE BEST AVAILABLE INFORMATION AT THE TIME. SOME FIELD REVISIONS TO THE SYSTEM LOCATION OR CONNECTION PIPING MAY BE NECESSARY BASED ON AVAILABLE SPACE OR SITE CONFIGURATION REVISIONS. ELEVATIONS SHOULD BE MAINTAINED EXCEPT WHERE NOTED ON BYPASS STRUCTURE.

JELLYFISH
MODEL JF8
IMBRIUM SYSTEMS
www.imbriumsystems.com
TOLL FREE: 1-888-279-8826

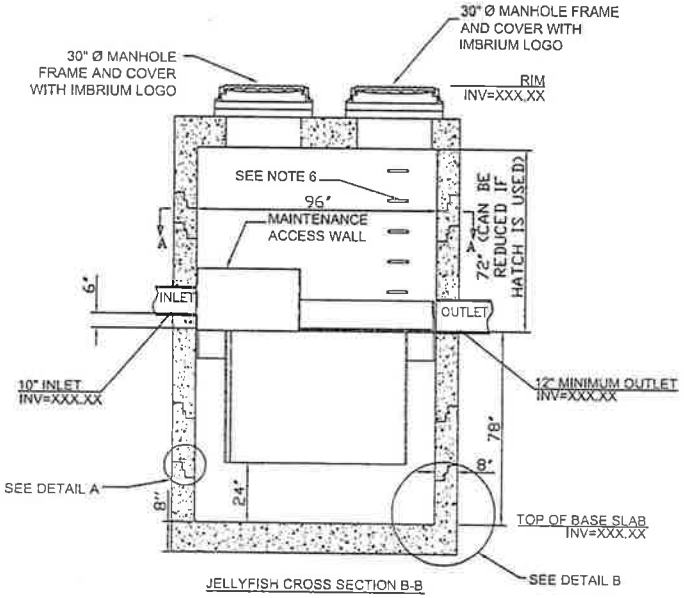
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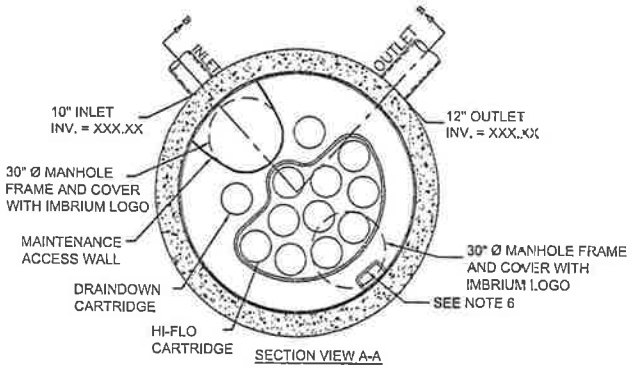
Jellyfish

FILE: JF8.dwg
DRAWN BY: DER
DATE: JUNE 16, 2010
REV.: 0

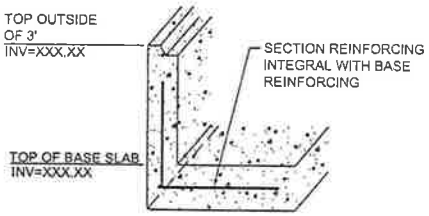
DRAWING NOT TO BE USED FOR CONSTRUCTION



JELLYFISH CROSS SECTION B-B

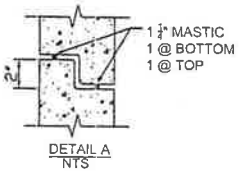


SECTION VIEW A-A



INTEGRAL BASE SLAB AND 3' SECTION POURED MONOLITHICALLY

DETAIL B
NTS



DETAIL A
NTS

TYPICAL JOINT

XXX.XX INFORMATION TO BE SUPPLIED BY ENGINEER OF RECORD

FOR SITE SPECIFIC DRAWINGS PLEASE CONTACT YOUR LOCAL IMBRIUM SYSTEMS REPRESENTATIVE. SITE SPECIFIC DRAWINGS ARE BASED ON THE BEST AVAILABLE INFORMATION AT THE TIME. SOME FIELD REVISIONS TO THE SYSTEM LOCATION OR CONNECTION PIPING MAY BE NECESSARY BASED ON AVAILABLE SPACE OR SITE CONFIGURATION REVISIONS. ELEVATIONS SHOULD BE MAINTAINED EXCEPT WHERE NOTED ON BYPASS STRUCTURE.

JELLYFISH
MODEL JF8
IMBRIUM SYSTEMS
www.Imbriumsystems.com
TOLL FREE: 1-888-279-8826

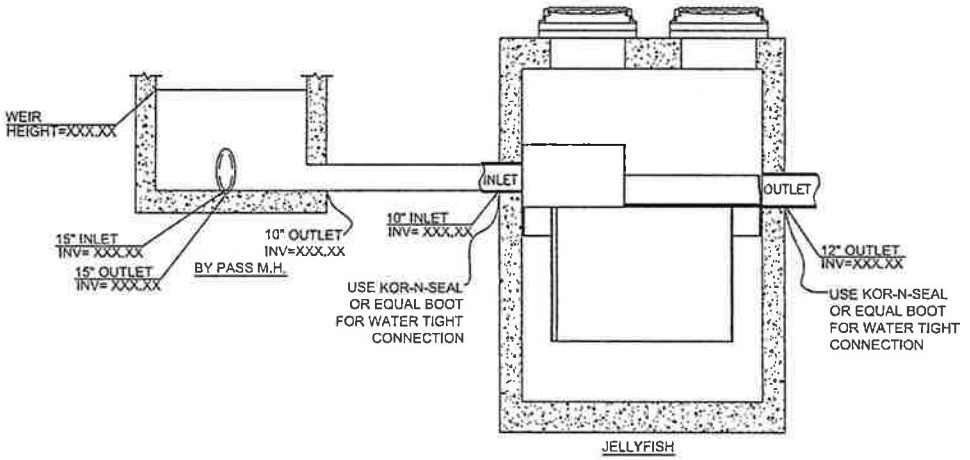
SCALE ¼" = 1' - 0"

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Jellyfish

FILE: JF8.dwg
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DATE: JUNE 16, 2010
REV.: 0

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JELLYFISH CROSS SECTION C-C

GENERAL NOTES:
1. ALL DIMENSIONS INDICATED ARE IN INCHES UNLESS OTHERWISE SPECIFIED.
2. UNLESS OTHERWISE NOTED, BYPASS INFRASTRUCTURE, SUCH AS ALL UPSTREAM DIVERSION STRUCTURES, CONNECTING STRUCTURES, OR PIPE CONDUITS CONNECTING TO COMPLETE THE JELLYFISH SYSTEM SHALL BE PROVIDED AND ADDRESSSED SEPARATELY.
3. DRAWING FOR INFORMATION PURPOSES ONLY. REFER TO EOR SITE/UTILITY PLAN FOR STRUCTURE ORIENTATION.

INSTALLATION NOTES:
1. CONTRACTOR TO PROVIDE EQUIPMENT TO RIG, UNLOAD, AND SET STRUCTURE.
2. CONTRACTOR WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS (NON-SHRINK GROUT WITH APPROVED WATERSTOP OR FLEXIBLE BOOTS), AND ALL LIFE POINTS TO MAKE STRUCTURE WATERTIGHT.
3. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PREVENT UNTREATED CONSTRUCTION SITE EROSION AND SEDIMENT CONTROL RUNOFF FROM ENTERING THE JELLYFISH.
4. CARTRIDGE INSTALLATION SHALL OCCUR ONLY AFTER SITE HAS BEEN STABILIZED AND THE JELLYFISH UNIT IS CLEAN AND FREE OF DEBRIS. CARTRIDGES SHALL BE FURNISHED NEW, AT TIME OF FINAL ACCEPTANCE.

THE JELLYFISH SYSTEM IS PROTECTED BY THE FOLLOWING PATENTS:
PATENTS PENDING

XXX.XX INFORMATION TO BE SUPPLIED BY ENGINEER OF RECORD

FOR SITE SPECIFIC DRAWINGS PLEASE CONTACT YOUR LOCAL IMBRIUM SYSTEMS REPRESENTATIVE. SITE SPECIFIC DRAWINGS ARE BASED ON THE BEST AVAILABLE INFORMATION AT THE TIME. SOME FIELD REVISIONS TO THE SYSTEM LOCATION OR CONNECTION PIPING MAY BE NECESSARY BASED ON AVAILABLE SPACE OR SITE CONFIGURATION REVISIONS. ELEVATIONS SHOULD BE MAINTAINED EXCEPT WHERE NOTED ON BYPASS STRUCTURE.

JELLYFISH
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SCALE ¼" = 1' - 0"

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Jellyfish

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DATE: JUNE 16, 2010
REV.: 0

Jellyfish™ Filter System
Inspection and Maintenance Information

Jellyfish™ Inspection and Maintenance

Regular inspection and maintenance are proven, cost-effective ways to maximize water resource protection for all stormwater pollution control practices, and are required to insure proper functioning of the Jellyfish filter system. Inspection of the Jellyfish filter system is easily performed from the surface, while proper maintenance requires a combination of procedures conducted from the surface and with worker entry into the structure. The Jellyfish filter system's patent pending technology has no moving parts, keeping the process simple.

Please refer to the following information and guidelines before conducting inspection and maintenance activities.

When is inspection needed?

- Post-construction inspection is required prior to putting the Jellyfish filter system into service.
- Routine inspections are recommended during the first year of operation to accurately assess the sediment and floatable pollutant accumulation, and to ensure that the automatic backwash feature is functioning properly.
- Specifically for New Jersey installations, regulations require all BMPs to be inspected a minimum four times per year and after every storm with greater than one inch of rainfall.
- Inspections should also be performed immediately after an oil, fuel or other chemical spill.

When is maintenance service needed?

- For optimum performance, the unit should be cleaned out once the sediment depth reaches 12 inches of accumulation. Generally, the minimum cleaning frequency is once annually, although the frequency can be based on historical inspection results.
- Filter cartridges should be cleaned and re-commissioned, or replaced, every 12 months or when the automatic backwash feature no longer functions, whichever occurs first. The automatic backwash function will be disabled if the filter cartridges become saturated with sediment. This saturated condition is indicated if the backwash pool contains more than 3 inches depth of water after 12 or more hours of dry weather have elapsed since the most recent rainfall/runoff event.
- The unit should be cleaned out immediately after an oil, fuel or chemical spill.

What conditions can compromise the Jellyfish filter system's performance?

- If sediment accumulates beyond 12 inches in depth, filter cartridge life and sediment removal efficiency may be reduced.
- If filter cartridges become saturated with sediment, the system may not provide filtration treatment at the designed water quality flow rate, and unfiltered water may bypass the filter cartridges.

- If an oil spill(s) exceeds the oil capacity of the system, subsequent spills may not be captured and may cause fouling of the filter cartridges.
- If debris clogs the inlet of the system, removal efficiency of sediment, hydrocarbons, and gross pollutants may be reduced.
- If a downstream blockage occurs, a backwater condition may occur in the system and removal efficiency of sediment, hydrocarbons, and gross pollutants may be reduced.

What training is required?

The Jellyfish filter system is inspected and maintained by professional vacuum cleaning service providers with experience in the maintenance of underground tanks, sewers and catch basins. Since some of the maintenance procedures require manned entry into the Jellyfish structure, only professional maintenance service providers trained in confined-space entry procedures should enter the vessel. Service provider companies typically have personnel who are trained and certified in confined space entry procedures according to local, state, and federal standards.

For typical inspection and maintenance activities, no specific supplemental training is required for the Jellyfish filter system. Information provided in this document or the Jellyfish Filter System Operation and Maintenance Manual (provided to the system owner) contains sufficient guidance to maintain the system properly.

What equipment is typically required for inspection?

- Manhole access cover lifting tool
- Oil dipstick or sampling tool
- Sediment probe
- Flashlight
- Camera
- Data log
- Safety cones and caution tape
- Hard hat, safety shoes, safety glasses, and chemical-resistant gloves

How is the Jellyfish filter system inspected?

- The Jellyfish filter system can be inspected from the surface through the standard surface manhole access cover or custom doors.
- Sediment and oil depth inspections are performed with a sediment probe and oil dipstick. Sediment and oil depth are measured through the 30-inch diameter maintenance access pipe.
- Visual inspection for floatable pollutant accumulation such as litter and hydrocarbons is also performed by shining a flashlight into the 30-inch diameter maintenance access pipe.
- Visual inspection of the backwash pool (6-inch high kidney-shaped or oval-shaped weir) should also be performed to check for standing water in the pool. If at least 12 hours of dry weather have elapsed since the most recent rainfall/runoff event and the backwash pool contains more than 3 inches of water, this condition indicates that the filter cartridges are saturated with sediment and should be cleaned or replaced.

- Inspections also involve a visual inspection of the internal components of the system for obvious damage.

What equipment is typically required for maintenance?

- Vacuum truck equipped with water hose and jet nozzle
- Small pump and tubing for oil removal, if necessary
- Manhole access cover lifting tool
- Oil dipstick or sampling tool
- Sediment probe
- Flashlight
- Camera
- Data log
- Safety cones and caution tape
- Hard hats, safety shoes, safety glasses, chemical-resistant gloves, and hearing protection for service providers
- Gas analyzer, respiratory gear, and safety harness for specially trained personnel if confined space entry is required
- Replacement cartridges are required if manual cleaning and re-commissioning of existing cartridges is not possible or adequate to restore proper system function.
- Jellyfish Cartridge Backflush Pipe

How is the Jellyfish filter system maintained?

- The Jellyfish filter system can be maintained through the standard surface manhole access cover. All access covers should be removed to provide additional light and ventilation. If custom doors were installed instead of frames and covers, open all doors
- Insert the oil dipstick or sampling tool into the 30-inch diameter maintenance access pipe. If oil is present, pump off the oil layer into separate containment using a small pump and tubing. Some maintenance service providers may elect to use the vacuum hose if the oil amount is small.
- Maintenance cleaning of accumulated floatable litter and sediment is performed with a vacuum hose inserted through the 30-inch diameter maintenance access pipe.
- Using the vacuum hose, decant the water from the lower chamber to the sanitary sewer, if permitted by the local regulating authority, or into a separate containment tank.
- Remove the sludge from the bottom of the unit using the vacuum hose.
- For larger Jellyfish systems, (8-ft, 10-ft, 12-ft diameter), complete sediment removal may be facilitated by inserting a water hose with jet nozzle through a hole in the cartridge deck where a filter cartridge has been removed. Use the water jet to break up sediment on the bottom of vessel that is farthest from the 30-inch diameter maintenance access pipe. Rinse this sediment toward the maintenance access pipe for easy vacuum removal.
- To access the cartridge deck for manual cleaning or replacement of filter cartridges, descend the ladder that is built into structure's sidewall, observing all precautions for safe and proper confined space entry. Note that the cartridge

deck may be slippery. Care should be taken to avoid stepping directly onto the cartridge heads or onto the backwash pool weir.

- A manual backflush of the cartridges is recommended to remove a high percentage of accumulated sediment from the filtration tentacles, restore flow capacity, and extend the service life of the cartridges. A Jellyfish Cartridge Backflush Pipe (12-inch diameter x 3-feet length threaded plastic pipe with flapper valve) may be purchased from Imbrium Systems that allows each cartridge to be selectively backwashed using water that is supplied from either (a) the previously decanted water stored in a vactor truck compartment; (b) clean water from a separate water truck delivered to the site; or (c) water from a nearby fire hydrant or other clean water source.
- Manual backflush procedure: Twist the threaded lid on the cartridge head counter-clockwise to remove the lid and expose the tentacle holes. Carefully screw in the threaded Jellyfish Cartridge Backwash Pipe over the exposed tentacle holes. Do not over-tighten. Fill the Pipe with water (approximately 16 gallons). Pull the cord to open the flapper valve and backflush the water through the cartridge. Refill the Pipe and backflush a second time. The full Pipe contents should drain within approximately 20 seconds to remove a high percentage of accumulated sediment and restore the flow capacity of the cartridge. Remove the Pipe and re-install the lid hand-tight.
- Inspection of cartridge after manual backflushing: After manually backwashing the first cartridge, a visual inspection of the filtration tentacles is recommended. With the threaded lid removed, lift the cartridge (using the lifting loops in the cartridge head) so that most or all of the filtration tentacle bundle is exposed. If upon visual inspection the degree or nature of any remaining sediment accumulation on the tentacles shows that the manual backwash was not effective, provisions must be made to replace all the spent cartridges with new cartridges as soon as possible. To re-commission a cleaned and regenerated cartridge, or to install a new cartridge, place the cartridge into the cartridge hole and re-install the threaded lid hand-tight to secure the cartridge.
- New cartridges are lightweight (less than 20 pounds), and can be easily lowered down to a worker on the cartridge deck. Care should be taken not to bend or otherwise damage the tentacles during the handling and installation procedures.
- For maximum safety, it is recommended that each spent cartridge be removed and replaced one at a time, such that there is never more than one cartridge hole exposed. Removable cartridge hole cover plates can be purchased from Imbrium Systems if required.
- Remove spent cartridges from the vessel.
- After cartridge service has been completed, the backflush water may be removed by vacuum hose.
- Re-fill the lower chamber with water where required by the local jurisdiction.

What is required for proper disposal?

- Disposal requirements for recovered pollutants and spent filter cartridges may vary depending on local guidelines. In most areas the sediment and spent filter cartridges, once dewatered, can be disposed of in a sanitary landfill. It is not anticipated that the sediment would be classified as hazardous waste.

What about oil spills?

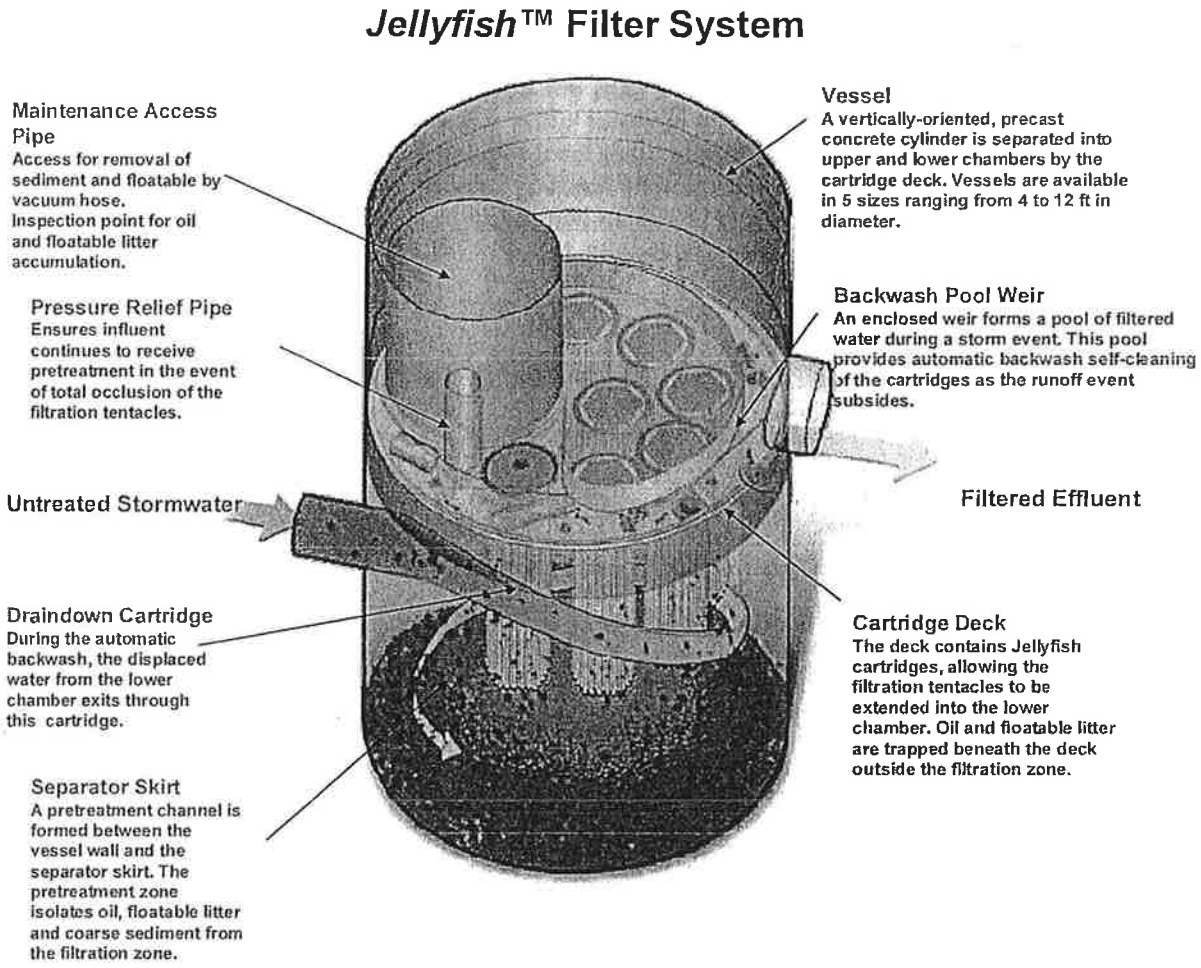
- Petroleum-based pollutants captured by the Jellyfish filter system (oil/chemical/fuel spills) should be removed and disposed of by a licensed waste management company.
- Although the Jellyfish filter system captures virtually all free oil, a sheen at the outlet **does not** mean the unit isn't working. A rainbow or sheen can be visible at oil concentrations of less than 10 mg/L (ppm).

What factors affect the costs involved with inspection/maintenance?

- Inspection and maintenance costs are based on unit size, cartridge count, sediment/oil/hazardous material loads, transportation distances, tipping fees, disposal requirements and other local regulations. Maintenance costs are anticipated to be substantially lower in instances where dirty cartridges are manually cleaned and re-commissioned rather than replaced with new cartridges.

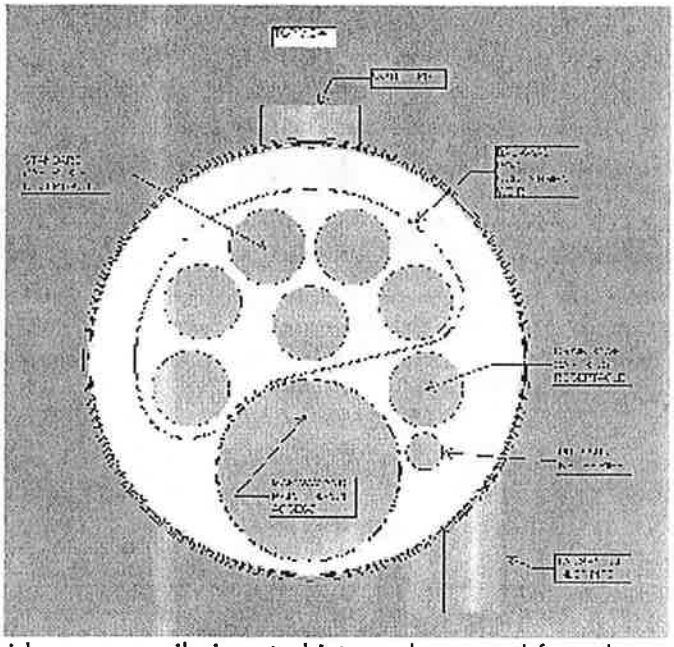
System schematic and component functions

Below is a schematic of the Jellyfish filter system with key components identified and their functions briefly described (6-ft diameter system is depicted).



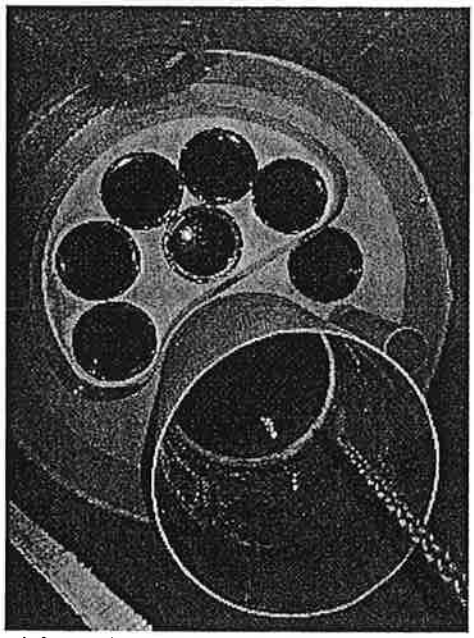
The Jellyfish filter system has no moving parts to wear out and therefore maintenance activities are generally focused on pollutant removal and filter cartridge service.



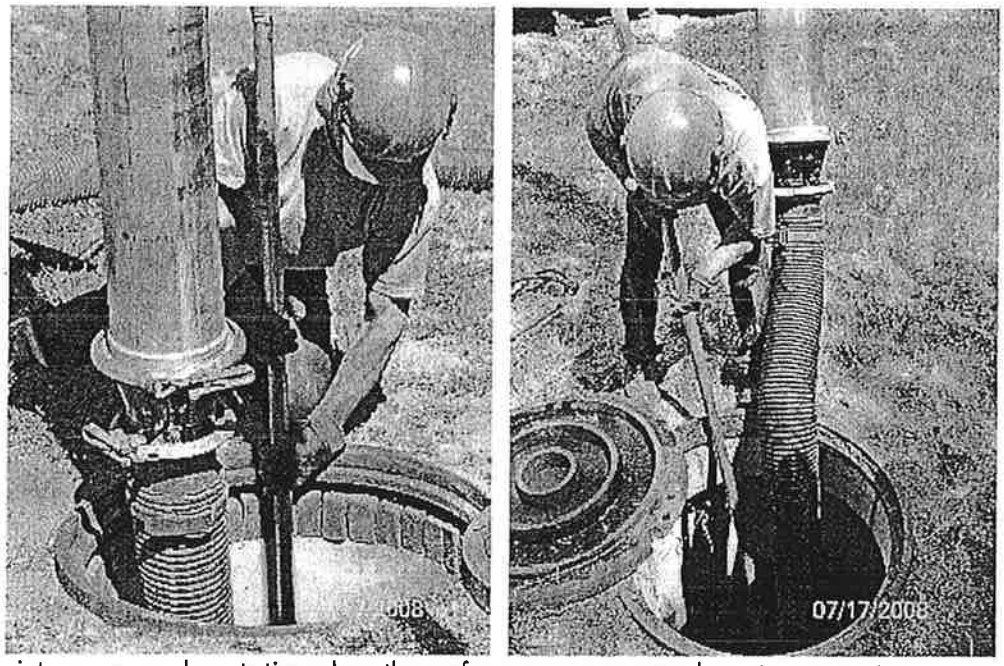


Lightweight Jellyfish filter cartridges are easily inserted into and removed from the cartridge deck by hand. The top view schematic (above right) and top view photo (below right) depict the 6-ft diameter system. Note the 6 standard cartridges enclosed by the kidney-shaped backwash pool weir. A single draindown cartridge is located outside the weir.





The depth of sediment and oil can be measured from the surface by using a sediment probe or dipstick tube equipped with a ball check valve and inserted through the 30-inch maintenance access pipe. This large port provides convenient access for inspection and vacuum removal of water and pollutants.



A maintenance worker stationed on the surface uses a vacuum hose to evacuate water, sediment, and debris from the system.

The benefits of regular inspection and maintenance are many – from ensuring maximum operation efficiency, to keeping maintenance costs low, to the continued protection of natural waterways – and provide the key to the Jellyfish filter system's long and effective service life.

Ordering Replacement Parts

Jellyfish filter cartridges, cartridge hole cover plates, Jellyfish Cartridge Backflush Pipes (for manual backflushing), and other system components can be ordered by contacting:

Imbrium Systems Corporation
1-888-279-8826
www.imbriumsystems.com

(revised 5-29-09)

Appendix J

Tidal Datum Analysis

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ENGINEERING & ENVIRONMENTAL SERVICES

Memorandum

River Drive Center 1 Elmwood Park, NJ 07407 T: 201.794.6900 F: 201.794.0366

TO: 100234201 File

FROM: Daniel Jerram

DATE: 22 December 2011

RE: **Berry's Creek Tidal Data**
American Dream
East Rutherford, NJ
Langan Project No.: 100234201

Tidal Datum for the project site was calculated from the following:

Published data for tidal station ID # 8530464, "Carlstadt Berry's Creek #3, New Jersey," provided by the NOAA web site. Tidal benchmark elevation data in NGVD 29 datum for this station provided by the NGS web site. NGS tidal benchmarks used were PID# KV3456, survey disk stamped "4-3 1973" el.=5.74' (NGVD 29), and PID# KV3457, survey disk stamped "4-1 1973" El.=7.84' (NGVD 29). Elevations between NAVD 88 and NGVD 29 Datums were based on a conversion using CORPSCON software, adding a value of 1.04 to NAVD 88 Elevations to obtain elevations in NGVD 29 Datum.

Datum	NAVD 88 Data	NGVD 29 Data
Highest Observed Water Level	5.19	6.23
Spring High Water	2.85	3.89
Mean High Water	2.40	3.44
Mean Tide Level	-0.37	0.67
Mean Low Water	-3.15	-2.11
Lowest Observed Water Level	-6.13	-5.09

APPENDIX D

FLOOD STUDY ENGINEERING REPORT

Flood Study Engineering Report

AMUSEMENT PARK AND WATER PARK PROJECT
AMERICAN DREAM MEADOWLANDS

Block 107.02, Lot 3
Borough of East Rutherford
Bergen County, New Jersey

Submitted To:

New Jersey Department of Environmental Protection
Division of Land Use Regulation
501 East State Street
P.O. Box 420
Trenton, NJ 08625

Prepared For:

Metro Central, LLC
c/o Triple Five Development
60 East Broadway
Bloomington, MN 55425

Prepared By:

Langan Engineering & Environmental Services, Inc.
River Drive Center 1
Elmwood Park, NJ 07407
NJ Certificate of Authorization No.: 24GA27996400

12/29/11
Bryan M. Waisnor, P.E.
New Jersey License No. GEO4590400

29 December 2011
100234201

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1.0 INTRODUCTION

1.1 Scope

This report presents the flood study analysis for a Flood Hazard Area Verification for the Amusement Park and Water Park Project site. The subject site comprises 21.75 acres in East Rutherford, Bergen County, New Jersey and is identified as Block 107.02, Lot 3. Refer to figures 1, 2, and 3 for the site location, vicinity map, and aerial photograph of the site respectively. This report serves as the Engineering Report for a New Jersey Department of Environmental Protection (NJDEP) Flood Hazard Area Permit application for the site. The study is in accordance with the following:

- NJDEP Flood Hazard Area Control Act Rules (N.J.A.C. 7:13);
- NJDEP Draft Flood Hazard Technical Manual (December 2008);
- NJDEP Stormwater Management Rules (N.J.A.C. 7:8); and,
- NJDEP New Jersey Stormwater Best Management Practices Manual.

As part of this report a flood analysis confirms that the flooding conditions on-site are controlled by the tide and not by fluvial events.

1.2 Site Description

In early 2011, Triple Five Development (Triple Five) entered into an agreement to purchase the main component (Entertainment/Retail Component (ERC)) of the former Meadowlands Xanadu Redevelopment Project site located at the Arena Site of the Meadowlands Sports Complex in East Rutherford, Bergen County, New Jersey. The Xanadu project has since been renamed "American Dream Meadowlands." Triple Five intends to complete the ERC building, with minor modifications, and build a new entertainment component consisting of an integrated indoor Amusement Park and Water Park facility immediately adjacent to and connecting to the ERC.

The portion of the American Dream Meadowlands property site that is proposed for the Amusement Park and Water Park Project (Project) is the subject of this NJDEP Flood Study Engineering Report. The Amusement and Water Park is proposed to be constructed on property located to the south of the Arena Site known as the "Radio Tower Site" (Figures 1, 2 and 3).

The approximate center point of the property is 40.806905° N, 74.070072° W. The Radio Tower Site is located in the Hackensack Meadowlands District and is designated as Block 107.02, Lot 3 on the East Rutherford Tax Map (Figure 4). The property is bound to the north by the "East Peripheral Road," to the east by the New Jersey Turnpike, to the south by NJ State Route 3, and to the west by NJ State Route 120.

The property is presently developed with three, 500±foot high steel lattice radio transmission towers, access roads and radio transmission building (see Figure 3). The three radio towers are aligned in a southwest to northeast orientation near the central portion of the property. The transmission building, associated parking, and access driveways are found in the southern and western sections of the property. There are no other structures on the property.

1.3 Project Description

The radio towers are no longer operational and will be taken down. The operation of the towers was moved to a site in North Bergen. The radio tower transmission building will also be razed as part of the project. The existing roadways (South Connector Road and East Peripheral Road) on the Arena Site will be retained and will remain as main circulation roads for vehicles at the Meadowlands Sports Complex.

The site will be improved with a proposed indoor Amusement Park and Water Park facility contained within one structure of approximately 639,000 square feet gross buildable area (GBA). The structure will be comprised of a 554,000 sf, ground-floor building footprint, a 79,000 sf mezzanine area, and a 6,000 sf pedestrian bridge (partly offsite). Total onsite covered area will be approximately 577,000 sf. The Amusement Park and Water Park Project, including the perimeter access road around the building, wet pond, and grading will have a total onsite area of approximately 19 acres (refer to the Site plan -Drawing CS-101-0101).

A perimeter access road will be constructed around the building to allow for access to the exterior of the building for maintenance and fire/emergency purposes. This access road will connect to the East Peripheral Road through a new entrance/exit just north of the Observation Wheel and at the loading dock area. The access road will also provide access to doors on the buildings that will allow unloading of new ride equipment for both parks.

2.0 REGULATORY REQUIREMENTS

2.1 Flood Hazard Area Verification

The majority of the site is located within the FEMA-mapped 100-year tidal floodplain of the Hackensack River (elevation 8.7). All elevations cited in this report are referenced to NGVD 29. Refer to figures 5 and 6 for the HUC-14 watershed and FEMA maps. As such, Method 2 (FEMA tidal method) was used to determine the regulated tidal flood hazard area on the radio tower site and the project study area of the New Jersey Turnpike (Drawing WF101-0101 – Flood Hazard Area Verification Plan).

In addition to the tidal floodplain of the Hackensack River, the unnamed tributary to the Hackensack River in the eastern portion of the site has a contributory drainage area greater than 50 acres, and as such, pursuant to the Flood Hazard Area Control Act Rules (N.J.A.C. 7:13), has its own regulatory fluvial flood hazard area associated with it. Refer to Figure 5.

Stormwater runoff from the eastern portion of the site is drained primarily via overland flow to onsite wetlands that drain to onsite tributaries to the Hackensack River. The tributaries are routed beneath the Turnpike via the 108-inch RCP and 96-inch corrugated metal pipe (CMP) which then discharge to the Hackensack River. The 108-inch pipe discharges to the Cedar Creek tributary, the 96-inch pipe drains to an unnamed tributary.

As discussed with the NJDEP Division Land Use Regulation at a September 2011 pre-application meeting, a fluvial flood study of the unnamed tributary was performed to identify the extent of the fluvial flood hazard area associated with this surface water. A fluvial flood study of Cedar Creek was not performed since that water feature was not on the Radio Tower Site (the 108-inch culvert and Cedar Creek was analyzed as part of the Meadowlands Xanadu Redevelopment project permitting and planning in 2004).

As per NJAC 7:13-3.6(c), the flood hazard area and floodway may be determined using Method 6: Calculation Method. The flood hazard area is determined based on the peak flow rate assuming existing conditions in the drainage area. Because the

unnamed tributary has a fluvial flood hazard area, the peak flow used in the analysis is 125% of the 100-year flow rate.

The floodway is determined using the unadjusted 100-year peak flow rate assuming existing conditions in the drainage area and a maximum rise of 0.2 ft in the flood elevation.

An approximate 0.03-acre ditch is present in the southwestern corner of the property along Route 120 (refer to the Grading and Drainage plan -Drawing CG-101-0101). Except under extreme storm events, the ditch does not hydraulically connect to the unnamed tributary which discharges to the 96-inch culvert. The contributory drainage area to this ditch is less than 50 acres and as such does not have a regulated fluvial flood area associated with it.

3.0 DESIGN METHODOLOGIES

Below is a summary of the methodologies of the major elements of the design of the storm water management system.

3.1 Hydrology Methodology

This fluvial study of the unnamed tributary to the Hackensack River was prepared using the SCS Method as contained in the USDA Soil Conservation Service Publication TR-55 "Urban Hydrology for Small Watersheds". TR-55 outlines procedures for calculating peak rates of runoff resulting from precipitation events and procedures for developing runoff hydrographs. The TR-55 procedure simulates a watershed using the drainage area, curve number (CN), and time of concentration (Tc) for each watershed.

The curve number is a land sensitive coefficient that dictates the relationship between total rainfall depth and direct storm runoff. Based on the coverage of soil groups and land use in the area, CN values were determined for each watershed for the existing conditions.

Using the NRCS Soil Survey the soils within the watershed were divided into hydrologic soil groups (A, B, C and D). The SCS classification system evaluates the runoff potential of a soil according to its infiltration and transmission rates. "A" soils have the lowest runoff potential and "D" soils have the greatest runoff potential.

The time of concentration is defined as the time for runoff to travel from the hydraulically most distant point of the watershed to a point of interest. Values of the time of concentration were determined for existing and proposed conditions based on land cover and slope of the flow path using methods described in TR-55.

A minimum time of concentration of six minutes was used for each watershed. The design storm used for the TR-55 analysis is the 24-hour SCS Type III cumulative rainfall distribution. Rainfall data was based on rainfall amounts developed from the "Precipitation-Frequency Atlas of the United States" National Oceanic and Atmospheric Administration (NOAA) Atlas 14, Volume 2, Version 2 as referenced in NRCS NJ Bulletin No NJ210-4-1, dated September 8, 2004. The rainfall amounts for the 2, 10, and 100-year storms are 3.3, 5.1, and 8.4 inches respectively.

3.2 Flood Hazard Area Determination Methodologies

As per NJAC 7:13-3.6(c), the flood hazard area and floodway may be determined using Method 6: Calculation Method. The flood hazard area is determined based on the peak flow rate assuming existing conditions in the drainage area. The peak flow used in the fluvial flood hazard area analysis is 125% of the 100-year flow rate.

To assess the nature of the unnamed tributary, Langan performed a field survey to define the exact limits (i.e., bed and bank) of the surface water feature. The bed and bank and extent of the water feature are shown on Flood Hazard Area Verification Plan - Drawing WF101-0101.

As discussed with the NJDEP Land Use Regulation Program, since the intent of the fluvial flood study of this tributary is to determine if the flood hazard area of the tributary is controlled by the tide or by fluvial events, a tailwater equal to the Mean Low Water elevation (-2.11) of the Hackensack River to eliminate tidal affects in the analysis was used. The floodway is determined using the unadjusted 100-year peak flow rate assuming existing conditions in the drainage area and a maximum rise of 0.2 ft in the flood elevation.

The unnamed tributary contains a very short section of channelized flow (less than 200 linear feet), which is poorly defined. In addition to this area is defined by a wide floodplain with a downstream constriction (the 96-inch culvert). Based on these conditions, a standard culvert analysis treating the area as a pond with a culvert

discharge is more appropriate than standard step backwater analysis. To be conservative, the analysis assumes no onsite storage is available to attenuate the flow and conveys all onsite and offsite flows directly to the unnamed tributary. Refer to the Grading and Drainage plan (Drawing CG-101-0101) for existing and proposed grades.

4.0 EXISTING CONDITIONS

4.1 Existing Drainage Characteristics

The Amusement Park and Water Park Property is flat, partially covered by wetlands, and partially located in the Hackensack River tidal floodplain (elevation 8.7). Refer to figures 5 and 6 for the HUC-14 watershed and FEMA maps. During less intense storms, local flooding occurs because of flat areas and localized depressions. During extreme storms a significant portion of the site floods. In addition to stormwater generated from rainfall on the site, a portion of Route 120 and the American Dream Meadowlands Entertainment Retail Center (ERC) drains to the Radio Tower Site via two 36-inch culverts at the northwest corner of the site and via a 60-inch culvert near the northeast corner of the site.

Stormwater runoff from the western portion of the Property site, portions of Route 120, and the ERC ponds in ditches and low-lying areas of the site adjacent to Route 120 where it evaporates and/or infiltrates over time. There appears to be no direct surface water conveyance of this runoff.

Stormwater runoff from the eastern portion of the site is drained primarily via overland flow which flow to onsite wetlands which eventually drain to unnamed onsite tributaries to the Hackensack River. The tributaries are routed beneath the Turnpike via the 108-inch and 96-inch corrugated metal pipes (CMP) which then discharge to the Hackensack River.

Under extreme storm events, ponded stormwater on the western portion of the site overflows onto the eastern portion of the site towards the 96-inch culvert. The 108-inch pipe was analyzed as part of the ERC permitting and planning. A roadway drainage feature is located at the far western edge of the Radio Tower Site, but is not considered a regulated water since it has a drainage area less than 50 acres and is a man-made stormwater management feature of the local roads. (See Grading and Drainage plan (Drawing CG-101-0101)).

Several wetland areas are present on the site. In addition, tidal wetland areas are present within the New Jersey Turnpike right-of-way where offsite drainage improvements are proposed as part of the Amusement Park and Water Park Project. Portions of site become inundated during high-tide events. During low tides, the site drains and becomes relatively free of standing water except in low lying portions of the site. The spring high water elevation in the vicinity of the site is elevation 3.89. Refer to Figure 7- Existing Fluvial Watershed Area Map for the existing flow characteristics under the 100-year storm plus 25 percent.

Existing Drainage Areas				
Drainage Areas*	Total Area (Ac.)	Pervious (Ac.)	Impervious (Ac.)	Composite CN
EX-1B (to EX-1A)	7.1	7.0	0.1	88
EX-1A (to 96-inch)	19.5	18.0	1.5	89

5.0 PROPOSED CONDITIONS

5.1 Proposed Drainage Characteristics

Overall drainage patterns on the site will not be changed. The entire site will continue to discharge into the unnamed tributaries and the culverts under the Turnpike. A new conveyance system has been designed to convey flows that drain on the site, the roof run-off, and the flows that enter the system from off-site contributory areas to the culverts. Refer to the Grading and Drainage plan (Drawing CG-101-0101), which shows the proposed conveyance system.

The conveyance system is sized for the 25-year storm in accordance with New Jersey Meadowlands Commission requirements and designed to meet NJDEP 7:8. A wet pond and manufactured treatment device treat the stormwater for water quality as required in NJAC 7:8.

Based on a pre-application meeting with NJDEP, a downstream analysis of the channels downstream of the Turnpike is not required as there are no buildings or developed properties downstream that might be impacted by increased flooding. Refer to Figure 8- Proposed Fluvial Watershed Map for the proposed flow characteristics under the 100-year storm plus 25%.

Proposed Drainage Areas				
Drainage Areas*	Total Area (Ac.)	Pervious (Ac.)	Impervious (Ac.)	Composite CN
PR-1A (to PR-1B)	15	0.6	14.4	97
PR-1B (to 96-inch)	14.5	11.9	2.6	90

*The proposed development will impact the boundary of the existing overall watersheds on the site. The proposed site layout decreases the area that drains to the 108-inch culvert by approximately 3 acres and increases the area that drains to the 96-inch culvert respectively. No developed portions of the site will drain to the 108-inch culvert.

6.0 REGULATORY COMPLIANCE

6.1 Flood Hazard Area Verification

The results of the fluvial flood analysis show that the existing fluvial floodplain is at elevation 3.42 ft which is several feet below the tidal floodplain (elevation 8.7) and thus does not control. Refer to Figure 9 - Existing Flood Study Plan which shows the extents of the existing tidal and fluvial floodplains on the site. The proposed fluvial floodplain is at elevation 3.94 ft which is several feet below the tidal floodplain (elevation 8.7) and thus does not control. Refer to Figure 10 - Proposed Flood Study Plan which shows the extents of the proposed tidal and fluvial floodplains on the site. The tidal flood hazard area boundary depicted on this plan was delineated using method 2 (FEMA tidal method) pursuant to N.J.A.C. 7:13 -3.4(d).

A hydraulic analysis was performed to determine the fluvial floodway using the 100-year flow rate and assume a maximum rise of 0.2 feet in the 100-year flood elevation. The 96-inch culvert controls the backwater elevation onsite. The fluvial floodway analysis results in a backwater elevation of 3.24 feet onsite for the existing conditions (0.18 feet below the calculated existing Fluvial Flood Hazard Area elevation) so the extent of the floodway very closely coincides with the fluvial flood hazard area. Refer to Figure 9 - Existing Flood Study Plan.

Appendices A and B contain the calculations performed to derive the fluvial floodplain and floodway. The results of the analysis confirm that the tidal floodplain determines NJDEP's jurisdiction. Refer to the Stormwater Management report prepared for this site for the calculations and analysis of the site under tidal flooding.

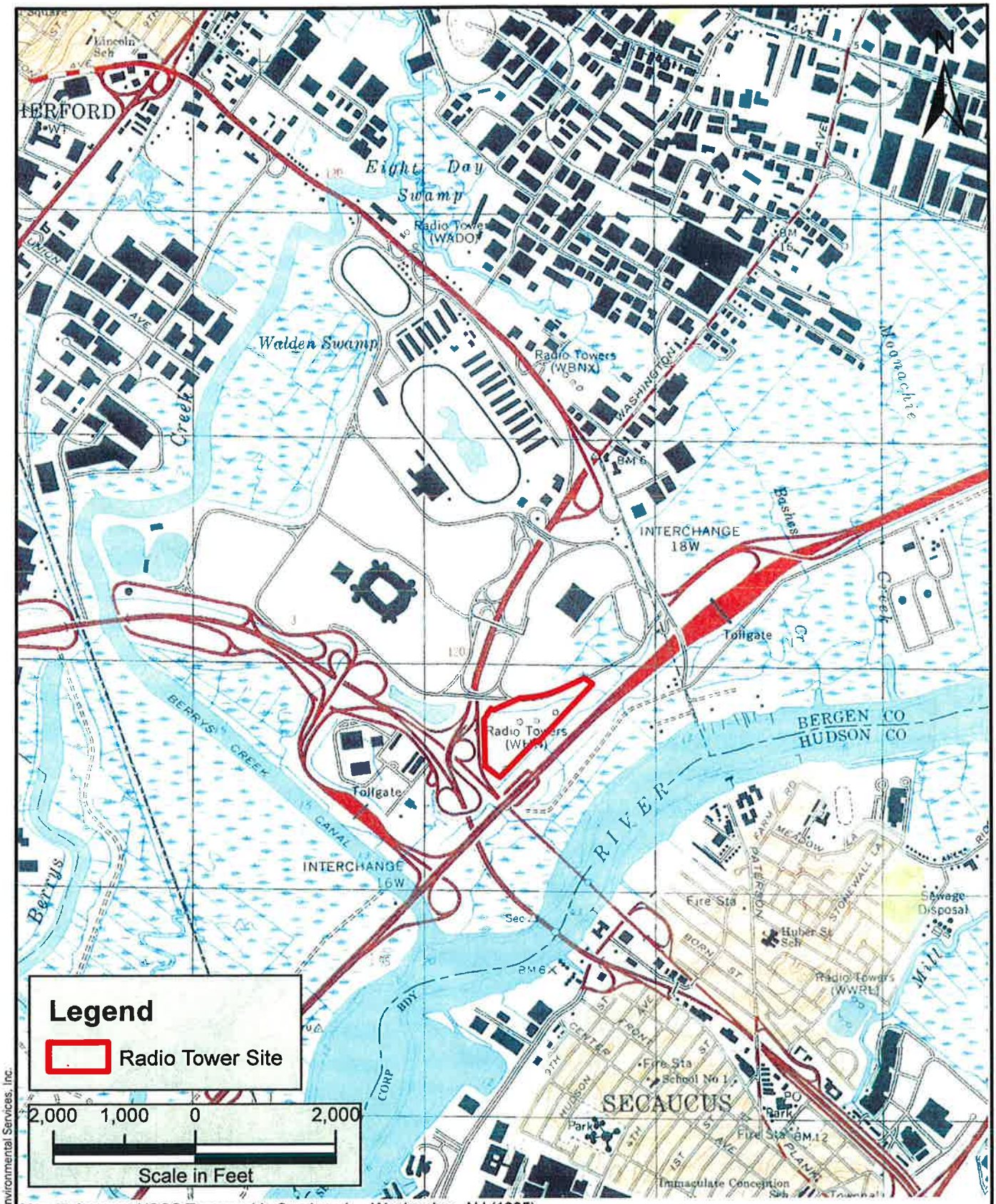
7.0 CONCLUSION

To construct the Amusement Park and Water Park Project, approximately 13 acres of low-lying area currently found within the 100-year tidal floodplain on site will be filled to a base elevation of approximately 12 feet. Because the 100-year floodplain is governed by tidal flooding, proposed filling of low-lying sections in the flood hazard area will have a negligible effect on current regional flooding conditions within the overall Hackensack River floodplain. This is because the reductions in flood storage volume resulting from development within the 100-year tidal floodplain on this site are minor in comparison to the magnitude and extent of the 100-year tidal flood from the tidal water body.

A flooding analysis performed for this site confirms that the flooding conditions on-site are controlled by the tide and not by fluvial events. The results of this study indicate that the applicable design performance standards of the NJDEP Flood Hazard Area Control Act rules have been met for the American Dream Meadowlands Amusement Park and Water Park project site. The design is in accordance with the following:

- NJDEP Flood Hazard Area Control Act Rules (N.J.A.C. 7:13);
- NJDEP Draft Flood Hazard Technical Manual (December 2008);
- NJDEP Stormwater Management Rules (N.J.A.C. 7:8); and,
- NJDEP New Jersey Stormwater Best Management Practices Manual.
- The ordinance of the New Jersey Meadowlands Commission, code section 19:4-8.6, Drainage.

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Map Reference: USGS Topographic Quadrangle - Weehawken, NJ (1995)

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NJ Certificate of Authorization No: 24GA27996400

USGS SITE LOCATION MAP

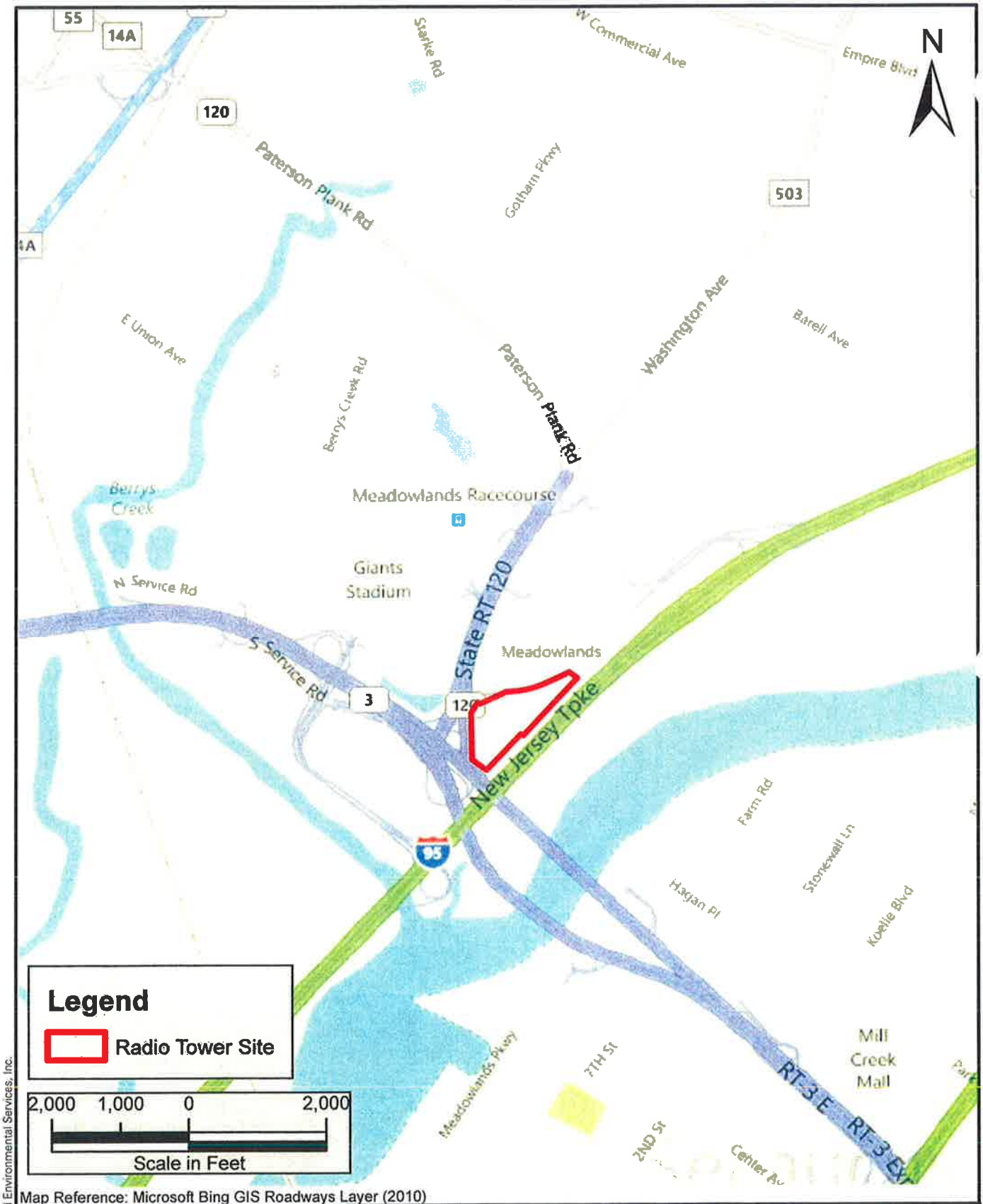
AMUSEMENT PARK AND WATER PARK
AMERICAN DREAM MEADOWLANDS
BLOCK 107.02, LOT 3

EAST RUTHERFORD NEW JERSEY

Project No.	Date	Scale	Figure No.
100234201	11/03/11	1"= 2000'	1

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\\langan.com\data\EP\data2\100234201\ArcGIS\MXD_MapDocuments\NJDEP Multi-Permit\MXD\Figure 1 - Site Location Map.mxd



Map Reference: Microsoft Bing GIS Roadways Layer (2010)

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NJ Certificate of Authorization No: 24GA27996400

VICINITY MAP

AMUSEMENT PARK AND WATER PARK
AMERICAN DREAM MEADOWLANDS
BLOCK 107.02, LOT 3

EAST RUTHERFORD NEW JERSEY

Project No.	Date	Scale	Figure No.
100234201	11/03/11	1"= 2000'	2

\\langan.com\data\E...\100234201\ArcGIS\MXD_MapDocuments\NJDEP Multi-Permit\MXD\Figure 2 - Vicinity Map.mxd



Map Reference: Promaps Inc., Moorestown, NJ - Flyover Aerial Photography (6-2011)

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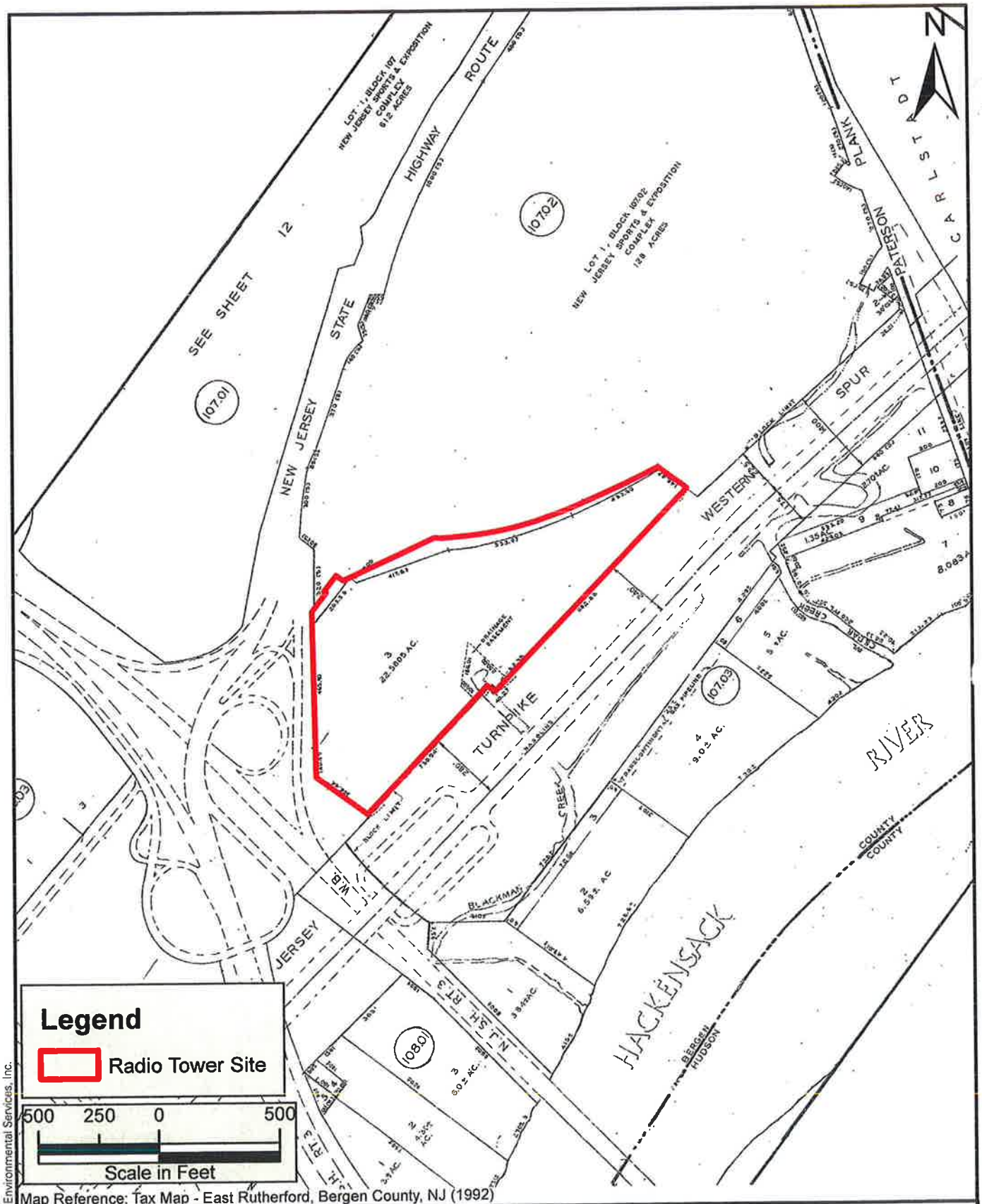
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AERIAL PHOTOGRAPH

AMUSEMENT PARK AND WATER PARK
AMERICAN DREAM MEADOWLANDS
BLOCK 107.02, LOT 3

EAST RUTHERFORD NEW JERSEY

Project No.	Date	Scale	Figure No.
100234201	11/03/11	1"= 500'	3



Map Reference: Tax Map - East Rutherford, Bergen County, NJ (1992)

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TAX MAP

AMUSEMENT PARK AND WATER PARK
AMERICAN DREAM MEADOWLANDS
BLOCK 107.02, LOT 3

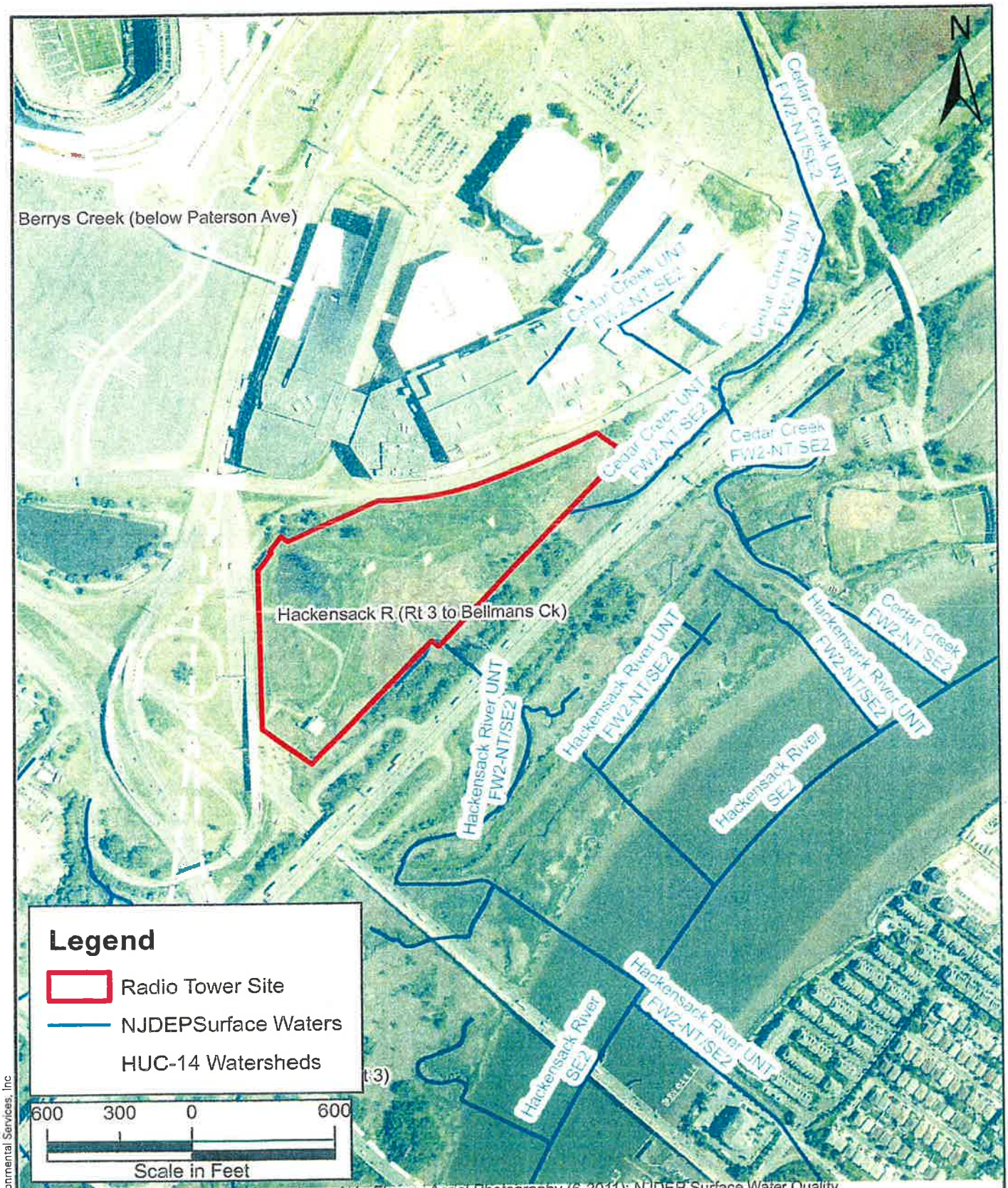
EAST RUTHERFORD NEW JERSEY

Project No.	Date	Scale	Figure No.
100234201	11/03/11	1"= 500'	4

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a:\100234201\ArcGIS\MXD_MapDocuments\NJDEP Multi-Permit\MXD\Figure 4 - Tax Map.mxd

\\langan.com\data\



Map Reference: Promaps Inc., Moorestown, NJ - Flyover Aerial Photography (6-2011); NJDEP Surface Water Quality Standards GIS Data (2011); NJDEP HUC-14 Watershed Boundaries (2010)

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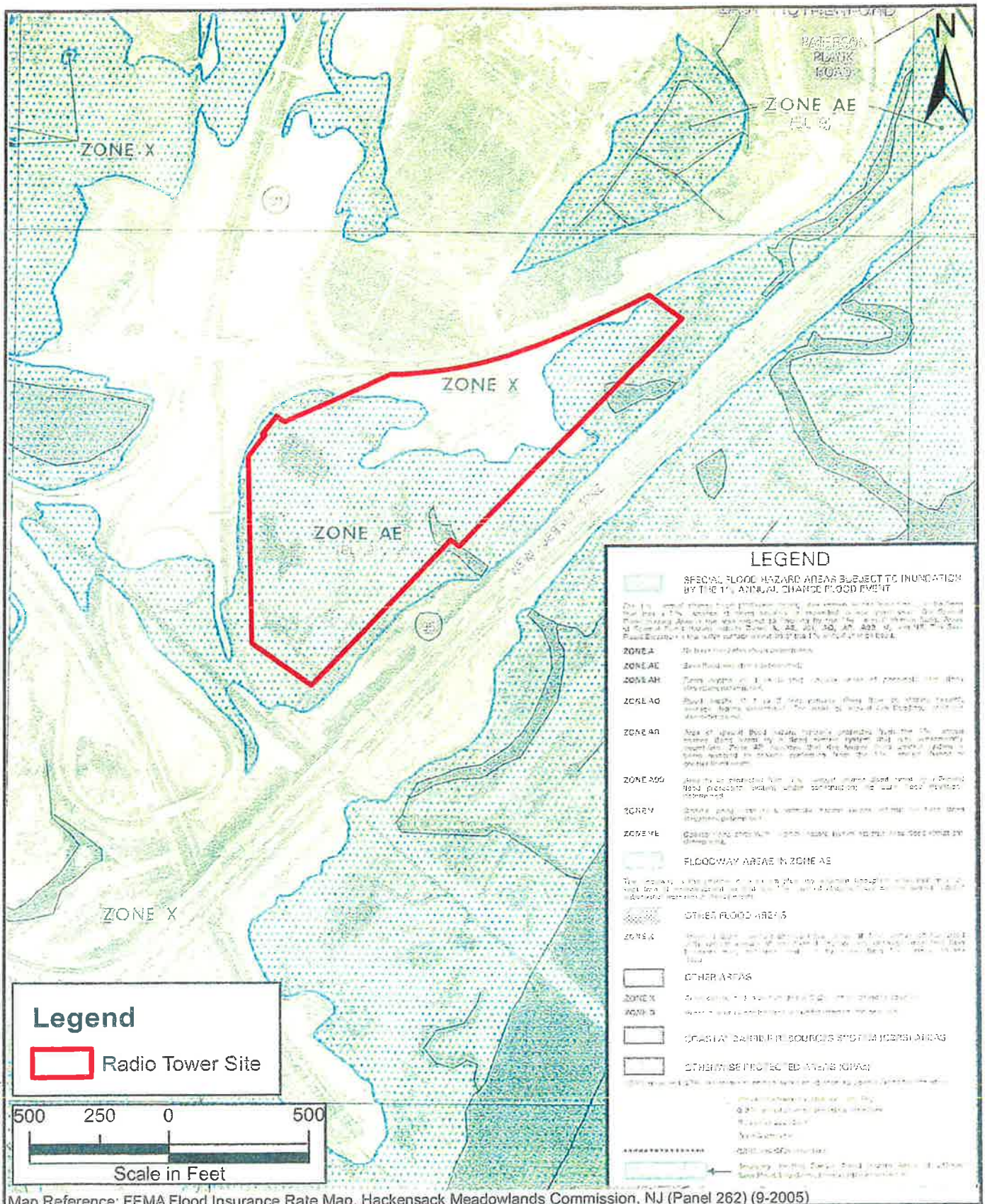
HUC 14 WATERSHED MAP

AMUSEMENT PARK AND WATER PARK
AMERICAN DREAM MEADOWLANDS
BLOCK 107.02, LOT 3

EAST RUTHERFORD NEW JERSEY

Project No.	Date	Scale	Figure No.
100234201	11/03/11	1"= 600'	5

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Map Reference: FEMA Flood Insurance Rate Map, Hackensack Meadowlands Commission, NJ (Panel 262) (9-2005)

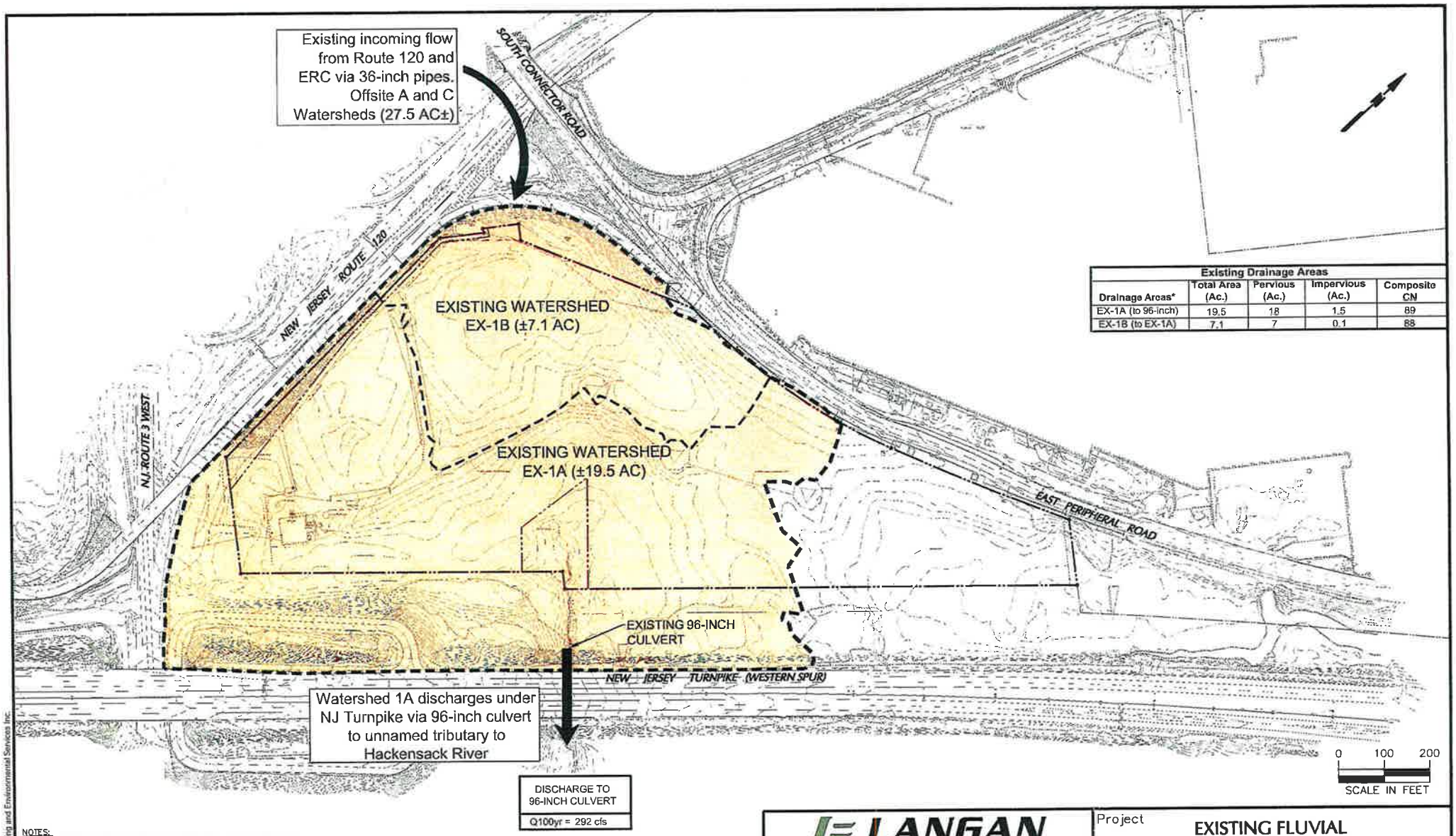
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FEMA MAP
AMUSEMENT PARK AND WATER PARK
AMERICAN DREAM MEADOWLANDS
BLOCK 107.02, LOT 3

EAST RUTHERFORD NEW JERSEY

Project No.	Date	Scale	Figure No.
100234201	11/03/11	1"= 500'	6

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Existing Drainage Areas				
Drainage Areas*	Total Area (Ac.)	Pervious (Ac.)	Impervious (Ac.)	Composite CN
EX-1A (to 96-inch)	19.5	18	1.5	89
EX-1B (to EX-1A)	7.1	7	0.1	88

NOTES:
1. ALL ELEVATIONS REFERENCE THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD29).
2. THE TAILWATER CONDITION USED FOR THIS ANALYSIS WAS A MEAN LOW WATER IN THE HACKENSACK RIVER EQUAL TO ELEVATION −2.11 (NGVD29).
3. ERC= AMERICAN DREAM MEADOWLANDS ENTERTAINMENT RETAIL COMPLEX (FORMERLY KNOWN AS XANADU).
4. THE STORM EVENT USED FOR THIS ANALYSIS IS THE 100YR STORM PLUS 25 PERCENT

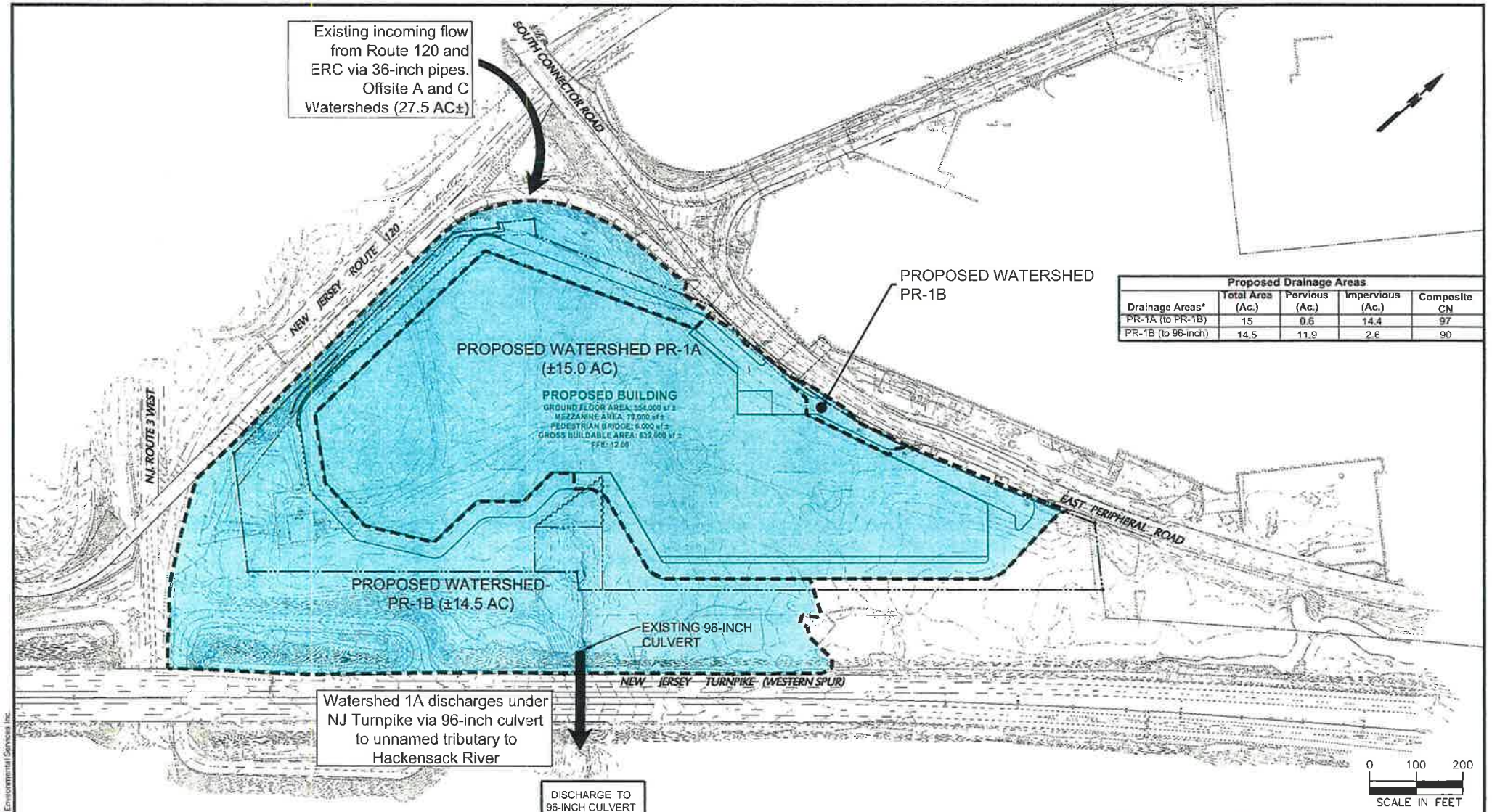
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Project
EXISTING FLUVIAL WATERSHED AREA MAP
AMUSEMENT PARK AND WATER PARK PROJECT
BERGEN NEW JERSEY

Project No.	Date	Scale	Dwg. No.
1001234201	12/29/11	1"=120'	7

Filename: \\langan.com\data\EP\data2\100234201\Cadd Data - 100234201\SheetFiles\Figures\NJDEP Reports\FG07-100234201-Existing Watershed Area Map.dwg Date: 12/28/2011 Time: 13:11 User: jaldenburger Style Table: Langan.stb Layout: B Size Sheet (Bottom)



Proposed Drainage Areas

Drainage Areas*	Total Area (Ac.)	Pervious (Ac.)	Impervious (Ac.)	Composite CN
PR-1A (to PR-1B)	15	0.6	14.4	97
PR-1B (to 96-inch)	14.5	11.9	2.6	90

NOTES:
1. ALL ELEVATIONS REFERENCE THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD29).
2. THE TAILWATER CONDITION USED FOR THIS ANALYSIS WAS A MEAN LOW WATER IN THE HACKENSACK RIVER EQUAL TO ELEVATION -2.11 (NGVD29).
3. ERC= AMERICAN DREAM MEADOWLANDS ENTERTAINMENT RETAIL COMPLEX (FORMERLY KNOWN AS XANADU).
4. THE STORM EVENT USED FOR THIS ANALYSIS IS THE 100YR STORM PLUS 25 PERCENT

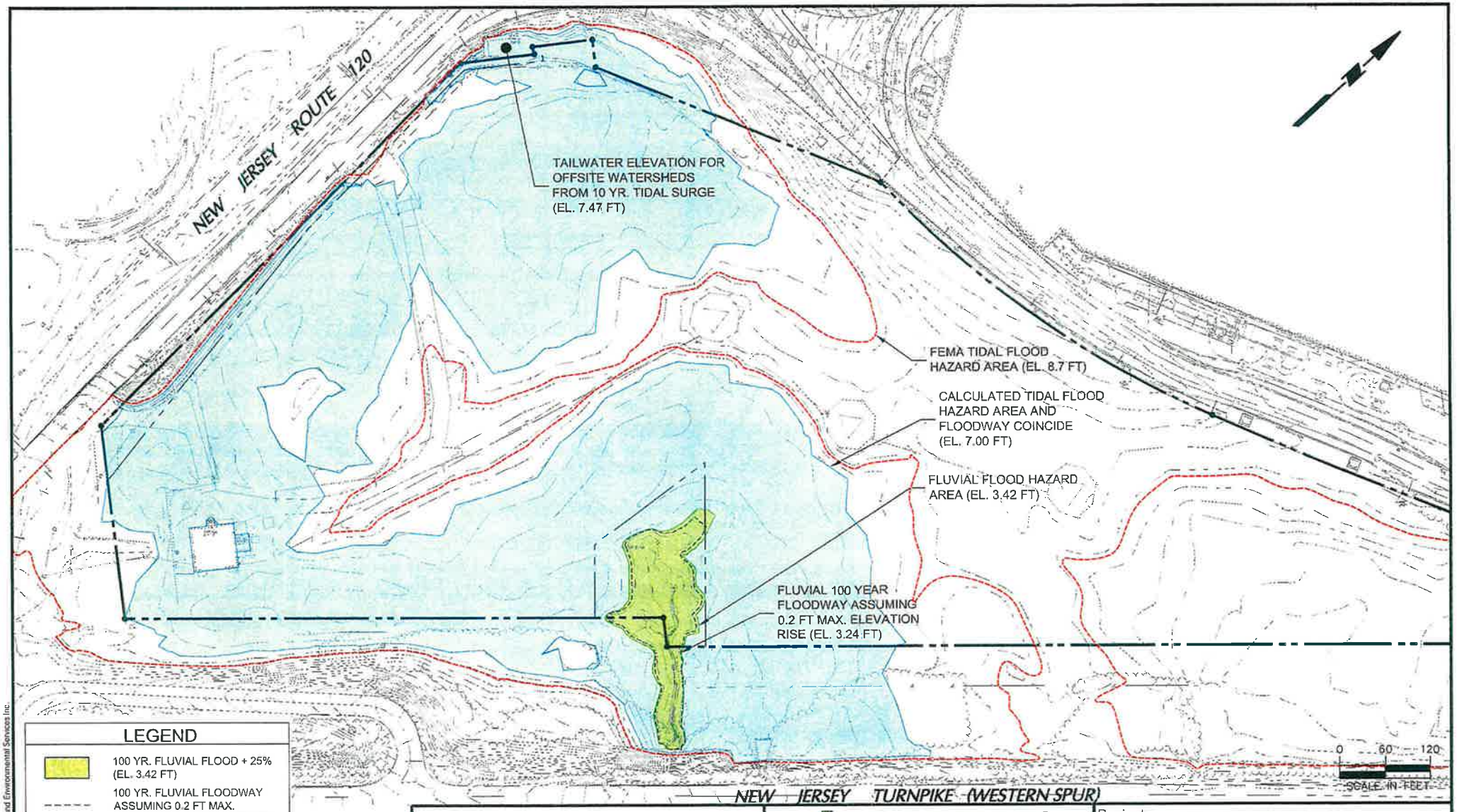
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Project
PROPOSED FLUVIAL WATERSHED AREA MAP
AMUSEMENT PARK AND WATER PARK PROJECT
BERGEN NEW JERSEY

Project No.	Date	Scale	Dwg. No.
1001234201	12/29/11	1"=120'	8

Filename: \\langan.com\data\EP\data2\100234201\Cadd Data – 100234201\SheetFiles\Figures\NJDEP Reports\FG08-100234201-Proposed Watershed Area Map.dwg Date: 12/28/2011 Time: 13:13 User: joldenburger Style Table: Langan.stb Layout: B Size Sheet (Bottom)



LEGEND

- 100 YR. FLUVIAL FLOOD + 25% (EL. 3.42 FT)
- 100 YR. FLUVIAL FLOODWAY ASSUMING 0.2 FT MAX. ELEVATION RISE (EL. 3.24 FT)
- FEMA TIDAL FLOOD HAZARD AREA (EL. 8.7 FT)
- 100 YR. FLOOD + 10 YR. TIDAL SURGE (EL. 7.00 FT)

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Bryan M Wai 12/29/11

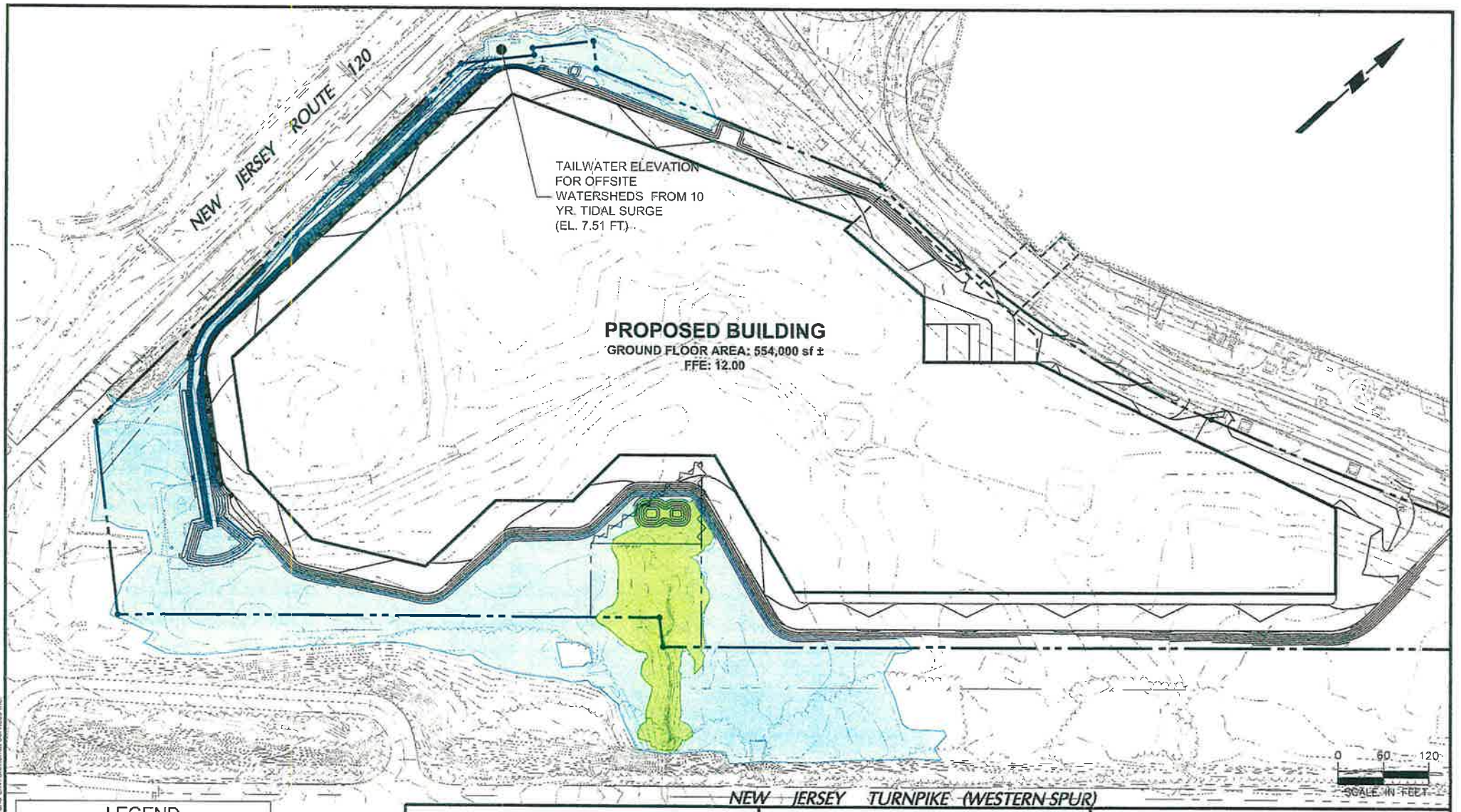
NAME: BRYAN M WAISNOR
PROFESSIONAL ENGINEER
NJ LIC. No. GE04590400
DATE

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Project
FLOOD STUDY PLAN EXISTING CONDITIONS
AMUSEMENT PARK AND WATER PARK PROJECT
BERGEN NEW JERSEY

Project No.	Date	Scale	Dwg. No.
1001234201	12/29/11	1"=120'	9

Filename: \\langan.com\data\EP\data2\100234201\Cadd Data – 100234201\SheetFiles\Figures\N.JDEP Reports\FG09-100234201-Existing Flood Study Plan.dwg Date: 12/28/2011 Time: 13:16 User: goldenburger Style Table: Langan.stb Layout: B Size Sheet (Bottom)



LEGEND

- 100 YR. FLUVIAL FLOOD + 25% (EL. 3.94 FT)
- 100 YR. FLOOD + 10 YR. TIDAL SURGE (EL. 7.25 FT)

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Bryan Waisnor 12/29/11

NAME BRYAN M WAISNOR PROFESSIONAL ENGINEER NJ LIC. No. GE04590400 DATE

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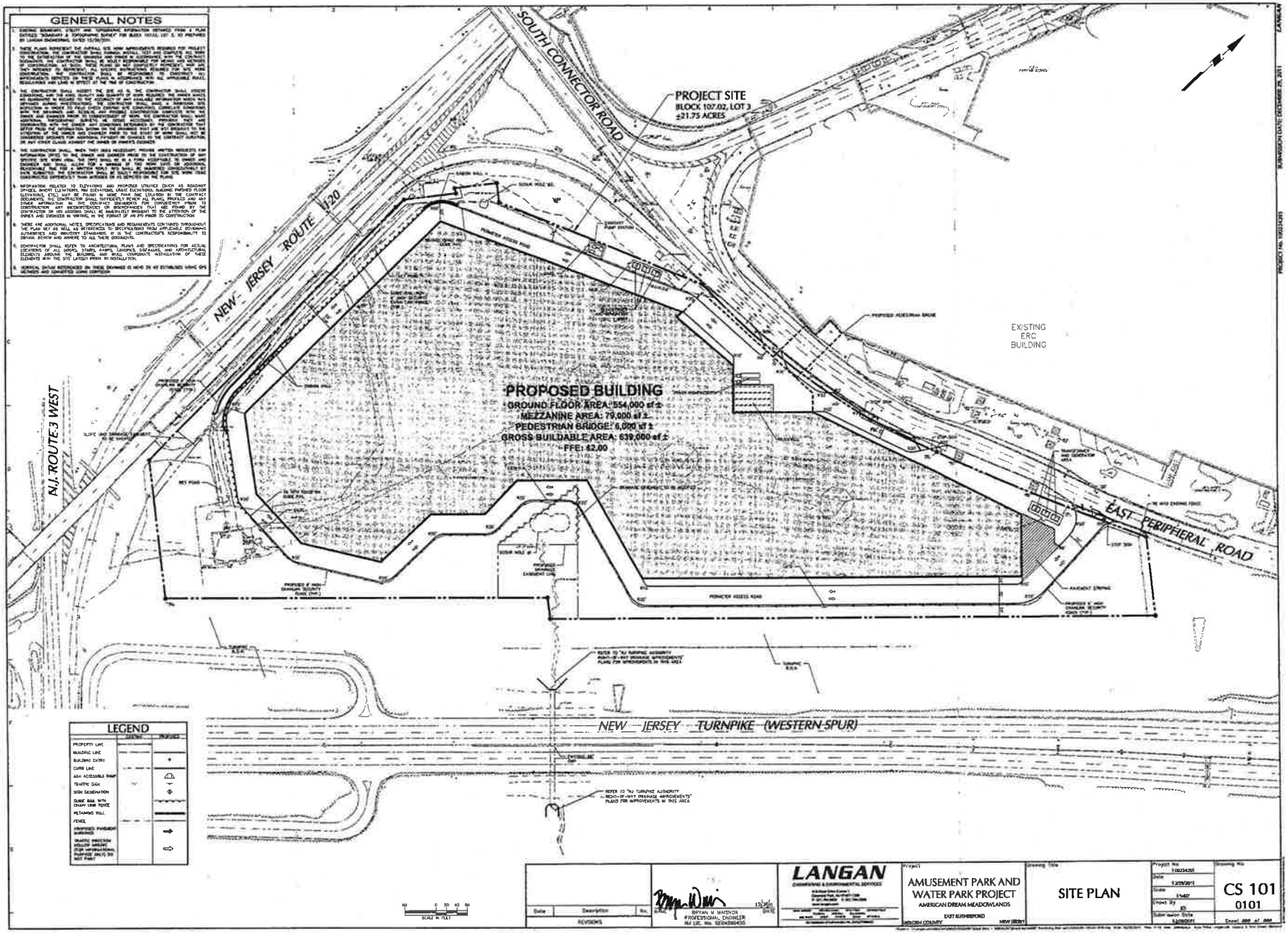
Project

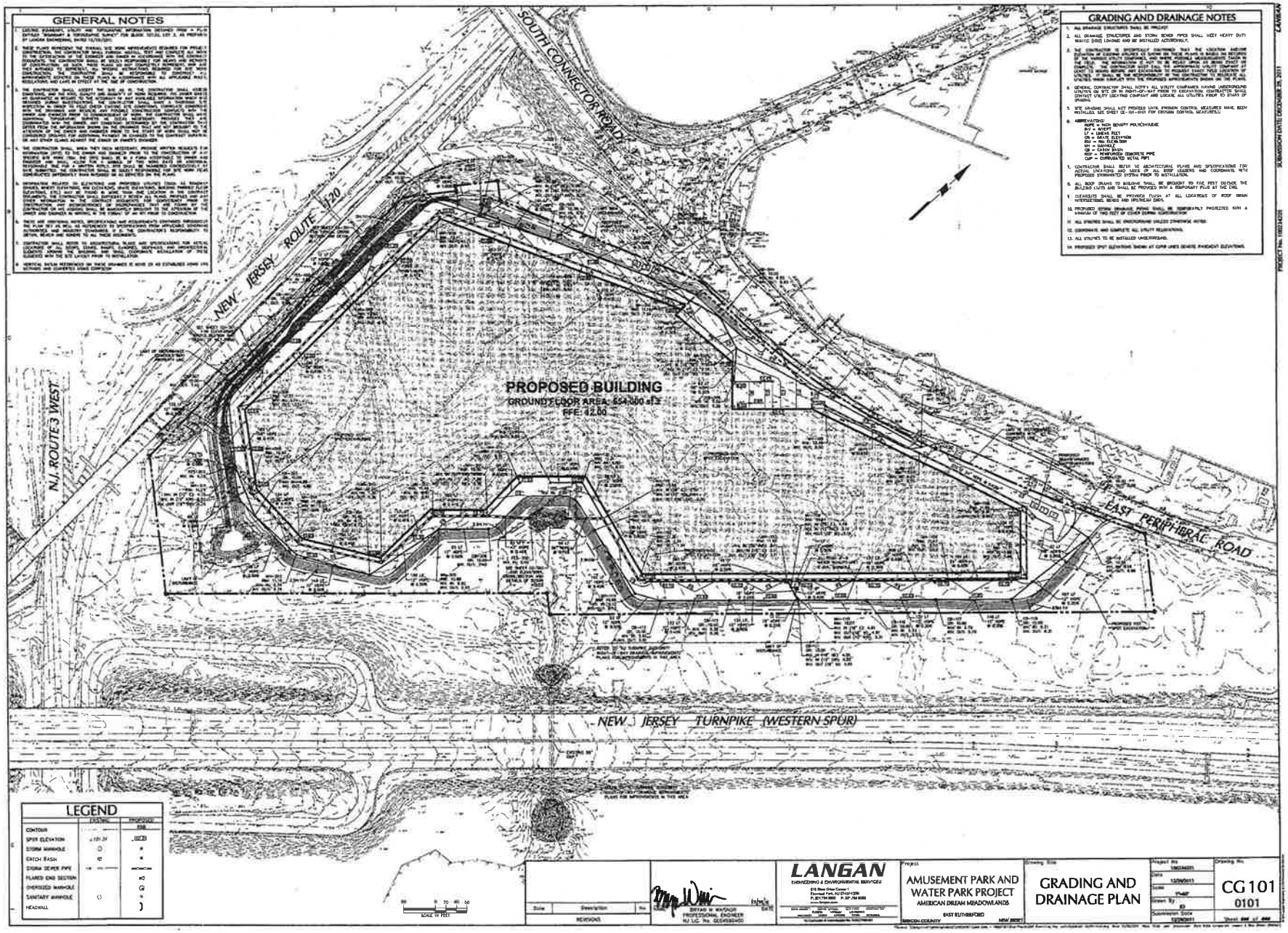
FLOOD STUDY PLAN
PROPOSED CONDITIONS

AMUSEMENT PARK AND WATER PARK PROJECT
BERGEN NEW JERSEY

Project No.	Date	Scale	Dwg. No.
1001234201	12/29/11	1"=120'	10

Filename: \\langan.com\data\EP\data2\100234201\Cadd Data - 100234201\SheetFiles\Figures\NJDEP Reports\FG10-100234201-Proposed Flood Study Plan.dwg Date: 12/28/2011 Time: 13:20 User: joldenburger Style Table: Langan.stb Layout: B Size Sheet (Bottom)


GENERAL NOTES
SOUTH CONNECTOR ROAD
PROJECT SITE
BLOCK 107.02, LOT 3
±21.75 ACRES
NEW JERSEY ROUTE 120
N.J. ROUTE 3 WEST
EXISTING
ERC
BUILDING
PROPOSED BUILDING
GROUND FLOOR AREA: 554,000 sf ±
MEZZANINE AREA: 79,000 sf ±
PEDESTRIAN BRIDGE: 6,000 sf ±
GROSS BUILDABLE AREA: 639,000 sf ±
FFE: ±2.00
EAST PERIPHERAL ROAD
NEW JERSEY TURNPIKE (WESTERN SPUR)
LEGEND
PROPERTY LINE
BUILDING LINE
BUILDING ENTRY
CURB LINE
ADA ACCESSIBLE RAMP
TRAFFIC SIGN
SIGN DESIGNATION
CLOSE RAIL WITH CHAIN LINK FENCE
RETAINING WALL
FENCE
CROSSWALK PAVEMENT MARKINGS
TRAFFIC DIRECTION ARROW (FOR INFORMATIONAL PURPOSE ONLY) DO NOT PAINT
SCALE IN FEET
REVISIONS
BRYAN M. WAGNER
PROFESSIONAL ENGINEER
NJ LIC. No. GE04388430
LANGAN
AMUSEMENT PARK AND
WATER PARK PROJECT
AMERICAN DREAM MEADOWLANDS
EAST RUTHERFORD
BERGEN COUNTY
NEW JERSEY
SITE PLAN
CS 101
0101



GENERAL NOTES

1. LOCATIONS, ELEVATIONS, UTILITY AND TOPOGRAPHIC INFORMATION OBTAINED FROM A PLAN ENTITLED "BOUNDARY & TOPOGRAPHIC SURVEY FOR BLOCK 10120, LOT 3, AS PREPARED BY LANGAN ENGINEERING, DATED 10/19/2010.
2. THESE PLANS REPRESENT THE OVERALL SITE WORK IMPROVEMENTS REQUIRED FOR PROJECT CONSTRUCTION. THE CONTRACTOR SHALL FURNISH ALL TOOLS AND EQUIPMENT NECESSARY TO COMPLETE THE WORK SHOWN ON THESE PLANS. THESE PLANS DO NOT COMPLETELY REPRESENT ANY AND ALL CONSTRUCTION METHODS. SUCH METHODS ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE ALL CONSTRUCTION ACTIVITIES SHOWN ON THESE PLANS AS APPLICABLE WITH ALL APPLICABLE RULES, REGULATIONS AND LAWS IN EFFECT AT THE TIME OF CONSTRUCTION.
3. THE CONTRACTOR SHALL ASSERT THE SITE AS IS. THE CONTRACTOR SHALL ASSESS CONDITIONS, AND DETERMINE QUALITY AND QUANTITY OF WORK REQUIRED. NO CHANGE ORDER SHALL BE ALLOWED FOR ADDITIONAL WORK REQUIRED TO COMPLETE THE WORK SHOWN ON THESE PLANS. THE CONTRACTOR SHALL VISIT THE SITE AND THOROUGHLY FAMILIARIZE HIMSELF WITH ALL EXISTING CONDITIONS AFFECTING THE WORK PRIOR TO SUBMITTING A BID. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL DISCREPANCIES BETWEEN THE CONDITIONS SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS ENCOUNTERED IN THE FIELD. THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE IMMEDIATELY OF ANY DISCREPANCIES BETWEEN THE PLANS AND FIELD CONDITIONS PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL WORK DONE AND MATERIALS PURCHASED PRIOR TO THE START OF WORK SHALL NOT BE CONSIDERED GROUNDS FOR ADDITIONAL PAYMENT OR CHANGES TO THE CONTRACT SUM/TIME.
4. THE CONTRACTOR SHALL, WHEN THEY DEEM NECESSARY, PROVIDE WRITTEN REQUESTS FOR INFORMATION (RFI'S) TO THE OWNER AND ENGINEER PRIOR TO THE CONSTRUCTION OF A SYSTEM OR WORK THAT THE RFI SHALL BE IN A FORM ACCEPTABLE TO OWNER AND ENGINEER AND SHALL CONTAIN THE CONTRACTOR'S RECOMMENDATION TO RESOLVE THE ISSUE. A WRITTEN REPLY TO AN RFI SHALL BE RETURNED EXPEDITIOUSLY SO AS NOT TO DELAY CONSTRUCTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ANY WORK PERFORMED OR MATERIALS PURCHASED PRIOR TO RECEIPT OF AN RFI.
5. DIMENSIONS REFLECTED ON ELEVATIONS AND PROFILES INCLUDE ALL PERTINENT DETAILS, ALL REQUIRED OFFSETS, WALL DIMENSIONS, GRADE ELEVATIONS, BUILDING THROUGH FLOOR ELEVATIONS, ETC.) MUST BE FOUND IN MORE THAN ONE LOCATION IN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL IMMEDIATELY REVIEW ALL PLANS, PROFILES AND ANY OTHER INFORMATION TO BE PROVIDED BY THE OWNER'S REPRESENTATIVE AND ENGINEER PRIOR TO THE CONSTRUCTION OF ANY IMPROVEMENTS. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE AND ENGINEER IMMEDIATELY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL WORK DONE AND MATERIALS PURCHASED PRIOR TO THE START OF WORK SHALL NOT BE CONSIDERED GROUNDS FOR ADDITIONAL PAYMENT OR CHANGES TO THE CONTRACT SUM/TIME.
6. NOTES AND GRAPHICAL NOTES, SPECIFICATIONS AND REQUIREMENTS CONTAINED THROUGHOUT THE PLAN SET ARE AS WELL AS REFERENCED TO SPECIFICATIONS FROM APPLICABLE GOVERNING AUTHORITIES, AND INDUSTRY STANDARDS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW, REVISE AND ADHERE TO ALL THESE DOCUMENTS.
7. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS AND SPECIFICATIONS FOR ACTUAL LOCATIONS OF ALL DOORS, STAIRS, RAMPS, SIDEWALKS, SERVICES, AND IMPROVEMENTS IMMEDIATELY ADJACENT TO BUILDING, AND FINAL COORDINATE INSTALLATION OF SITE ELEMENTS WITH THE SITE LAYOUT PRIOR TO INSTALLATION.
8. VERTICAL DATUM REFERENCED ON THESE DRAWINGS IS NGVD 29 AS ESTABLISHED USING CITY BENCHMARK AND CORRECTED USING CORPSCON.

GRADING AND DRAINAGE NOTES

1. ALL DRAINAGE STRUCTURES SHALL BE PRECAST.
2. ALL DRAINAGE STRUCTURES AND STORM SEWER PIPES SHALL MEET HEAVY DUTY SEISMIC (HDS) LOADING AND BE INSTALLED ACCORDINGLY.
3. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL UTILITIES AS MAY BE NECESSARY TO AVOID ANY CONFLICTS WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
4. GENERAL CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES HAVING UNDERGROUND UTILITIES ON SITE OR IN RIGHT-OF-WAY PRIOR TO EXCAVATION. CONTRACTOR SHALL CONTACT UTILITY LOCATING COMPANY AND LOCATE ALL UTILITIES PRIOR TO START OF GRADING.
5. SITE GRADING SHALL NOT PROCEED UNTIL EROSION CONTROL MEASURES HAVE BEEN INSTALLED. SEE SHEET CE-101-0101 FOR EROSION CONTROL MEASURES.
6. ABBREVIATIONS:
   HDPE = HIGH DENSITY POLYETHYLENE
   INV = INVERT
   LF = LINEAR FEET
   EL = GRADE ELEVATION
   RIM = RIM ELEVATION
   MH = MANHOLE
   CB = CATCH BASIN
   RCP = REINFORCED CONCRETE PIPE
   CMP = CORRUGATED METAL PIPE
7. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS AND SPECIFICATIONS FOR ACTUAL LOCATIONS AND SIZES OF ALL ROOF LEADERS AND COORDINATE WITH PROPOSED STORMWATER SYSTEM PRIOR TO INSTALLATION.
8. ALL ROOF DRAINS TO BUILDING SHALL BE BROUGHT TO FIVE FEET OUTSIDE THE BUILDING LIMITS AND SHALL BE PROVIDED WITH A TEMPORARY PLUG AT THE END.
9. CLEANOUTS SHALL BE PROVIDED FLUSH AT ALL LOCATIONS OF ROOF DRAIN INTERSECTIONS, BENDS AND UPSTREAM ENDS.
10. PROPOSED STORM DRAINAGE PIPING SHALL BE TEMPORARILY PROTECTED WITH A MINIMUM OF TWO FEET OF COVER DURING CONSTRUCTION.
11. ALL STORM SEWERS SHALL BE UNDERGROUND UNLESS OTHERWISE NOTED.
12. COORDINATE AND COMPLETE ALL UTILITY RELOCATIONS.
13. ALL UTILITIES TO BE INSTALLED UNDERGROUND.
14. PROPOSED SPOT ELEVATIONS SHOWN AT CURB LINES DENOTE PAVEMENT ELEVATIONS.

LEGEND

	EXISTING	PROPOSED
CONTOUR	110	108
SPOT ELEVATION	+110.24	108.00
STORM MANHOLE	○	●
CATCH BASIN	▽	▼
STORM SEWER PIPE		
FLARED END SECTION		⊐
ENERGIZED MANHOLE		ⓔ
SANITARY MANHOLE	○	ⓢ
HEADWALL		)

SCALE IN FEET

No.	Description	Date
REVISIONS		

BRYAN W. WAYNICK
PROFESSIONAL ENGINEER
N.J. LIC. No. GE045900400

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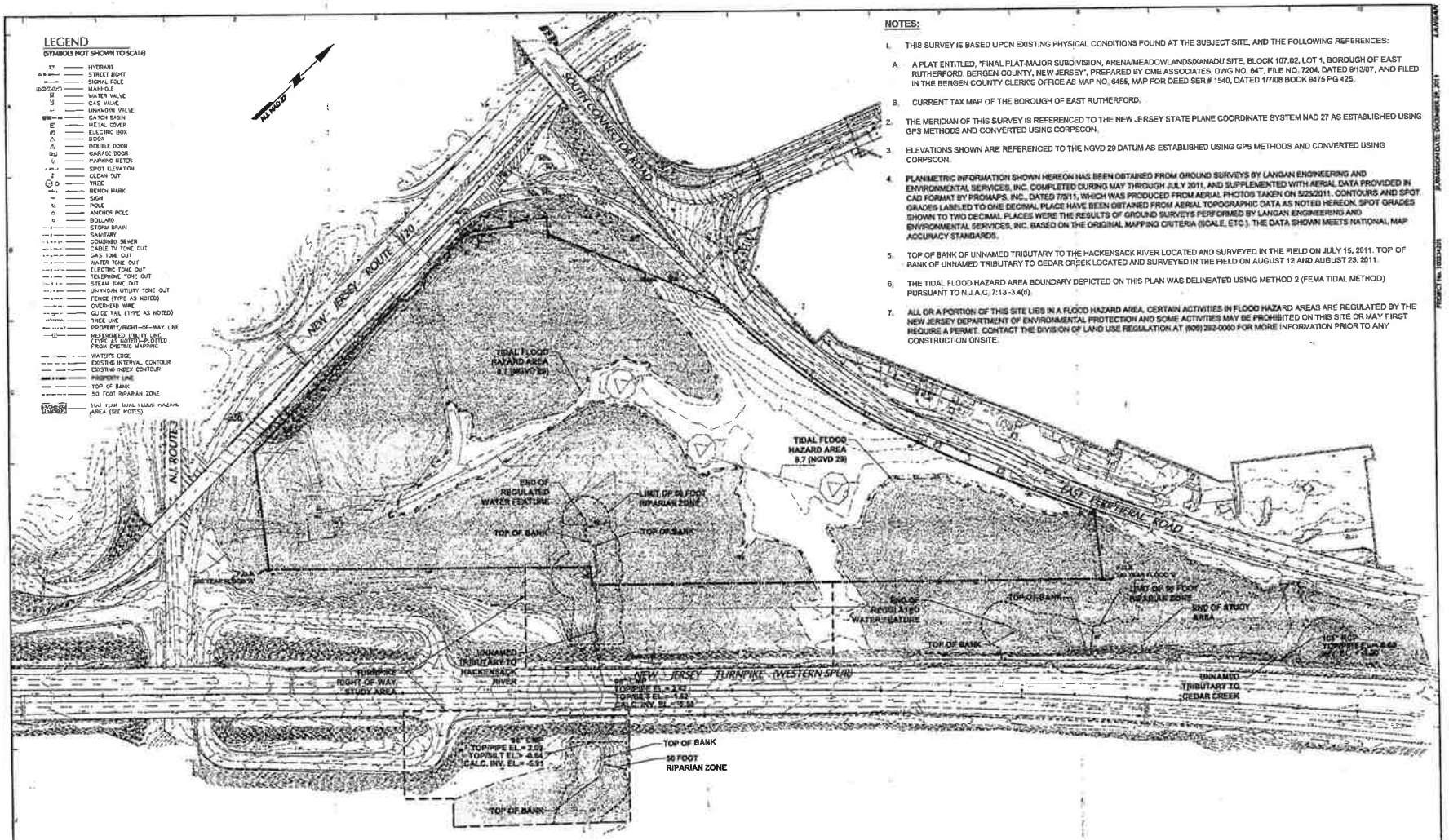
Project
AMUSEMENT PARK AND WATER PARK PROJECT
AMERICAN DREAM MEADOWLANDS
EAST RUTHERFORD
BERGEN COUNTY NEW JERSEY

Drawing Title
GRADING AND DRAINAGE PLAN

Project No. 100244201
Date 12/29/2011
Scale 1"=40'
Drawn By PJD
Submission Date 12/29/2011

Drawing No.
CG101
0101
Sheet 000 of 000

SUBMISSION DATE: DECEMBER 29, 2011
PROJECT No. 100244201
LANGAN


LEGEND
(SYMBOLS NOT SHOWN TO SCALE)
HYDRANT
STREET LIGHT
SIGNAL POLE
MANHOLE
WATER VALVE
GAS VALVE
UNKNOWN VALVE
CATCH BASIN
METAL COVER
ELECTRIC BOX
DOOR
DOUBLE DOOR
GARAGE DOOR
PARKING METER
SPOT ELEVATION
CLEAN OUT
TREE
BENCH MARK
SIGN
POLE
ANCHOR POLE
BOLLARD
STORM DRAIN
SANITARY
COMBINED SEWER
CABLE TV TONE OUT
GAS TONE OUT
WATER TONE OUT
ELECTRIC TONE OUT
TELEPHONE TONE OUT
STEAM TONE OUT
UNKNOWN UTILITY TONE OUT
FENCE (TYPE AS NOTED)
OVERHEAD WIRE
GUIDE RAIL (TYPE AS NOTED)
TREE LINE
PROPERTY/RIGHT-OF-WAY LINE
REFERENCED UTILITY LINE (TYPE AS NOTED)--PLOTTED FROM EXISTING MAPPING
WATER'S EDGE
EXISTING INTERVAL CONTOUR
EXISTING INDEX CONTOUR
PROPERTY LINE
TOP OF BANK
50 FOOT RIPARIAN ZONE
100 YEAR TIDAL FLOOD HAZARD AREA (SEE NOTES)
NOTES:
1. THIS SURVEY IS BASED UPON EXISTING PHYSICAL CONDITIONS FOUND AT THE SUBJECT SITE, AND THE FOLLOWING REFERENCES:
A. A PLAT ENTITLED, "FINAL PLAT-MAJOR SUBDIVISION, ARENA/MEADOWLANDS/XANADU SITE, BLOCK 107.02, LOT 1, BOROUGH OF EAST RUTHERFORD, BERGEN COUNTY, NEW JERSEY", PREPARED BY CME ASSOCIATES, DWG NO. 84T, FILE NO. 7204, DATED 8/13/07, AND FILED IN THE BERGEN COUNTY CLERK'S OFFICE AS MAP NO. 6455, MAP FOR DEED SER # 1540, DATED 1/7/08 BOOK 9475 PG 425.
B. CURRENT TAX MAP OF THE BOROUGH OF EAST RUTHERFORD.
2. THE MERIDIAN OF THIS SURVEY IS REFERENCED TO THE NEW JERSEY STATE PLANE COORDINATE SYSTEM NAD 27 AS ESTABLISHED USING GPS METHODS AND CONVERTED USING CORPSCON.
3. ELEVATIONS SHOWN ARE REFERENCED TO THE NGVD 29 DATUM AS ESTABLISHED USING GPS METHODS AND CONVERTED USING CORPSCON.
4. PLANIMETRIC INFORMATION SHOWN HEREON HAS BEEN OBTAINED FROM GROUND SURVEYS BY LANGAN ENGINEERING AND ENVIRONMENTAL SERVICES, INC. COMPLETED DURING MAY THROUGH JULY 2011, AND SUPPLEMENTED WITH AERIAL DATA PROVIDED IN CAD FORMAT BY PROMAPS, INC., DATED 7/5/11, WHICH WAS PRODUCED FROM AERIAL PHOTOS TAKEN ON 5/25/2011. CONTOURS AND SPOT GRADES LABELED TO ONE DECIMAL PLACE HAVE BEEN OBTAINED FROM AERIAL TOPOGRAPHIC DATA AS NOTED HEREON. SPOT GRADES SHOWN TO TWO DECIMAL PLACES WERE THE RESULTS OF GROUND SURVEYS PERFORMED BY LANGAN ENGINEERING AND ENVIRONMENTAL SERVICES, INC. BASED ON THE ORIGINAL MAPPING CRITERIA (SCALE, ETC.). THE DATA SHOWN MEETS NATIONAL MAP ACCURACY STANDARDS.
5. TOP OF BANK OF UNNAMED TRIBUTARY TO THE HACKENSACK RIVER LOCATED AND SURVEYED IN THE FIELD ON JULY 15, 2011. TOP OF BANK OF UNNAMED TRIBUTARY TO CEDAR CREEK LOCATED AND SURVEYED IN THE FIELD ON AUGUST 12 AND AUGUST 23, 2011.
6. THE TIDAL FLOOD HAZARD AREA BOUNDARY DEPICTED ON THIS PLAN WAS DELINEATED USING METHOD 2 (FEMA TIDAL METHOD) PURSUANT TO N.J.A.C. 7:13 -3.4(d).
7. ALL OR A PORTION OF THIS SITE LIES IN A FLOOD HAZARD AREA. CERTAIN ACTIVITIES IN FLOOD HAZARD AREAS ARE REGULATED BY THE NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SOME ACTIVITIES MAY BE PROHIBITED ON THIS SITE OR MAY FIRST REQUIRE A PERMIT. CONTACT THE DIVISION OF LAND USE REGULATION AT (609) 292-0060 FOR MORE INFORMATION PRIOR TO ANY CONSTRUCTION ONSITE.
N.J. ROUTE 120
NEW JERSEY ROUTE 120
SOUTH CONNECTOR ROAD
TIDAL FLOOD HAZARD AREA 8.7 (NGVD 29)
TIDAL FLOOD HAZARD AREA 8.7 (NGVD 29)
EAST PERIPHERAL ROAD
END OF REGULATED WATER FEATURE
LIMIT OF 50 FOOT RIPARIAN ZONE
TOP OF BANK
TOP OF BANK
END OF REGULATED WATER FEATURE
TOP OF BANK
LIMIT OF 50 FOOT RIPARIAN ZONE
END OF STUDY AREA
TOP OF BANK
UNNAMED TRIBUTARY TO HACKENSACK RIVER
TURNPIKE RIGHT-OF-WAY STUDY AREA
NEW JERSEY TURNPIKE (WESTERN SPUR)
TOP/PIPE EL.= 2.70
TOP/SILT EL.= 1.43
CALC. INV. EL.= -5.19
UNNAMED TRIBUTARY TO CEDAR CREEK
TOP/PIPE EL.= 2.08
TOP/SILT EL.= 0.64
CALC. INV. EL.= -5.91
TOP OF BANK
50 FOOT RIPARIAN ZONE
TOP OF BANK
100 YEAR FLOOD 'A' LINE TABLE
100 YEAR FLOOD 'B' LINE TABLE
SCALE IN FEET
Date
Description
No.
REVISIONS
LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES
Project
AMUSEMENT PARK AND WATER PARK PROJECT
AMERICAN DREAM MEADOWLANDS
EAST RUTHERFORD
BERGEN COUNTY
NEW JERSEY
Drawing Title
FLOOD HAZARD AREA VERIFICATION PLAN
Project No.
Date
Scale
Drawn By
Submission Date
Drawing No.
WF 101
0101

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Hydrograph Return Period Recap

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2011 by Autodesk, Inc. v8

Hyd. No.	Hydrograph type (origin)	Inflow hyd(s)	Peak Outflow (cfs)								Hydrograph Description
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
1	SCS Runoff	------	-------	-------	-------	-------	-------	-------	-------	101.20	EX-1A
2	SCS Runoff	------	-------	-------	-------	-------	-------	-------	-------	39.80	EX-1B
3	SCS Runoff	------	-------	-------	-------	-------	-------	-------	-------	71.90	Offsite C
4	SCS Runoff	------	-------	-------	-------	-------	-------	-------	-------	148.57	Offsite A
6	Combine	1, 2, 3, 4,	-------	-------	-------	-------	-------	-------	-------	299.95	Combine
8	Reservoir	6	-------	-------	-------	-------	-------	-------	-------	292.16	96-In Discharge

Hydrograph Summary Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2011 by Autodesk, Inc. v8

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	101.20	1	746	647,670	------	------	------	EX-1A
2	SCS Runoff	39.80	1	742	231,124	------	------	------	EX-1B
3	SCS Runoff	71.90	1	733	350,216	------	------	------	Offsite C
4	SCS Runoff	148.57	1	726	532,833	------	------	------	Offsite A
6	Combine	299.95	1	729	1,761,842	1, 2, 3, 4,	------	------	Combine
8	Reservoir	292.16	1	732	1,761,841	6	103.42	25,309	96-In Discharge

Hydrograph Report

Hyd. No. 1

EX-1A

Hydrograph type	= SCS Runoff	Peak discharge	= 101.20 cfs
Storm frequency	= 100 yrs	Time to peak	= 746 min
Time interval	= 1 min	Hyd. volume	= 647,670 cuft
Drainage area	= 19.500 ac	Curve number	= 89*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 39.5 min
Total precip.	= 10.50 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(17.990 x 88) + (1.510 x 98)] / 19.500

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)
731	71.10	748	100.58	765	72.81
732	74.02	749	99.91		
733	76.90	750	99.08	*...End*	
734	79.71	751	98.09		
735	82.46	752	96.97		
736	85.14	753	95.71		
737	87.72	754	94.33		
738	90.22	755	92.82		
739	92.58	756	91.20		
740	94.76	757	89.47		
741	96.70	758	87.65		
742	98.36	759	85.74		
743	99.66	760	83.74		
744	100.57	761	81.67		
745	101.06	762	79.53		
746	101.20	763	77.34		
		764	75.09		
747	101.02				

<<

Hydrograph Report

Hyd. No. 2

EX-1B

Hydrograph type	= SCS Runoff	Peak discharge	= 39.80 cfs
Storm frequency	= 100 yrs	Time to peak	= 742 min
Time interval	= 1 min	Hyd. volume	= 231,124 cuft
Drainage area	= 7.100 ac	Curve number	= 88*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 32.5 min
Total precip.	= 10.50 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.120 x 98) + (6.980 x 88)] / 7.100

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)
729	28.58	746	38.55
730	29.88	747	38.02
731	31.16	748	37.44
732	32.41	749	36.79
733	33.62	750	36.09
734	34.79	751	35.33
735	35.90	752	34.52
736	36.93	753	33.67
737	37.84	754	32.77
738	38.61	755	31.83
739	39.20	756	30.86
740	39.60	757	29.86
741	39.79	758	28.84
742	39.80		
<<		*...End*	
743	39.66		
744	39.38		
745	39.00		

Hydrograph Report

Hyd. No. 3

Offsite C

Hydrograph type	= SCS Runoff	Peak discharge	= 71.90 cfs
Storm frequency	= 100 yrs	Time to peak	= 733 min
Time interval	= 1 min	Hyd. volume	= 350,216 cuft
Drainage area	= 10.000 ac	Curve number	= 93
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 20.0 min
Total precip.	= 10.50 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)
724	51.62	741	59.38
725	55.06	742	57.08
726	58.45	743	54.69
727	61.68	744	52.21
728	64.65		
729	67.26	*...End*	
730	69.39		
731	70.93		
732	71.77		
733	71.90		
734	71.44		
735	70.48		
736	69.13		
737	67.48		
738	65.64		
739	63.67		
740	61.59		

<<

Hydrograph Report

Hyd. No. 4

Offsite A

Hydrograph type	= SCS Runoff	Peak discharge	= 148.57 cfs
Storm frequency	= 100 yrs	Time to peak	= 726 min
Time interval	= 1 min	Hyd. volume	= 532,833 cuft
Drainage area	= 17.500 ac	Curve number	= 83
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 10.0 min
Total precip.	= 10.50 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Outflow cfs)	
722	115.45	
723	127.04	
724	137.19	
725	144.74	
726	148.57	<<
727	148.46	
728	145.03	
729	138.95	
730	130.90	
731	121.63	
732	112.06	

...End

Hydrograph Report

Hyd. No. 6

Combine

Hydrograph type	= Combine	Peak discharge	= 299.95 cfs
Storm frequency	= 100 yrs	Time to peak	= 729 min
Time interval	= 1 min	Hyd. volume	= 1,761,842 cuft
Inflow hyds.	= 1, 2, 3, 4	Contrib. drain. area	= 54.100 ac

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Hyd. 1 + (cfs)	Hyd. 2 + (cfs)	Hyd. 3 + (cfs)	Hyd. 4 + (cfs)	Outflow (cfs)
722	44.52	19.26	44.89	115.45	224.11
723	47.30	20.53	48.21	127.04	243.09
724	50.19	21.85	51.62	137.19	260.86
725	53.15	23.20	55.06	144.74	276.16
726	56.15	24.56	58.45	148.57 <<	287.72
727	59.15	25.91	61.68	148.46	295.20
728	62.16	27.25	64.65	145.03	299.09
729	65.16	28.58	67.26	138.95	299.95
<<					
730	68.15	29.88	69.39	130.90	298.32
731	71.10	31.16	70.93	121.63	294.82
732	74.02	32.41	71.77	112.06	290.26
733	76.90	33.62	71.90 <<	102.81	285.23
734	79.71	34.79	71.44	94.15	280.09
735	82.46	35.90	70.48	86.38	275.23
736	85.14	36.93	69.13	79.83	271.02
737	87.72	37.84	67.48	74.50	267.54
738	90.22	38.61	65.64	70.19	264.65
739	92.58	39.20	63.67	66.67	262.13
740	94.76	39.60	61.59	63.72	259.66
741	96.70	39.79	59.38	61.12	256.99

Continues on next page...

Combine

Hydrograph Discharge Table

Time (min)	Hyd. 1 + (cfs)	Hyd. 2 + (cfs)	Hyd. 3 + (cfs)	Hyd. 4 + (cfs)	Outflow (cfs)
742	98.36	39.80 <<	57.08	58.62	253.86
743	99.66	39.66	54.69	56.12	250.12
744	100.57	39.38	52.21	53.60	245.76
745	101.06	39.00	49.65	51.09	240.81
746	101.20 <<	38.55	47.04	48.56	235.34
747	101.02	38.02	44.38	46.03	229.46
748	100.58	37.44	41.74	43.49	223.25
749	99.91	36.79	39.15	40.94	216.80
750	99.08	36.09	36.65	38.40	210.21

...End

Hydrograph Report

Hyd. No. 8

96-In Discharge

Hydrograph type	= Reservoir	Peak discharge	= 292.16 cfs
Storm frequency	= 100 yrs	Time to peak	= 732 min
Time interval	= 1 min	Hyd. volume	= 1,761,841 cuft
Inflow hyd. No.	= 6 - Combine	Reservoir name	= Existing Headwate
Max. Elevation	= 103.42 ft	Max. Storage	= 25,309 cuft

Storage Indication method used. Wet pond routing start elevation = 97.80 ft.

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
722	224.11	102.93	208.48	-----	-----	-----	-----	-----	-----	-----	-----	208.48
723	243.09	103.01	224.61	-----	-----	-----	-----	-----	-----	-----	-----	224.61
724	260.86	103.07	234.93	-----	-----	-----	-----	-----	-----	-----	-----	234.93
725	276.16	103.14	247.22	-----	-----	-----	-----	-----	-----	-----	-----	247.22
726	287.72	103.21	259.49	-----	-----	-----	-----	-----	-----	-----	-----	259.49
727	295.20	103.27	270.26	-----	-----	-----	-----	-----	-----	-----	-----	270.26
728	299.09	103.33	279.08	-----	-----	-----	-----	-----	-----	-----	-----	279.08
729	299.95 <<	103.38	285.65	-----	-----	-----	-----	-----	-----	-----	-----	285.65
730	298.32	103.40	289.96	-----	-----	-----	-----	-----	-----	-----	-----	289.96
731	294.82	103.42	291.99	-----	-----	-----	-----	-----	-----	-----	-----	291.99
732	290.26	103.42 <<	292.16	-----	-----	-----	-----	-----	-----	-----	-----	292.16
<<												
733	285.23	103.41	290.80	-----	-----	-----	-----	-----	-----	-----	-----	290.80
734	280.09	103.39	288.25	-----	-----	-----	-----	-----	-----	-----	-----	288.25
735	275.23	103.37	284.85	-----	-----	-----	-----	-----	-----	-----	-----	284.85
736	271.02	103.34	281.08	-----	-----	-----	-----	-----	-----	-----	-----	281.08
737	267.54	103.32	277.29	-----	-----	-----	-----	-----	-----	-----	-----	277.29
738	264.65	103.30	273.66	-----	-----	-----	-----	-----	-----	-----	-----	273.66
739	262.13	103.27	270.20	-----	-----	-----	-----	-----	-----	-----	-----	270.20
740	259.66	103.25	267.07	-----	-----	-----	-----	-----	-----	-----	-----	267.07

Continues on next page...

96-In Discharge

Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
741	256.99	103.24	264.12	-----	-----	-----	-----	-----	-----	-----	-----	264.12
742	253.86	103.22	261.19	-----	-----	-----	-----	-----	-----	-----	-----	261.19
743	250.12	103.20	258.08	-----	-----	-----	-----	-----	-----	-----	-----	258.08
744	245.76	103.18	254.48	-----	-----	-----	-----	-----	-----	-----	-----	254.48
745	240.81	103.15	250.50	-----	-----	-----	-----	-----	-----	-----	-----	250.50
746	235.34	103.13	246.09	-----	-----	-----	-----	-----	-----	-----	-----	246.09
747	229.46	103.10	241.23	-----	-----	-----	-----	-----	-----	-----	-----	241.23
748	223.25	103.07	235.62	-----	-----	-----	-----	-----	-----	-----	-----	235.62
749	216.80	103.04	229.73	-----	-----	-----	-----	-----	-----	-----	-----	229.73
750	210.21	103.00	223.61	-----	-----	-----	-----	-----	-----	-----	-----	223.61
751	203.59	102.95	212.52	-----	-----	-----	-----	-----	-----	-----	-----	212.52

...End

Pond Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2011 by Autodesk, Inc. v8 Wednesday, Dec 28, 2011

Pond No. 3 - Existing Headwater at 96-in Pipe

Pond Data

Contours -User-defined contour areas. Average end area method used for volume calculation. Begining Elevation = 94.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	94.00	10	0	0
1.00	95.00	10	10	10
2.00	96.00	10	10	20
3.00	97.00	10	10	30
4.00	98.00	10	10	40
5.00	99.00	15	13	53
6.00	100.00	133	74	127
7.00	101.00	899	516	643
8.00	102.00	6,303	3,601	4,244
9.00	103.00	15,964	11,134	15,377
10.00	104.00	31,429	23,697	39,074
11.00	105.00	100,080	65,755	104,828

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 96.00	0.00	0.00	0.00
Span (in)	= 96.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 94.42	0.00	0.00	0.00
Length (ft)	= 210.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.67	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 0.00	0.00	0.00	0.00
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= ---	---	---	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr) = 0.000 (by Wet area)

TW Elev. (ft) = 97.89

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	94.00	0.00	---	---	---	---	---	---	---	---	---	0.000
1.00	10	95.00	0.00	---	---	---	---	---	---	---	---	---	0.000
2.00	20	96.00	0.00	---	---	---	---	---	---	---	---	---	0.000
3.00	30	97.00	0.00	---	---	---	---	---	---	---	---	---	0.000
4.00	40	98.00	7.04 oc	---	---	---	---	---	---	---	---	---	7.039
5.00	53	99.00	9.81 oc	---	---	---	---	---	---	---	---	---	9.814
6.00	127	100.00	12.48 oc	---	---	---	---	---	---	---	---	---	12.48
7.00	643	101.00	14.80 oc	---	---	---	---	---	---	---	---	---	14.80
8.00	4,244	102.00	16.36 oc	---	---	---	---	---	---	---	---	---	16.36
9.00	15,377	103.00	222.89 oc	---	---	---	---	---	---	---	---	---	222.89
10.00	39,074	104.00	367.25 oc	---	---	---	---	---	---	---	---	---	367.25
11.00	104,828	105.00	469.11 oc	---	---	---	---	---	---	---	---	---	469.11

Pond Report

Pond No. 3 - Proposed Headwater at 96-in Pipe

Pond Data

Contours -User-defined contour areas. Average end area method used for volume calculation. Begining Elevation = 94.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	94.00	10	0	0
1.00	95.00	10	10	10
2.00	96.00	10	10	20
3.00	97.00	10	10	30
4.00	98.00	10	10	40
5.00	99.00	282	146	186
6.00	100.00	726	504	690
7.00	101.00	2,054	1,390	2,080
8.00	102.00	7,955	5,005	7,085
9.00	103.00	18,214	13,085	20,169
10.00	104.00	31,497	24,856	45,025
11.00	105.00	67,279	49,388	94,413

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 96.00	0.00	0.00	0.00
Span (in)	= 96.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 94.42	0.00	0.00	0.00
Length (ft)	= 210.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.67	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 0.00	0.00	0.00	0.00
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= ---	---	---	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr) = 0.000 (by Wet area)

TW Elev. (ft) = 97.89

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	94.00	0.00	---	---	---	---	---	---	---	---	---	0.000
1.00	10	95.00	0.00	---	---	---	---	---	---	---	---	---	0.000
2.00	20	96.00	0.00	---	---	---	---	---	---	---	---	---	0.000
3.00	30	97.00	0.00	---	---	---	---	---	---	---	---	---	0.000
4.00	40	98.00	7.04 oc	---	---	---	---	---	---	---	---	---	7.039
5.00	186	99.00	9.81 oc	---	---	---	---	---	---	---	---	---	9.814
6.00	690	100.00	12.48 oc	---	---	---	---	---	---	---	---	---	12.48
7.00	2,080	101.00	14.80 oc	---	---	---	---	---	---	---	---	---	14.80
8.00	7,085	102.00	16.36 oc	---	---	---	---	---	---	---	---	---	16.36
9.00	20,169	103.00	222.89 oc	---	---	---	---	---	---	---	---	---	222.89
10.00	45,025	104.00	367.25 oc	---	---	---	---	---	---	---	---	---	367.25
11.00	94,413	105.00	469.11 oc	---	---	---	---	---	---	---	---	---	469.11

96-In Discharge

Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
742	258.34	103.37	284.45	-----	-----	-----	-----	-----	-----	-----	-----	284.45
743	249.87	103.31	275.09	-----	-----	-----	-----	-----	-----	-----	-----	275.09
744	241.52	103.25	265.61	-----	-----	-----	-----	-----	-----	-----	-----	265.61
745	233.30	103.19	256.38	-----	-----	-----	-----	-----	-----	-----	-----	256.39

...End

Hydrograph Report

Hyd. No. 8

96-In Discharge

Hydrograph type	= Reservoir	Peak discharge	= 359.86 cfs
Storm frequency	= 100 yrs	Time to peak	= 732 min
Time interval	= 1 min	Hyd. volume	= 1,926,608 cuft
Inflow hyd. No.	= 6 - Combine	Reservoir name	= Proposed Headwate
Max. Elevation	= 103.94 ft	Max. Storage	= 43,466 cuft

Storage Indication method used. Wet pond routing start elevation = 97.80 ft.

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
723	302.19	103.20	258.45	-----	-----	-----	-----	-----	-----	-----	-----	258.46
724	325.18	103.31	276.24	-----	-----	-----	-----	-----	-----	-----	-----	276.24
725	345.32	103.43	294.23	-----	-----	-----	-----	-----	-----	-----	-----	294.23
726	360.92	103.56	311.33	-----	-----	-----	-----	-----	-----	-----	-----	311.33
727	371.27	103.67	326.55	-----	-----	-----	-----	-----	-----	-----	-----	326.55
728	376.57	103.77	339.23	-----	-----	-----	-----	-----	-----	-----	-----	339.22
729	377.09 <<	103.85	349.00	-----	-----	-----	-----	-----	-----	-----	-----	349.00
730	373.38	103.90	355.72	-----	-----	-----	-----	-----	-----	-----	-----	355.72
731	366.35	103.93	359.25	-----	-----	-----	-----	-----	-----	-----	-----	359.25
732	357.08	103.94 <<	359.86	-----	-----	-----	-----	-----	-----	-----	-----	359.86
<<												
733	346.46	103.92	357.84	-----	-----	-----	-----	-----	-----	-----	-----	357.84
734	335.12	103.88	353.54	-----	-----	-----	-----	-----	-----	-----	-----	353.54
735	323.76	103.83	347.36	-----	-----	-----	-----	-----	-----	-----	-----	347.36
736	312.94	103.77	339.81	-----	-----	-----	-----	-----	-----	-----	-----	339.81
737	302.79	103.71	331.35	-----	-----	-----	-----	-----	-----	-----	-----	331.35
738	293.23	103.64	322.24	-----	-----	-----	-----	-----	-----	-----	-----	322.24
739	284.14	103.57	312.89	-----	-----	-----	-----	-----	-----	-----	-----	312.89
740	275.39	103.50	303.47	-----	-----	-----	-----	-----	-----	-----	-----	303.47
741	266.84	103.43	293.91	-----	-----	-----	-----	-----	-----	-----	-----	293.91

Continues on next page...

Hydrograph Report

Hyd. No. 6

Combine

Hydrograph type	= Combine	Peak discharge	= 377.09 cfs
Storm frequency	= 100 yrs	Time to peak	= 729 min
Time interval	= 1 min	Hyd. volume	= 1,926,611 cuft
Inflow hyds.	= 1, 2, 3, 4	Contrib. drain. area	= 57.100 ac

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Hyd. 1 + (cfs)	Hyd. 2 + (cfs)	Hyd. 3 + (cfs)	Hyd. 4 + (cfs)	Outflow (cfs)
722	83.97	33.74	44.89	115.45	278.04
723	91.11	35.83	48.21	127.04	302.19
724	98.36	38.01	51.62	137.19	325.18
725	105.28	40.24	55.06	144.74	345.32
726	111.40	42.50	58.45	148.57 <<	360.92
727	116.37	44.76	61.68	148.46	371.27
728	119.87	47.03	64.65	145.03	376.57
729	121.59 <<	49.29	67.26	138.95	377.09
730	121.56	51.53	69.39	130.90	373.38
731	120.03	53.76	70.93	121.63	366.35
732	117.30	55.95	71.77	112.06	357.08
733	113.63	58.11	71.90 <<	102.81	346.46
734	109.30	60.23	71.44	94.15	335.12
735	104.60	62.30	70.48	86.38	323.76
736	99.68	64.31	69.13	79.83	312.94
737	94.56	66.25	67.48	74.50	302.79
738	89.28	68.12	65.64	70.19	293.23
739	83.90	69.90	63.67	66.67	284.14
740	78.56	71.53	61.59	63.72	275.39
741	73.35	72.99	59.38	61.12	266.84

<<

...End

Hydrograph Report

Hyd. No. 4

Offsite A

Hydrograph type	= SCS Runoff	Peak discharge	= 148.57 cfs
Storm frequency	= 100 yrs	Time to peak	= 726 min
Time interval	= 1 min	Hyd. volume	= 532,833 cuft
Drainage area	= 17.500 ac	Curve number	= 83
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 10.0 min
Total precip.	= 10.50 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Outflow (cfs)
722	115.45
723	127.04
724	137.19
725	144.74
726	148.57
<<	
727	148.46
728	145.03
729	138.95
730	130.90
731	121.63
732	112.06

...End

Hydrograph Report

Hyd. No. 3

Offsite C

Hydrograph type	= SCS Runoff	Peak discharge	= 71.90 cfs
Storm frequency	= 100 yrs	Time to peak	= 733 min
Time interval	= 1 min	Hyd. volume	= 350,216 cuft
Drainage area	= 10.000 ac	Curve number	= 93
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 20.0 min
Total precip.	= 10.50 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)
724	51.62	741	59.38
725	55.06	742	57.08
726	58.45	743	54.69
727	61.68	744	52.21
728	64.65		
729	67.26	*...End*	
730	69.39		
731	70.93		
732	71.77		
733	71.90		
<<			
734	71.44		
735	70.48		
736	69.13		
737	67.48		
738	65.64		
739	63.67		
740	61.59		

Hydrograph Report

Hyd. No. 2

PR-1B and 1C

Hydrograph type	= SCS Runoff	Peak discharge	= 76.33 cfs
Storm frequency	= 100 yrs	Time to peak	= 746 min
Time interval	= 1 min	Hyd. volume	= 491,560 cuft
Drainage area	= 14.600 ac	Curve number	= 90*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 39.5 min
Total precip.	= 10.50 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(2.650 x 98) + (11.950 x 88)] / 14.600

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)
731	53.76	748	75.85	765	54.82
732	55.95	749	75.34		
733	58.11	750	74.70	...End	
734	60.23	751	73.95		
735	62.30	752	73.10		
736	64.31	753	72.14		
737	66.25	754	71.09		
738	68.12	755	69.95		
739	69.90	756	68.72		
740	71.53	757	67.42		
741	72.99	758	66.04		
742	74.23	759	64.59		
743	75.20	760	63.08		
744	75.87	761	61.52		
745	76.24	762	59.90		
746	76.33	763	58.24		
747	76.19	764	56.55		

<<

Hydrograph Report

Hyd. No. 1

PR-1A

Hydrograph type	= SCS Runoff	Peak discharge	= 121.59 cfs
Storm frequency	= 100 yrs	Time to peak	= 729 min
Time interval	= 1 min	Hyd. volume	= 552,001 cuft
Drainage area	= 15.000 ac	Curve number	= 97*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 13.6 min
Total precip.	= 10.50 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.620 x 77) + (14.380 x 98)] / 15.000

Hydrograph Discharge Table

(Printed values >= 70.00% of Qp.)

Time (min)	Outflow (cfs)	
723	91.11	
724	98.36	
725	105.28	
726	111.40	
727	116.37	
728	119.87	
729	121.59	<<
730	121.56	
731	120.03	
732	117.30	
733	113.63	
734	109.30	
735	104.60	
736	99.68	
737	94.56	
738	89.28	

...End

Hydrograph Summary Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2011 by Autodesk, Inc. v8

yd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	121.59	1	729	552,001	------	------	------	PR-1A
2	SCS Runoff	76.33	1	746	491,560	------	------	------	PR-1B and 1C
3	SCS Runoff	71.90	1	733	350,216	------	------	------	Offsite C
4	SCS Runoff	148.57	1	726	532,833	------	------	------	Offsite A
6	Combine	377.09	1	729	1,926,611	1, 2, 3, 4,	------	------	Combine
8	Reservoir	359.86	1	732	1,926,608	6	103.94	43,466	96-In Discharge

Hydrograph Return Period Recap

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2011 by Autodesk, Inc. v8

Hyd. No.	Hydrograph type (origin)	Inflow hyd(s)	Peak Outflow (cfs)								Hydrograph Description
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
1	SCS Runoff	------	-------	-------	-------	-------	-------	-------	-------	121.59	PR-1A
2	SCS Runoff	------	-------	-------	-------	-------	-------	-------	-------	76.33	PR-1B and 1C
3	SCS Runoff	------	-------	-------	-------	-------	-------	-------	-------	71.90	Offsite C
4	SCS Runoff	------	-------	-------	-------	-------	-------	-------	-------	148.57	Offsite A
6	Combine	1, 2, 3, 4,	-------	-------	-------	-------	-------	-------	-------	377.09	Combine
8	Reservoir	6	-------	-------	-------	-------	-------	-------	-------	359.86	96-In Discharge

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Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2011 by Autodesk, Inc. v8 Wednesday, Dec 28, 2011

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REMEDIAL ACTION WORKPLAN

REMEDIAL ACTION WORKPLAN

For

METRO CENTRAL, LLC
Amusement Park and Water Park Project
American Dream Meadowlands
Block 107.02, Lot 3
East Rutherford, New Jersey

Prepared By:

Langan Engineering & Environmental Services
River Drive Center 1
Elmwood Park, New Jersey 07407
NJ Certificate of Authorization No: 24GA27996400

29 December 2011
100234201

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

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EXECUTIVE SUMMARY

This Remedial Action Workplan (RAW) describes and addresses the proposed remedial actions and protocols associated with known areas of concern (AOCs), "hot spots", historic fill, groundwater, and unforeseen environmental conditions that may be encountered during the proposed construction and redevelopment activities associated with the Amusement Park and Water Park Project of American Dream Meadowlands. The project site is located in the Hackensack Meadowlands District and is designated as Block 107.02, Lot 3 on the East Rutherford Tax Map (Figure 1). The property is bound to the north by the "East Peripheral Road," to the east by the New Jersey Turnpike, to the south by NJ State Route 3, and to the west by NJ State Route 120.

In addition to the proposed remedial actions, this RAW includes the following documents: a health and safety plan (HASP); soil reuse plan (SRP); perimeter air monitoring plan (PAMP); and, a Hazardous Materials Inspection Report (Hazmat). The HASP, SRP and PAMP address the protocol for worker health and safety; handling and management of on site and off site fill and concrete; and, air and dust monitoring for the contaminants on site. The Hazmat report includes the investigation and findings of the asbestos and lead-based paint survey. Note additional sampling (lead/asbestos/concrete/brick/caulk) is recommended prior to demolition of the three radio tower sheds.

This RAW has been prepared by Langan Engineering & Environmental Services (Langan) on behalf of Triple Five, LLC for the Metro Central, LLC property ("property") located in East Rutherford, New Jersey. The property is located along State Highway Route 120 and Route 3 in East Rutherford, Bergen County, New Jersey. This property is affiliated with the American Dream Meadowlands, formerly Meadowlands Xanadu.

Nine AOCs were identified and evaluated and the findings are detailed in the Preliminary Assessment Report (PAR), Site Investigation Report (SIR), and the Remedial Investigation Report (RIR). These AOCs and their status are listed below and briefly described in this RAW.

- AOC 1 - Two diesel fuel (275 gallons each) Aboveground Storage Tanks (ASTs);

- AOC 4 - Chemical storage cabinet/closet;
- AOC 7 - Discolored or spill area;
- AOC 11 - Electrical transformer and capacitor;
- AOC 12 - Floor drain collection system;
- AOC 14 - Hazardous material storage or handling area;
- AOC 15 - Historic fill or any other fill material;
- AOC 33 - Surface water body (Wetlands); and,
- AOC 38 - Groundwater.

In addition to the AOCs, the SIR and RIR investigation findings and analytical results identified compounds that are not typical of historic fill. These compounds include antimony, extractable petroleum hydrocarbons (EPH), poly chlorinated biphenyls (PCB), cyanide, dichlorodiphenyltrichloroethane (DDT), and chlordane which were reported at concentrations exceeding the NJDEP Non-Residential Direct Contact Soil Remediation Standards (NRDCSRS) and the NJDEP Ecological Screening Criteria (ESC). These compounds have been delineated and are proposed for remedial action. In addition to the AOCs, historic fill, groundwater, concrete will be encountered and reused (fill and concrete) on the property and unforeseen environmental conditions may be encountered during redevelopment activities.

This RAW provides the protocols for the known and unforeseen conditions needed for the development project. Ultimately, institutional and engineering controls (building, soil, fence, etc.) will be established for the fill and groundwater with a Deed and Classification Exception Area (CEA). This RAW has been prepared in accordance with the NJDEP Technical Requirements for Site Remediation (Technical Rules N.J.A.C. 7:26E), Fill Guidance at SRP Sites, Historic Fill and Diffuse Anthropogenic Pollutants Technical Guidance, and Ecological Evaluation Guidance.

1.0 INTRODUCTION

Langan has developed this Remedial Action Workplan (RAW), on behalf of Triple Five, LLC, to facilitate the proposed development activities the Amusement Park and Water Park (APWP) Project associated with the American Dream Meadowlands. The project is located on Block 107.2, Lot 3, in East Rutherford, New Jersey (Figure 1). The RAW provides the proposed scope of work for the proposed remedial action activities recommended for areas of concern (AOCs) on the property. These AOCs were identified in the 19 October 2011 Preliminary Assessment Report (PAR) and the investigation results and conclusions are summarized in the 19 October 2011 Site Investigation Report (SIR) and the December 2011 Remedial Investigation Report (RIR). The AOCs are shown on Figure 2.

Based on the PAR, SIR and RIR findings and analytical results, the recommended remedial action activities, prior to demolition, include proper decommissioning of the inactive ASTs; verifying presence/absence of floor drains; remove remaining chemical containers; sample lead/asbestos/concrete/brick/caulk of the three radio tower sheds; and, the excavation of five soil "hot spots".

Based the proposed filling and construction activities, on-site soil/fill and concrete reuse was selected as the most efficient and cost effective remedial strategy for managing the fill and concrete during the construction activities, followed by establishing institutional and engineering controls (building, soil, fence, etc.) for the remaining soil and groundwater with a Deed and Classification Exception Area (CEA). This RAW was developed in general accordance with the requirements of the N.J.A.C 7:26E, Technical Requirements for Site Remediation, amended 3 October 2011.

1.2 Purpose

The purpose of this RAW is to facilitate the Amusement Park and Water Park Project development as a beneficial use project for approved on-site reuse of alternative fill and off-site sources of beneficial use alternative fill, as described herein.

The objective of this RAW is to establish a protocol for the proposed remedial action for the AOCs, five "hot spots", re-use of on-site fill material and concrete and use of off-site alternative fill, and the handling and management of unforeseen environmental conditions during construction and redevelopment. The fill being handled shall meet the criteria set forth in this RAW. Procedures for the approval of certified clean fill/soil, not considered as beneficial use material for this project, are not addressed in this RAW.

The RAW will address the following conditions prior to, during and after site development:

- Areas of Concern (AOCs);
- "Hot spot" removal;
- Historic Fill;
- Groundwater;
- Unforeseen Environmental Conditions;
- Health and Safety;
- Soil and Concrete Reuse and Alternative Fill;
- Perimeter Air Monitoring; and,
- Hazardous Materials (Haz-Mat Inspection Report).

1.3 Site Description and History

In early 2011, Triple Five Development (Triple Five) entered into an agreement to purchase the main component (Entertainment/Retail Component (ERC)) of the former Meadowlands Xanadu Redevelopment Project located at the Arena Site of the Meadowlands Sports Complex in East Rutherford, Bergen County, New Jersey. The project has since been renamed American Dream Meadowlands Triple Five intends to build a new entertainment component consisting of an integrated indoor Amusement Park and Water Park facility immediately adjacent to and connecting to the ERC.

The Amusement Park and Water Park Project will be an entertainment component of American Dream Meadowlands. The Amusement and Water Park is proposed to be constructed on property located to the south of the Arena Site known as the "radio tower site". The radio tower site is approximately 22 acres. The approximate center point of the property is 40.806905° N, 74.070072° W (Northing 611236.4 and Easting 719141.1).

The site is located in the Hackensack Meadowlands District and is designated as Block 107.02, Lot 3 on the East Rutherford Tax Map (Figure 1). The property is bound to the north by the "East Peripheral Road," to the east by the New Jersey Turnpike, to the south by NJ State Route 3, and to the west by NJ State Route 120.

The property is presently developed with three, 500+ foot high steel lattice radio transmission towers, access roads and radio transmission building (see Figure 2). The three radio towers are aligned in a southwest to northeast orientation near the central portion of the property. The transmission building, associated parking and access driveways are located in the southern and western sections of the property.

The property has been used for radio transmission for several decades. Based on a review of historic aerial photographs, the property and adjacent lands were filled before 1967 as part of the development of Route 120. With the construction of the New Jersey Turnpike and the Meadowlands Sports Complex in the 1960's and 1970's, further filling and isolation of this property from the Hackensack River is evident. According to the New Jersey Geological Survey Historic Fill Map (2009), the radio tower site is located within a filled area.

1.4 Previous Environmental Investigations

Nine Areas of Concern (AOCs) were identified through a diligent review of current and historical documents and a recent inspection of the property (22

August 2011) and reported in the October 2011 Preliminary Assessment Report (PAR). These nine AOCs are summarized below and located on Figure 2.

- AOC 1 - Two diesel fuel (275 gallons each) Aboveground Storage Tanks (ASTs)
- AOC 4 - Chemical storage cabinet/closet
- AOC 7 - Discolored or spill area
- AOC 11 - Electrical transformer and capacitor
- AOC 12 - Floor drain collection system
- AOC 14 - Hazardous material storage or handling area
- AOC 15 - Historic fill or any other fill material
- AOC 33 - Surface water body (Wetlands)
- AOC 38 - Groundwater

Included in the 2011 PAR was a summary of a subsurface investigation performed in 2008 that included the advancement of borings and the collection of samples (soil and concrete) for laboratory analysis. The soil and concrete samples were related to discolored areas (AOC 7); former transformers (AOC 11); and, fill material, including the material used to support the electrical lines to the radio towers (AOC 15). The 2008 investigation identified the presence of localized stained concrete that did not appear to impact the surrounding soil (AOCs 7 and 11) and historic and non-historic fill material (AOC 15) throughout the property. The chemical composition of the historic fill includes polycyclic aromatic hydrocarbons (PAHs), poly-chlorinated biphenyls (PCBs), extractable petroleum hydrocarbons (EPH) and metals above the NJDEP Non-Residential Soil Remediation Standards (SRS).

Based on the findings of the 2008 investigation and the information provided in the 2011 PAR, additional investigations were performed in 2011 and documented in the 19 October Site Investigation Report (SIR) and Remedial Investigation Report (RIR). Soil borings and temporary well points were advanced to collect additional information. Building concrete samples were

collected to assess the feasibility of using the future demolition debris from the proposed building as fill material onsite.

The results of the investigations confirmed the presence of historic fill throughout the property and that the concrete can be reused onsite. PCBs, antimony, EPH and chlordane, which are not associated with historic fill, were reported above their NJDEP Non-Residential SRS. As such, this RAW includes the proposed remedial actions recommended for these non-historic fill compounds to comply with the NJDEP Technical Requirements for Site Remediation.

The 2008 and 2011 investigations were completed in conformance with the NJDEP's *Technical Requirements for Site Remediation*, (N.J.A.C. 7:26E), amended 3 October 2011); and, NJDEP's *Field Sampling Procedures Manual*, updated 20 April 2009.

1.5 Remediation Standards

The proposed remediation activities will be completed to comply with the NJDEP requirements for historic fill set forth in N.J.A.C. 7:26E-6.2(b) and (c). Contaminant concentrations which will remain are expected to be within the target contaminant concentrations allowable by the NJDEP (as identified in N.J.A.C. 7:26E-4.6(b) 3 - Table 4-2 of the NJDEP'S Technical Requirements). If during the course of remediation, the criteria cannot be achieved, site specific criteria may be proposed.

The remediation standards for soil/fill, concrete, and groundwater at the site are as follows:

- NJDEP Non-Residential Direct Contact Soil Remediation Standards (NRDCSRS);
- NJDEP Groundwater Quality Standards (GWQS) for groundwater; and,
- NJDEP Ecological Screening Criteria (ESC).

2.0 ENVIRONMENTAL CONCERNS AND SUMMARY OF REMEDIAL ACTIONS

The environmental concerns for the property include areas of concern (AOCs), "hot spots", historic fill, groundwater, and unforeseen environmental conditions that may be encountered during the proposed construction and redevelopment activities associated with the Amusement Park and Water Park Project. The following sections describe the environmental concerns and the proposed remedial actions.

2.1 Areas of Concern (AOCs)

Through a review of current and historical documents and an inspection of the property, nine AOCs were identified, evaluated and investigated at the property. The findings and results of the historical review and investigations are provided in the Preliminary Assessment Report (PAR), Site Investigation Report (SIR), and the Remedial Investigation Report (RIR). These nine AOCs are briefly described below followed by the proposed remedial actions.

2.1.1 Description of AOCs

- **AOC 1 –Aboveground Storage Tanks (AST):** Two diesel fuel (275 gallons each) ASTs are located in the transmitter building and may be filled with fuel. Borings were advanced to investigate the surrounding concrete and the concrete results were below the NJDEP SRS. No further SI/RI investigations are recommended.

- **AOC 4/14 – Chemical Storage and Hazardous Chemicals:** Chemical containers (e.g., buckets, drums, cylinders, etc.) are located within the transmitter building and the three tower sheds. These contain of roof sealant, cleaning agents, nitrogen, etc. Samples were collected to investigate the surrounding concrete and the results were below the NJDEP SRS. No further SI/RI investigations are recommended.

- **AOC 7 – Discolored/Spill Areas:** Discolored and stained concrete were noted near generator. Borings were advanced to investigate the surrounding concrete and the concrete results were below the NJDEP SRS. No further SI/RI investigations are recommended.

- **AOC 11 – Electrical Transformers and Capacitors**: Transformers formerly contained PCBs. As such, soil borings were advanced during the SI/RI to evaluate the concrete and soils near the transmitter building. The soil was delineated and no further SI/RI investigation is needed.

- **AOC 12 – Floor Drains:** A complete inspection of the floors could not be performed due to debris/containers that covered approximately 60 percent of the floor. After the debris and containers are removed, a final floor inspection is recommended.

- **AOC – 15 Historic fill:** The property was filled between the 1950s and 1980s and fill has been observed site-wide. The fill was sampled in 2008 and 2011 and contains concentrations of PAHs and metals above the NJDEP NRDCSRS. The PAHs and metals have been delineated and will be included in the site-wide Deed Notice for soil and CEA for groundwater. In addition to the PAHs and metals, antimony, EPH, chlordane, cyanide, DDT, mercury, and PCBs greater than 1.0 mg/kg were also reported in the fill above the NJDEP NRDCSRS. These compounds were further evaluated and delineated within the fill and will be excavated. The areas where these contaminants were reported are referred to as the five "hot spots" (Section 2.2, below).

- **AOC 33 – Surface Water Bodies**: Tidal and non-tidal wetlands were identified, evaluated and delineated on the property. Historic fill was placed site-wide, including within the wetlands,

and contain concentrations of PAHs and metals above the NJDEP NRDCSRS. The contaminants have been delineated and will be included in the Deed Notice for soil and CEA for groundwater. With the exception of antimony, EPH, chlordane, cyanide, DDT, mercury, and PCBs greater than 1 mg/kg will be excavated ("hot spots").

- **AOC 38 – Groundwater**: The groundwater quality evaluation revealed that groundwater is impacted by historic fill. SPLP mercury was reported below the NJDEP default SPLP criteria. One permanent monitoring well and a CEA are proposed for the historic fill compounds.

2.1.2 Remedial Design of AOCs

The nine AOCs have been evaluated through a review of by historical aerials, maps, site inspection, borings, samples and/or laboratory analysis. The nine AOCs, with the exception of AOC 12 – Floor drain collection system, were evaluated and the results are detailed in the SIR and RIR.

Langan recommends the following remedial actions for the AOCs:

- AOC 1 – The two ASTs shall be properly decommissioned prior to demolition of the transmitter building.
- AOC 4/14 –Proper removal and disposal of the chemical containers are recommended prior to demolition.
- AOC 11 Electrical Transformers/Capacitors should be removed and disposed of off-site.
- AOC 12 – Confirm presence/absence of floor drains prior to demolition and further investigation may be needed, if floor drains are found.

- AOC 15 – Historic fill, with the exception of the "hot spots" (see Section 2.2), will be included in the Deed Notice for soil and CEA for groundwater.
- AOC 33/38 Surface Water and Groundwater. One permanent monitoring well and a CEA are proposed for the historic fill compounds.

2.2 Hot Spots

2.2.1 Description

The "hot spot" areas include compounds that contain antimony, EPH, chlordane, cyanide, DDT, mercury, and PCBs greater than 1.0 mg/kg and have been evaluated and delineated within the historic fill. PCBs were reported above the NJDEP NRDCSRS in samples F-1F, S-4A, S-4B, S-5A, and S-5B. EPH was reported above the NJDEP NRDCSRS in sample C-1F. Antimony was reported above the NJDEP NRDCSRS in sample C-2. Chlordane was reported above the NJDEP NRDCSRS in sample S-5A. These exceedances have been horizontally and vertically delineated to or below the NJDEP Residential Direct Contact (RDC) SRS. These compounds are associated with AOCs 15 and 33, noted above (Section 2.0). Additional compounds (cyanide and DDT) were identified during the Ecological Evaluation and will be included in the "hot spot" excavation activities. The five "hot spots"; C-1, C-2, F-1, S-4, and S-5 have been evaluated and delineated and these locations are described below and shown on Figure 4.

- At sample location C-1, total petroleum hydrocarbons (TPH) were reported at 7,700 mg/kg in 2008. In 2011, the sample was horizontally delineated by samples C-1A through C-1D and vertically delineated by C-1E-1 at 7 feet below grade.

- At sample location C-2, antimony was reported at 690 mg/kg in 2008. In 2011, the sample was horizontally delineated by

samples C-2A through C-2D and vertically delineated by C-2E-1 at 8.5 feet below grade. Using these sample locations, the proposed excavation limits have been estimated and shown on Figure 4.

- At sample location F-1, PCBs was reported at 3.59 mg/kg in 2008. In 2011, the sample was horizontally delineated by samples F-1A through F-1D. Vertical delineation was achieved in 2008 by sample F-1N at 14.5 feet below grade.

- At sample location S-4, PCBs was reported at 1.6 mg/kg in July 2011. In August and October 2011, the sample was horizontally delineated by samples S-4A (August), S-4B, and S-4D. Samples S-4C and S-4E had exceedances and were delineated. Vertical delineation was achieved by sample S-4F-1F at 4 feet below grade.

- At sample location S-5, PCBs and chlordane was reported at 3.5 and 0.57 mg/kg, respectively, in July 2011. Chlordane was vertically delineated in July 2011; however, it was not horizontally delineated. Therefore, additional sampling was performed in October 2011, to horizontally delineate PCBs and chlordane and to vertically delineate PCBs. The PCBs and chlordane concentrations at S-5 were horizontally delineated by samples S-5A (August), S-5B (August), and S-5F. Samples S-5C and S-5D had exceedances and were delineated. Vertical delineation was achieved by samples S-5B and S-5E for chlordane at 1 foot and PCBs at 4 feet below grade, respectively.

2.2.2 Remedial Design

Based on the SI and RI investigations, Langan proposes to excavate the "hot spots". The proposed excavation limits are provided on Figure 4.

The approximate amount of soil to be excavated from each location is noted below.

- At sample location C-1, total petroleum hydrocarbons (TPH) concentration of 7,700 mg/kg will be removed and disposed of offsite. The estimated amount of soil to be excavated from this location is approximately 100 cubic yards.

- At sample location C-2, antimony was reported at 690 mg/kg. The estimated amount of soil to be excavated from this location is approximately 100 cubic yards.

- At sample location F-1, PCBs was reported at 3.59 mg/kg. The estimated amount of soil to be excavated from this location is approximately 300 cubic yards.

- At sample location S-4, PCBs was reported at 1.6 mg/kg. The estimated amount of soil to be excavated from this location is approximately 200 cubic yards.

- At sample location S-5, PCBs and chlordane was reported at 3.5 and 0.57 mg/kg, respectively. The estimated amount of soil to be excavated from this location is approximately 200 cubic yards.

Excavated soil can be placed adjacent to the excavation on plastic or in properly labeled drums, stockpiled/stored in a central location on plastic, or placed in a truck for offsite disposal. The soil will be properly classified prior to off site disposal. The soil will be disposed of at a NJDEP and property owner approved location. The oversight of the excavation work will be performed in accordance with the Langan HASP for Langan employees (Appendix A).

2.3 Historic Fill

2.3.1 Description

The recently completed PAR, SIR and RIR identified the presence of site-wide historic fill (AOC 15) with varying thicknesses. The depth of fill is approximately 17 feet below grade in the northern and central portions of the property. In the wetlands along the southern boundary the fill is located at the surface.

The historic fill consists of brown sand with traces of silt, organics, and miscellaneous materials such as wood, plastic, fabric, concrete, brick, tires, glass, paper, and cardboard. As indicated in the SI and RI, analytical results for samples collected from the fill primarily indicate the presence of polycyclic aromatic hydrocarbons (PAHs) and metals at concentration levels above their respective NJDEP RDCSRS. The majority of the compounds reported at the property above the NJDEP SRS are reflective of NJDEP's definition of typical historic fill as set forth on Table 4-2 of the Tech Rules. The PAH and metal compounds are ubiquitous throughout the property.

2.3.2 Remedial Design

Areas containing historic fill are anticipated to be disturbed during Site redevelopment activities which will occur for the American Dream Meadowlands Project. As such, historic fill will be excavated, graded, and reused throughout the property. There is no anticipated chemical pretreatment or stabilization of the historic fill prior to its reuse or disposal. However, in those instances where material being proposed for reuse is geotechnically unsuitable due to but not exclusive of the high clay/organic composition of the materials, the material may be excavated for off-site disposal or blended using a stabilization material like a cement based mixture to yield a desired geotechnical composition.

Based on the PAR, SI, and RI investigations, Langan proposes to establish institutional and engineering controls to address the historic fill that remains throughout the property above the unrestricted use NJDEP soil remediation standards (SRS). The Deed Notice will consist of institutional controls that will meet requirements of Appendix E of the Tech Rule, N.J.A.C. 7:26E and engineering controls that will consist of a cap e.g., asphalt pavement, concrete, associated structure, and landscaped areas). Areas that are within the property boundary that will not be filled, capped, or developed (e.g., will not be disturbed) will be fenced or other engineering controls (e.g., sign) will be utilized.

The soil reuse plan (SRP) provides the protocol for handling and management of the historic fill. The historic fill to be reused is located within the boundaries of the Site. The historic fill will be "capped" with asphalt, concrete, or an earthen surface (landscape) as conceptually illustrated in the SRP. The SRP has been prepared in accordance with NJDEP's Fill Guidance at SRP Sites (August 2011) and Historic Fill and Diffuse Anthropogenic Pollutants Technical Guidance. The SRP is provided in Appendix B.

At the completion of the project, a Deed Notice will be filed with the county and the appropriate state and local authorities to reflect the construction activity. The details of the placement or location of the fill will be identified within the Remedial Action Report (RAR) and Deed Notice.

In the event that excess historic fill is generated and cannot be reused on the property, the material will be stockpiled on-site prior to disposal. Stockpiled soils for disposal will be appropriately staged on and covered with 10 mil, polyethylene sheeting. The soils will be sampled in accordance with the receiving facility's pre-qualification protocols. Upon receiving approval from the facility, the materials will be loaded and transported to the receiving facility by a licensed hauler.

2.4 Groundwater

2.4.1 Description

Groundwater quality has been evaluated during the SI and RI (AOC 38) through temporary well points. Samples were collected for full TCL/TAL analysis during the SI and then for total and dissolved mercury analysis during the RI investigation. The total results (not filtered) indicate the presence of PAHs and metals, associated with the historic fill and are at concentrations above the NJDEP GWQS. The dissolved mercury sample was below the NJDEP GWQS. The SI and RI recommendations for groundwater include the installation of a permanent monitoring well and the development of a Classification Exception Area (CEA).

2.4.2 Remedial Design

If during the construction dewatering, free product is encountered on the groundwater, extraction of the free product will be conducted. Specifically, sweeps and booms will be placed across the surface of the water to collect the free product. If seeps and booms are not practicable, the free product will be pumped into bulk storage tanks for off-site disposal. Any groundwater generated as a result of the construction activities will be addressed in accordance with applicable local, state and federal rules and regulations. If needed, the groundwater will be sampled in accordance with the receiving facility's pre-qualification protocols. After the receipt of disposal approval, the materials will be loaded and transported to the receiving facility by a licensed hauler.

The findings, supporting information, and recommendations will be submitted to the appropriate local, county and state agencies at the completion of the remedial activity and summarized in the Remedial Action Report (RAR). The RAR will include the Classification Exception Area (CEA).

2.7.2 Concrete/Masonry Characterization Analytical Results

The concrete/masonry activities results indicated concrete/masonry samples from the transmitter building did not contain compounds above the NJDEP SRS. The doorway caulking sample (DC-1) did not contain PAHs or PCBs above the NJDEP SRS. The window caulking sample contained PCBs at 19.7 mg/kg, above the NJDEP SRS and will be properly disposed.

The concrete/masonry materials and doorway caulking in the radio transmitter building can be re-used as fill on the property. The window caulking is considered solid waste and must be treated in accordance with the Solid Waste Regulations of N.J.A.C. 7:26.

3.0 REMEDIAL ACTION MONITORING PLANS

This RAW includes the following documents to accomplish the proposed remedial actions:

- Health and safety plan (HASP);
- Soil reuse plan (SRP);
- Perimeter air monitoring plan (PAMP); and,
- Hazardous Materials Inspection Report.

The HASP, SRP, and PAMP documents the protocol for worker health and safety; handling and management of on site and off site fill and concrete; and, air and dust monitoring for the contaminants on site, respectively. The Haz-Mat report includes the investigation and findings of the asbestos and lead-based paint survey. Note additional sampling (lead/asbestos/concrete/brick/caulk) is recommended prior to demolition of the three radio tower sheds.

The proposed soil reuse activities will be performed in compliance with applicable federal, state and local regulations. The contractor conducting the earth moving

activities will provide their HASP (designated as Contractor HASP), which will conform to the Langan HASP. The Langan HASP is for Langan employees working on the property and can be used as guidance for the preparation of the Contractor HASP. The Contractor HASP will include measures to be implemented in order to mitigate environmental impacts caused during handling and transportation of the soil, as briefly discussed below.

These documents are briefly discussed below. The HASP, SRP, PAMP, and Hazmat reports are provided in Appendix A, B, C, and D, respectively.

3.1 Health and Safety Plan (HASP)

Langan prepared a HASP which is provided in Appendix A. The HASP provides the procedures related to the protection of on-site Langan personnel during field activities. The HASP is specific to site inspections, remedial and development activities (e.g., excavation, sampling, etc.). The HASP is prepared in accordance with the requirements set forth in Occupational Safety and Health Administration (OSHA) standards and regulations.

The HASP describes the contaminants reported during the SI and RI investigations and levels of contamination, contingency action in the event of detection of unanticipated potential environmental hazards, and the personnel protective measures during excavation, stockpiling and reuse.

3.2 Soil Reuse Plan (SRP)

The Soil Reuse Plan (SRP) is provided in Appendix B and is briefly described below. The proposed project consists of the construction of a commercial amusement park and water park indoor facility at the site. The excavated soil will be re-used to raise the grade at the site for the proposed amusement park and water park foundations, utilities, etc. Concrete will be reused from the three demolished radio towers and the radio transmitter building. The concrete will be used as fill on the site in accordance with the NJDEP document entitled

Guidance for Characterization of Concrete and Clean Material Certification for Recycling.

As noted above, the historic fill and concrete will be reused on the property; however, some of the soils may not be suitable for use as compacted fill. Therefore, it may be necessary to import fill. The imported fill will be "like-on-like" in accordance with the NJDEP document entitled Fill Guidance at SRP Sites.

Similar to the historic fill and concrete, the imported fill will underlie the portions of the property that will be "capped" with the building foundations, and/or asphalt. At the completion of the project, a Deed Notice will be filed with the Bergen County Clerk's office to reflect the construction activity and the capping of the fill on site.

3.3 Perimeter Air Monitoring (PAMP)

Perimeter air monitoring is recommended along the perimeter of the property based upon the nature of the soil excavation and development activities for the project during the construction phase of the project. The PAMP (Appendix C) provides action levels for particulates and airborne fibers; instrumentation; air monitoring procedures; and an alarm response plan. The PAMP provides the recommendations for excavation activities, and handling of contaminated soils generating fugitive dusts, and dust suppression measures. The recommendations, methods, and measures are provided in Appendix C.

3.4 Hazardous Materials Inspection Report

A Hazardous Materials Inspection Report has been prepared and provided in Appendix D and is briefly summarized herein. This report summarizes the presence/absence of hazardous and potentially-hazardous materials (hazmat) identified on the property that requires removal and disposal prior to demolition of the structures. The structures located on the property include three radio

antenna towers, each accompanied by a shed located at the base of each antenna tower, and a transmitter building.

The hazmat report evaluated Asbestos Containing Materials (ACM), Lead-Based Paint (LBP), Polychlorinated Biphenyls (PCB), and/or Mercury-containing electrical components, chemical containers (paints, fuels, oils, cleaning agents, etc.), coolants (glycol, Freon), smoke detectors and/or emergency signs containing radioactive elements, consumer electronics containing potentially hazardous materials, and concrete impacted by PCBs and polynuclear aromatic hydrocarbons (PAHs).

- Asbestos-Containing Materials (ACM)
  Asbestos-containing green 9" x 9" floor tiles and associated mastic were identified throughout a majority of the interior of the transmitter building. This material is currently concealed beneath two layers of non-ACM 12"x 12" floor tiles and associated mastics. Refer to the report for a detailed inventory of the inspection findings.

- Lead-Based Paint (LBP)
  A comparison of the X-ray Fluorescence (XRF) screening results to the Housing and Urban Development (HUD) guidelines revealed the window assemblies, door assemblies, and structural steel in the transmitter building exhibit LBP. The radio antenna towers also exhibit LBP. Refer to the report for a detailed inventory of the LBP screening results.

- PCB and Mercury-Containing Electrical Equipment
  Fluorescent light fixtures were observed throughout the transmitter facility. The fixtures were energized and could not be dismantled, therefore, for the purpose of this investigation ballasts are assumed to be PCB-containing. Four transformers are located on the property; one within the transmitter building and one within the shed located at the base of each of the three towers. The fluids within these transformers

are assumed to be PCB-containing. Refer to the report for an inventory of the PCB/Mercury-containing components identified.

- Miscellaneous Chemicals
  A variety of chemical products were observed throughout the transmitter building, including: diesel fuel; oils; coolants; roofing tar; cleaning products; batteries; compressed gas cylinders; and paints. These materials and their containers, particularly the two 550-gallon diesel fuel tanks, require proper removal and disposal prior to demolition of the transmitter building. Refer to the report for an approximate inventory of the miscellaneous chemicals identified.

- Radioactive Materials
  Smoke detectors and emergency signs that may contain radioactive elements were observed throughout the transmitter building. After the building's electrical system is de-energized, and prior to demolition of the building, these items should be inspected to determine their radioactive content. Items containing radioactive elements must be removed and properly disposed of prior to demolition of the building.

- Consumer Electronics
  A variety of consumer electronics remain in the transmitter, including: computers; computer monitors; telephones; and other equipment. These items may contain hazardous substances and should be removed and properly disposed of prior to demolition of the transmitter building.

- Impacted Concrete and Masonry
  Concrete containing PCBs at concentrations above NJDEP remediation standards was found at two locations within the transmitter building. Caulking containing PCBs was also found on the transmitter building windows. Refer to the report for a summary of the sample results. The caulking and areas of impacted concrete must be removed and properly disposed of prior to demolition of the building. In addition, concrete and

masonry materials at the radio tower foundations and sheds must be sampled and characterized following removal of the radio towers and before demolition of the foundation and sheds.

4.0 PROPOSED SCHEDULE

To be determined at a later date.

5.0 REFERENCES

Preliminary Assessment Report (PAR) dated 19 October 201, prepared by Langan

Site Investigation Report (SIR), dated 19 October 2011 prepared by Langan

Remedial Investigation Report (RIR), prepared by Langan

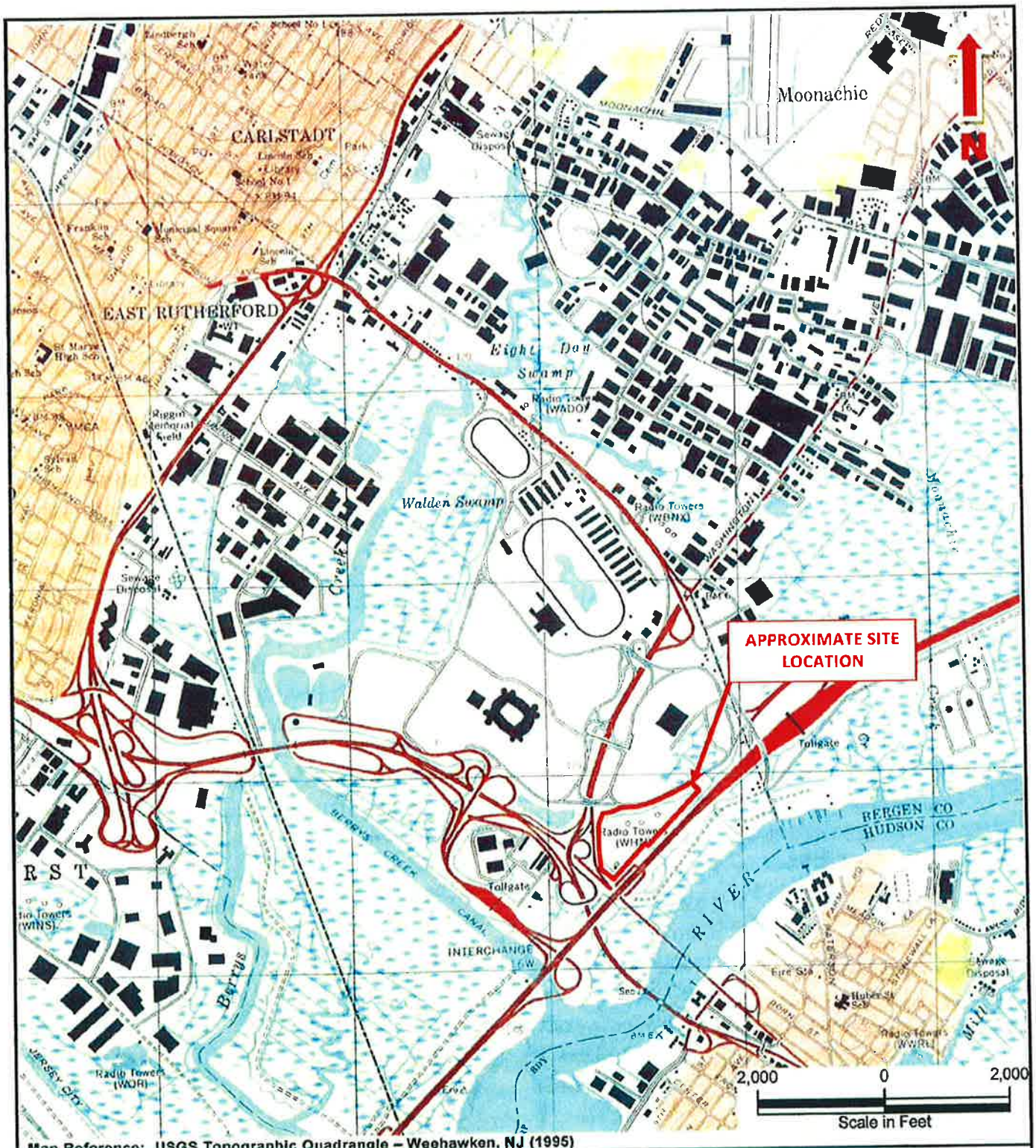
N.J.A.C 7:26E, Technical Requirements for Site Remediation, amended 3 October 2011

NJDEP Fill Guidance at Site Remediation Program (SRP) Sites, Version 1.0, dated 11 August 2011

NJDEP Historic Fill Material and Diffuse Anthropogenic Pollutants Technical Guidance, 20 October 2011

Field Sampling Procedures Manual, NJDEP, August 2005 (updated April 2011)

NJDEP Ecological Screening Criteria, March 2009



Map Reference: USGS Topographic Quadrangle – Weehawken, NJ (1995)

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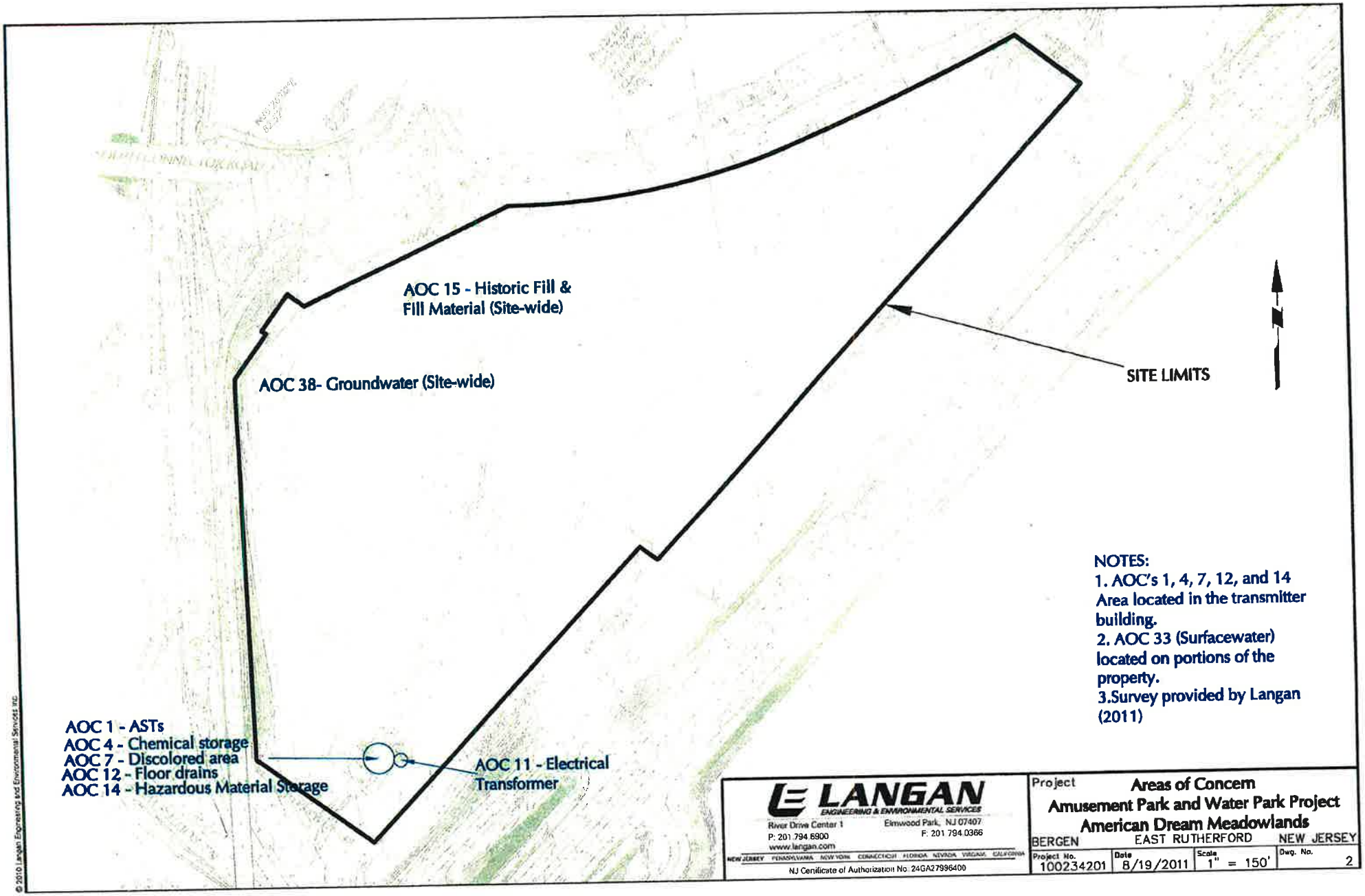
ELMWOOD PK, NJ • NEW YORK, NY • PHILADELPHIA, PA • DOYLESTOWN, PA
NEW HAVEN, CT • MIAMI, FL • TRENTON, NJ

USGS SITE LOCATION MAP
AMUSEMENT PARK AND WATER PARK
AMERICAN DREAM MEADOWLANDS
BLOCK 107.02, LOT 3

EAST RUTHERFORD — NEW JERSEY

JOB NO.	DATE	SCALE	FIGURE NO.
100234201	10/13/2011	1"=2,000'	1

NJ Certificate of Authorization No: 24GA27996400
\\langan.com\data\EP\data2\100234201\Office Data\Reports\Environmental\Site Investigation\Figures\Figure 1 - USGS Site Location Map.doc



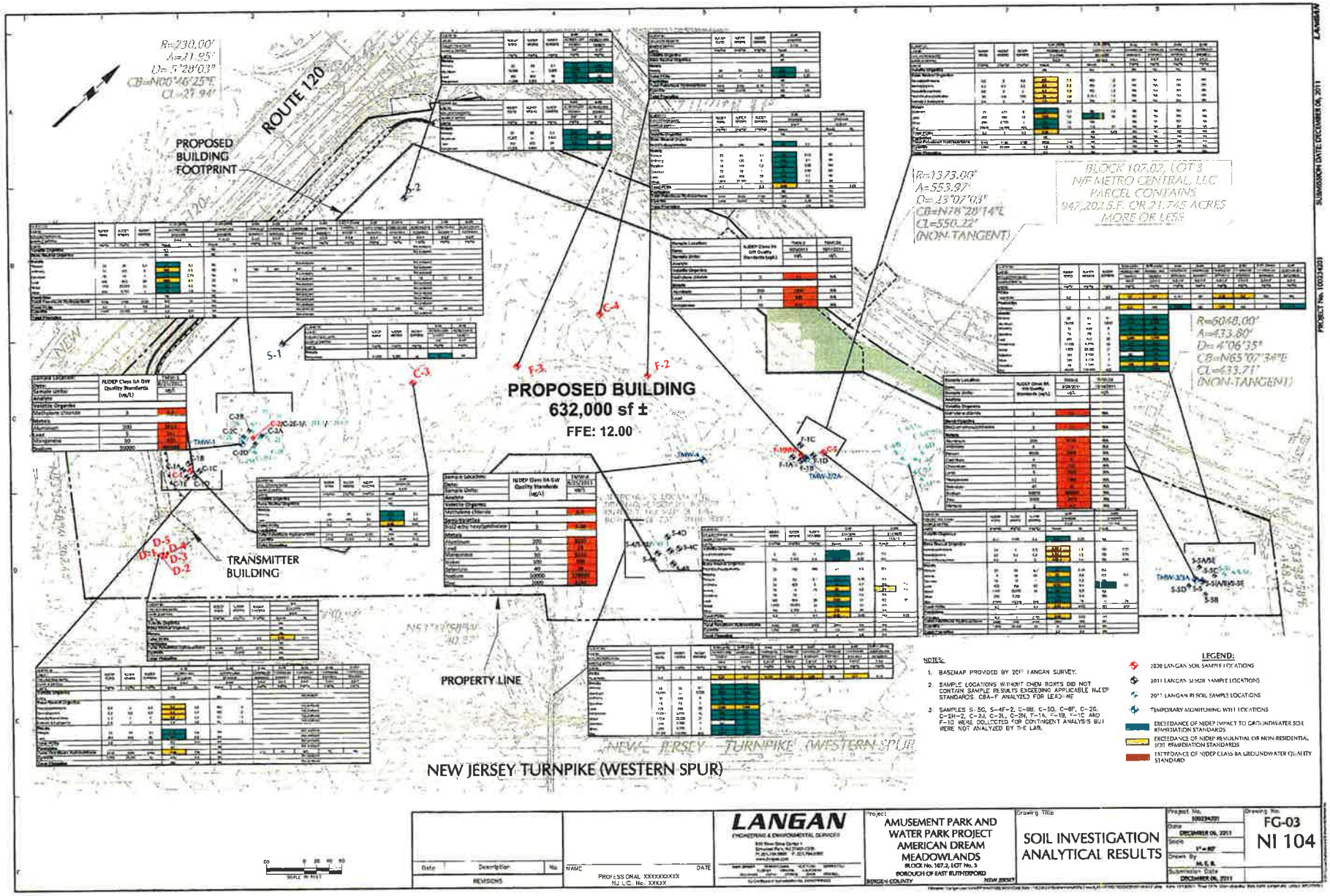
NOTES:
1. AOC's 1, 4, 7, 12, and 14 Area located in the transmitter building.
2. AOC 33 (Surfacewater) located on portions of the property.
3.Survey provided by Langan (2011)

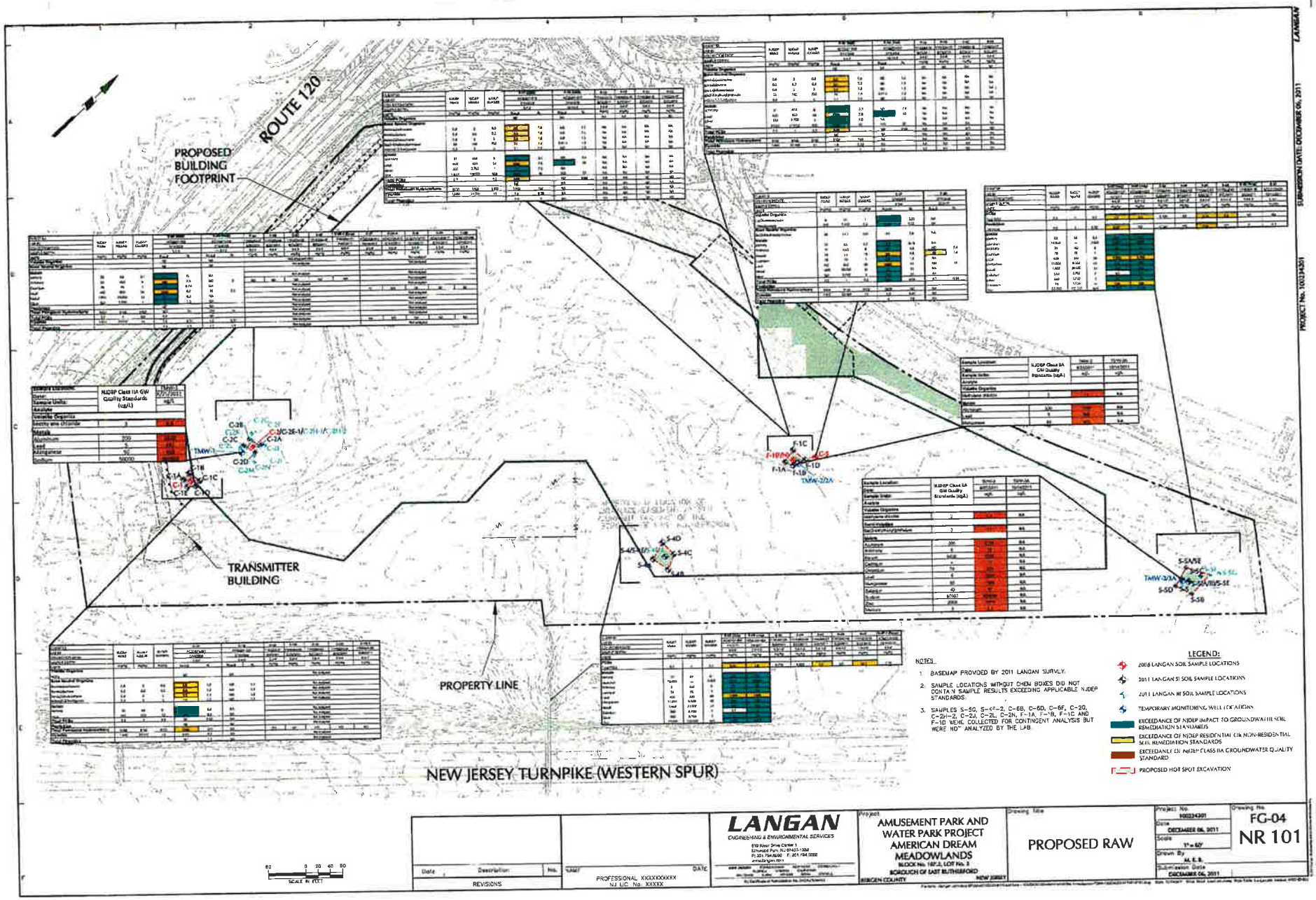
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NEW JERSEY PENNSYLVANIA NEW YORK CONNECTICUT FLORIDA NEVADA VIRGINIA CALIFORNIA
NJ Certificate of Authorization No. 24GA27996400

Project: Areas of Concern
Amusement Park and Water Park Project
American Dream Meadowlands
BERGEN EAST RUTHERFORD NEW JERSEY

Project No.	Date	Scale	Dwg. No.
100234201	8/19/2011	1" = 150'	2

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R=230.00'
A=31.95'
D=7°58'03"
CB=N06°46'25"E
CL=31.94'
ROUTE 120
PROPOSED BUILDING FOOTPRINT
R=1373.00'
A=553.97'
D=23°07'13"
CB=N78°28'14"E
CL=550.22'
(NON-TANGENT)
BLOCK 107.03, LOT 3
N/F METRO CENTRAL, LLC
PARCEL CONTAINS
947,207 S.F. OR 21.745 ACRES
MORE OR LESS
R=5048.00'
A=433.80'
D=4°55'35"
CB=N65°07'34"E
CL=433.71'
(NON-TANGENT)
PROPOSED BUILDING
632,000 sf ±
FFE: 12.00
TRANSMITTER BUILDING
PROPERTY LINE
NEW JERSEY TURNPIKE (WESTERN SPUR)
NOTES:
1. BASEMAP PROVIDED BY 2011 LANGAN SURVEY.
2 SAMPLE LOCATIONS WITHOUT CHEM BOXES DID NOT CONTAIN SAMPLE RESULTS EXCEEDING APPLICABLE NJDEP STANDARDS. CBA-F ANALYZED FOR LEAD-ONE
3 SAMPLES S-5D, S-4F-2, C-08, C-5D, C-6F, C-2G, C-2H-2, C-2J, C-2L, C-2N, T-1A, T-1B, T-1C AND F-1D WERE COLLECTED FOR CONTINGENT ANALYSIS BUT WERE NOT ANALYZED BY THE LAB.
LEGEND:
2030 LANGAN SOIL SAMPLE LOCATIONS
2011 LANGAN SESOIL SAMPLE LOCATIONS
2011 LANGAN RI SOIL SAMPLE LOCATIONS
TEMPORARY MONITORING WELL LOCATIONS
EXCEEDANCE OF NJDEP IMPACT TO GROUNDWATER SOIL REMEDIATION STANDARDS
EXCEEDANCE OF NJDEP RESIDENTIAL OR NON-RESIDENTIAL SOIL REMEDIATION STANDARDS
EXCEEDANCE OF NJDEP CLASS IIA GROUNDWATER QUALITY STANDARD
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Project:
AMUSEMENT PARK AND WATER PARK PROJECT
AMERICAN DREAM MEADOWLANDS
BLOCK No. 107.2, LOT No. 3
BOROUGH OF EAST RUTHERFORD
BERGEN COUNTY NEW JERSEY
Drawing Title
SOIL INVESTIGATION ANALYTICAL RESULTS
Project No. 100234701
Date DECEMBER 06, 2011
Scale 1" = 80'
Drawn By MS, E.B.
Submission Date DECEMBER 06, 2011
Drawing No. FG-03
NI 104
Date Description No.
REVISIONS
NAME DATE
PROFESSIONAL XXXXXXXXXX
NJ Lic. No. XXXXX
SCALE IN FEET
SUBMISSION DATE: DECEMBER 06, 2011
PROJECT No. 100234701



Date	Description	No.
REVISIONS		

PROFESSIONAL XXXXXXXXXX
NJ LIC. No. XXXXX
DATE

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Project: AMUSEMENT PARK AND WATER PARK PROJECT
AMERICAN DREAM MEADOWLANDS
BLOCK No. 167.2, LOT No. 5
BOROUGH OF EAST RUTHERFORD
BERGEN COUNTY NEW JERSEY

Drawing Title: PROPOSED RAW

Project No. 100234201
Date DECEMBER 06, 2011
Scale 1" = 60'
Drawn By M. E. S.
Submission Date DECEMBER 06, 2011

Drawing No. FG-04
NR 101

APPENDIX A

Health and Safety Plan (HASP)

HEALTH AND SAFETY PLAN

For

METRO CENTRAL, LLC
Amusement Park and Water Park Project
American Dream Meadowlands
East Rutherford, New Jersey

Prepared By:

Langan Engineering & Environmental Services
River Drive Center 1
Elmwood Park, New Jersey 07407
NJ Certificate of Authorization No.: 24GA27996400

29 December 2011
100234201

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ENGINEERING & ENVIRONMENTAL SERVICES

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Figure 3 Directions and Route to Hospital

By signing below, Langan personnel participating in the field investigations on site indicate they have read, understand and will comply with this Health and Safety Plan.

Printed Name	Signature	Date

1.0 GENERAL

Langan Engineering & Environmental Services (Langan) has prepared this Health and Safety Plan (HASP) for the areas of concern (AOCs), "hot spots", historic fill, groundwater, and unforeseen environmental conditions that may be encountered during the proposed construction and redevelopment activities associated with the Amusement Park and Water Park Project of American Dream Meadowlands. The project site is located in the Hackensack Meadowlands District and is designated as Block 107.02, Lot 3 on the East Rutherford Tax Map. The property is bound to the north by the "East Peripheral Road," to the east by the New Jersey Turnpike, to the south by NJ State Route 3, and to the west by NJ State Route 120 (**Figure 1 and Figure 2**).

The property is owned by Metro Central, LLC of East Rutherford, NJ. This HASP details the procedures related to the protection of on-site Langan personnel during the implementation of Field Investigation activities. **Any subcontractors conducting work at the site will be required to provide a separate site-specific HASP and/or company health and safety protocol document prior to initiating work. This HASP shall be submitted to Langan for review and comment before start of work. However, Langan does not have the authority to approve or disapprove of a subcontractor's HASP.**

On-site activities include but are not limited to:

Site Reconnaissance

- Visual assessment / Site Walk (Non-intrusive);
- Construction over-site; and,
- Air monitoring.

Remedial Activities (Intrusive)

- Soil excavation;
- Soil Disposal;
- Decontamination of excavation and transportation equipment;

The objective of this health and safety plan is to assure that working conditions at the site are protective of human health and safety and the environment. These activities are not

believed to present a high hazard of contaminant exposure to on-site workers. Nonetheless, the personnel involved in the project must be properly trained to perform site activities and to respond to emergency conditions in a manner that is protective of human health and safety and the environment.

The requirements specified in this HASP may be changed as work progresses. Changes to the HASP will only be made with prior approval of the Health and Safety Supervisor and the field manager.

The procedures in this HASP have been developed based on materials that are expected to be encountered and/or handled during project activities. Additionally, available site and environmental information has been reviewed to properly identify known hazards in the proposed project areas.

The anticipated work will be performed in accordance with applicable federal, state and local requirements, as well as Langan's standard protocol. The following technical and regulatory documents have been used in the development of this HASP: the U.S. Department of Labor Occupational Safety and Health Administration (OSHA) requirements of *29 CFR 1910 and 1926*, NJDEP's *Technical Requirements for Site Remediation* and *Field Sampling Procedures Manual*, the United States Environmental Protection Agency (U.S. EPA) 40 CFR, NIOSH *Pocket Guide to Chemical Hazards*.

Langan employees who will perform work in areas where the potential to come into physical contact with contaminated sediment, surface water, soil and/or groundwater will be required to have been properly trained in accordance with the requirements of 29 CFR 1910.120 including proof of current annual refresher training.

2.0 HEALTH AND SAFETY PERSONNEL DESIGNATIONS

This section presents information related to the assignment of responsibility for health and safety matters.

Operations that involve any exposure to site-specific contaminated materials are subject to this health and safety plan.

Langan personnel will be responsible for continuous adherence to the safety procedures during the performance of the work. In no case may work be performed in a manner that conflicts with the intent of, or the inherent safety and environmental cautions expressed in these procedures. After due warnings, personnel or subcontractors violating safety procedures will be dismissed from the site.

Persons, including subcontractors, working at the site will be properly trained in health and safety regulations associated with handling hazardous materials. As stated above, subcontractors working at the site will be required to provide a separate site-specific HASP and/or company health and safety protocol document prior to initiating work.

Persons must be aware of the fact that there is a HASP developed for the project, and also be familiar with its contents. The HASP will be made available to interested persons. A copy of the HASP will be retained on site during the project activities.

Avoiding adverse health effects and injuries to the site workers is dependent on the contribution of project participants. The person most responsible for an individual's health and safety is the worker (himself/herself). The following is a summary of the health and safety positions for this project. A complete listing of designated Health and Safety personnel for the site is provided in **Table 1**.

2.1 Field Manager

The field manager is responsible for field implementation of the HASP, enforcement of the safety rules and regulations, and consultation with the health and safety officer on regulatory or health and safety issues.

2.2 Health and Safety Officer

The Health and Safety Officer is responsible for specifying the health and safety requirements for the job and coordinating its implementation with the field manager. The Health and Safety Officer is to review and approve work plans to assure safe work regulations, policies and procedures. The Health and Safety Officer will approve any changes to the HASP.

3.0 SITE LOCATION AND BACKGROUND

3.1 Location

The Site is located at the intersections of State Highways 120 North and 3 West in the Borough of East Rutherford, Bergen County, New Jersey and is situated on approximately 22 acres of historically filled land. The site is bordered by the Meadowlands Sports Complex, to the north, the New Jersey Turnpike to the east, Route 3 to the south, and Route 120 to the west.

A Site Location Map is presented as **Figure 1**. Land use in the vicinity of the Site is a mix of industrial and commercial uses, with an emphasis on recreation venues. Project activities will be conducted solely on the property owned by Metro Central, LLC.

3.2 Background

The project is a commercial development of approximately 22 acres of land. Specifically, the work covered under this HASP will include, but is not limited to, the visual assessment of the site, construction over-site, air monitoring, and soil excavation, disposal, and re-use.

3.3 Prior Environmental Investigations

Langan prepared a Preliminary Assessment Report (PAR), Site Investigation Report (SIR), and Remedial Investigation Report (RIR) for the site. The data from the SIR and RIR indicated the site contains typical historic fill contaminants. Additionally, areas containing non-historic fill compounds (extractable petroleum hydrocarbons (EPH), antimony, chlordane, and polychlorinated biphenyls (PCBs) exist on the site. The non-historic fill compounds have been horizontally and vertically delineated and will be excavated and disposed of as described in the Remedial Action Work Plan (RAW).

4.0 HAZARD ANALYSIS

An evaluation of potential hazards has been conducted utilizing historic documents and a walk-through of the site to ensure that site activities, personnel protection, and emergency response are consistent with the types of contaminants expected to be encountered during project activities. Specific tasks that are covered by this plan include the following:

1. Visual Assessment / Site Walk (non-intrusive)
2. Construction Over-site
3. Air Monitoring
4. Soil excavation, disposal, and re-use

The hazard analysis presented in this section considers the specific tasks identified above. If contaminants other than those anticipated during the development of this HASP are encountered, personnel will be made fully aware of their hazardous properties, and the appropriate procedures, which will be utilized to prevent worker exposure.

4.1 Chemical Hazards

Results from the site investigation conducted by Langan indicate the presence of site-wide historic fill. Additionally, antimony, chlordane, EPH, chlordane, and PCBs were detected above NJDEP Non-Residential Soil Remediation Standards (SRS). No volatile organic compounds (VOC) were detected during the site investigation.

Airborne dust concentrations will be measured with a TSI DustTRAK aerosol monitor during all construction/remedial activities. Additionally, ambient VOC concentrations will be monitored with a portable photo-ionization detector (PID). The air monitoring is described in greater detail in the Perimeter Air Monitoring Plan (PAMP), provided within the RAW (Appendix C).

[redacted]

Protection of workers from chemical hazards is effected using both engineering controls and the use of personal protective equipment, as covered in Section 5.0.

4.2 Fires and Explosion Hazards

A site-specific example of a fire and explosion hazard is fuel (gasoline and diesel) used to power heavy equipment, vehicles and tools. If a localized fire occurs, dry chemical fire extinguishers will be used to bring the occurrence under control. If necessary and feasible, a fire blanket, or other inert materials will be placed on the burning area to extinguish the flames and minimize the potential for spreading. If appropriate, local fire fighting authorities will be contacted for assistance. The local fire department telephone number is listed below:

East Rutherford Fire Department – (201) 933-9411 or 911

If an uncontrolled fire develops, releasing potentially toxic gases, persons in the immediate vicinity will be evacuated.

4.3 Physical Hazards

A number of safety hazards are present at the site. The following are site-specific examples of safety hazards:

- slippery surfaces;
- underground/overhead utilities or obstructions ;
- uneven terrain;
- moving equipment and vehicles; and
- demolition/construction equipment.

To the greatest extent possible, site personnel shall minimize creating or leaving such hazards at the site. If a hazard cannot be minimized or eliminated, it should be flagged or otherwise marked in order to provide warning for the workers. This is particularly the case in physical hazards (slippery surfaces, uneven terrain, etc.) which shall be properly marked and/or fenced off, as soon as practicably possible.

Appropriate signs (e.g.: "Danger - Authorized Personnel Only") may be used to clearly mark potentially hazardous areas.

Heat Stress Hazard

Care will be taken to avoid heat stress hazards. Heat stress can occur rapidly, within as little as 15 minutes, and can lead to stroke or death. Heat stress can also result in rashes, cramps, discomfort and drowsiness, all of which can result in impaired mobility.

The Field Manager and Health and Safety Officer will plan and carefully train or instruct personnel to avoid overexertion. Frequent monitoring will also be conducted. Work rest periods and duration will be adjusted as necessary. The rest periods should be outside of work areas in a cooled area. The following heat-related illnesses, symptoms and medical responses are provided in the event that an incident does occur during site activities.

A. **HEAT STROKE** occurs when the body's system of temperature regulation fails and body temperature rises to critical levels. This condition is caused by a combination of highly variable factors, and its occurrence is difficult to predict. Heat stroke is a medical emergency. The primary signs and symptoms of heat stroke are confusion; irrational behavior; loss of consciousness; convulsions; a lack of sweating (usually); hot, dry skin; and an abnormally high body temperature, e.g., a rectal temperature of 41°C (105.8°F). If body temperature is too high, it causes death.

If a worker shows signs of possible heat stroke, professional medical treatment should be obtained immediately. The worker should be placed in a shady area and the outer clothing should be removed. The worker's skin should be wetted, if possible, and air movement around the worker should be increased to improve evaporative cooling until professional methods of cooling are initiated and the seriousness of the condition can be assessed. Fluids should be replaced as soon as possible. The medical outcome of an episode of heat stroke depends on the victim's physical fitness and the timing and effectiveness of first aid treatment.

Regardless of the worker's protests, no employee suspected of being ill from heat stroke should be sent home or left unattended unless a physician has specifically approved such an order.

B. **HEAT EXHAUSTION**. The signs and symptoms of heat exhaustion are headache, nausea, vertigo, weakness, thirst, and giddiness. Fortunately, this condition responds readily to prompt treatment. Heat exhaustion should not be dismissed lightly for several reasons. One is that the fainting associated with heat exhaustion can be dangerous because the victim may be operating machinery or controlling an operation that should not be left unattended; moreover, the victim may be injured when he or she faints. Also, the signs and symptoms seen in heat exhaustion are similar to those of heat stroke, a medical emergency.

Workers suffering from heat exhaustion should be removed from the hot environment and given fluid replacement. They should also be encouraged to get adequate rest.

C. **HEAT CRAMPS** are usually caused by performing hard physical labor in a hot environment. These cramps have been attributed to an electrolyte imbalance caused by sweating. It is important to understand that cramps can be caused by both too much and too little salt. Cramps appear to be caused by the lack of water replenishment. Because sweat is a hypotonic solution (±0.3% NaCl), excess salt can build up in the body if the water lost through sweating is not replaced. Thirst cannot be relied on as a guide to the need for water; instead, water must be taken every 15 to 20 minutes in hot environments.

Under extreme conditions, such as working for 6 to 8 hours in heavy protective gear, a loss of sodium may occur. Recent studies have shown that drinking commercially available carbohydrate-electrolyte replacement liquids is effective in minimizing physiological disturbances during recovery.

D. **HEAT COLLAPSE** ("Fainting"). In heat collapse, the brain does not receive enough oxygen because blood pools in the extremities. As a result, the

exposed individual may lose consciousness. This reaction is similar to that of heat exhaustion and does not affect the body's heat balance. However, the onset of heat collapse is rapid and unpredictable. To prevent heat collapse, the worker should gradually become acclimatized to the hot environment.

E. **HEAT RASHES** are the most common problem in hot work environments. Prickly heat is manifested as red papules and usually appears in areas where the clothing is restrictive. As sweating increases, these papules give rise to a prickling sensation. Prickly heat occurs in skin that is persistently wetted by unevaporated sweat, and heat rash papules may become infected if they are not treated. In most cases, heat rashes will disappear when the affected individual returns to a cool environment.

F. **HEAT FATIGUE**. A factor that predisposes an individual to heat fatigue is lack of acclimatization. The signs and symptoms of heat fatigue include impaired performance of skilled sensorimotor, mental, or vigilance jobs. There is no treatment for heat fatigue except to remove the heat stress before a more serious heat-related condition develops.

Cold Stress Hazard

People who are exposed to lower temperatures are at risk for injuries ranging from frostbite to serious loss of body heat which could result in brain damage or death. The first symptoms of hypothermia are uncontrollable shivering and the sensation of cold. The heartbeat slows and may become irregular, and the pulse weakens. As the condition worsens, severe shaking or rigid muscles may be evident. The victim may also have slurred speech, memory lapses, and drowsiness. Cool skin, slow, irregular breathing, and exhaustion occur as the body temperature drops even lower. This is a serious condition requiring immediate medical attention.

Frostbite can occur without accompanying hypothermia. Frostbite occurs when the fluids around the body's tissues freeze. The most vulnerable parts of the body are the nose, cheeks, ears, fingers, and toes. Symptoms of frostbite include coldness and tingling in the affected part, followed by numbness; changes in skin color to white or grayish-yellow, initial pain which subsides as the condition worsens, and

possibly blisters. Frostbite can cause irreversible tissue damage and requires immediate medical attention.

To prevent cold stress, workers at the site will be required to dress appropriately, take an adequate amount of breaks, and attempts will be made to remain dry.

Noise Hazards

Noise hazards are expected to exist for workers involved in implementing this plan. Site-specific noise hazards can result in the startling of workers, physical damage and pain to ears (permanent or temporary), and restricted communication in the work area.

Workers shall wear hearing protection. Proper planning and precautionary measures will be taken to assure that communication is not a problem in high-noise areas.

5.0 CONTROLS FOR CHEMICAL HAZARDS

5.1 Engineering Controls for Chemical Hazards

The Field Manager will be measuring ambient air concentrations with a PID and DustTRAK periodically throughout the work shift. If concentrations appear to be rising, the Field Manager may decide to implement changes in work procedures, stop work, or recommend an upgrade of personal protective equipment with the approval of the Health and Safety Officer.

5.2 Personnel Protective Equipment

Employees will be provided with and required to wear protective equipment. The Health and Safety Officer will make decisions regarding the upgrading or downgrading of protective clothing.

Equipment for personnel protection will be referenced to the EPA levels of protection as specified in the *Interim Standard Operating Safety Guides.*

Workers shall be required to have proper training in the use of equipment, and shall be medically approved and be properly fit-tested prior to using this equipment.

Based on site history, the project will begin in Level D. As the project begins, the Field Manager will monitor and report any elevated PID or sustained DustTRAK readings. If the levels are below the action levels (**Table 2**) for a period of time, the level of protection will remain at Level D. Conversely, should the levels increase; the level of protection will be upgraded to Level C.

Level C and Level D are discussed in the following paragraphs.

Level C protection will include the following protective equipment:

- Full-face, air-purifying respirator (APR) with Organic Vapor-Acid Gases/HEPA cartridges
- Tyvek suit, hooded
- Gloves - outer, Nitrile; inner, disposable Nitrile
- Hard hat
- Boots, steel toe, and shank
- Safety vest
- Ear protection (personnel within the work area)

Note: Air-purifying cartridges shall be replaced at the end of each shift. Only employees who have been issued qualitative fit tests and annual fit tests thereafter shall be allowed to work in atmospheres where respirators are required. If an employee has demonstrated difficulty in breathing during the fitting test or during use, he or she shall have a physical examination to determine whether the employee can wear a respirator while performing the required duty. Provisions of OSHA Standard 29 CFR 1910.134 will be followed. Further guidelines in the proper use of APR's are included in the *NIOSH/OSHA/USCG/EPA document, Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities.*

Level D protection will include the following protective equipment:

- Gloves - inner, disposable Nitrile
- Hard hat
- Safety glasses

- Boots, steel toe, and shank
- Safety Vest
- Ear protection (personnel in work area)

6.0 TRAINING REQUIREMENTS

Employees who are assigned to complete intrusive work (i.e. soil sampling) at the site shall have completed the following training. This training is designed to meet various OSHA requirements, including hazard communication and the training provisions of the Superfund Amendments and Reauthorization Act (SARA) of 1986 found in 29 CFR 1910.120.

- Basic Safety Training – Consisting of the completion of an OHSA approved 40 hour Hazardous Waste Operations and Emergency Response Standard (HAZWOPER) course, an 8 hour annual HAZWOPER refresher course, and enrollment in an annual medical monitoring program.

- Hazards and Protection - Identification, recognition, and safe work practices with toxic materials. The use and limitations of applicable protective clothing, respirators, and decontamination procedures.

- Tailgate Safety Meetings - A tailgate safety meeting will be conducted at the beginning of each shift or whenever new employees arrive at the job site once the job commences. This meeting discusses the health and safety considerations for the day's activities and outlines protective equipment necessary.

7.0 EMERGENCY RESPONSE AND ACCIDENT NOTIFICATION

Emergency response procedures have been developed for emergency situations that may occur at the site. These situations include medical emergency, injury of on-site personnel, fire, and chemical release.

The Field Manager, in consultation with the Health and Safety Officer, will be the emergency coordinator for the site. He/she will be responsible for:

- Assuring emergency equipment is on site and in working condition.
- Establishing an emergency plan for the emergency situation that may occur on the site.
- Initiating the emergency plan when an emergency situation arises.

Emergency situations will be minimized by the implementation of the HASP and constant vigil by site management and workers of situations that could develop into an emergency situation. If an emergency situation develops, the initial response will be to handle it in a calm, deliberate manner so that it is controlled and the health and safety of the site workers or surrounding community are not jeopardized. In the event that on-site personnel cannot control an emergency condition, outside assistance will be called. Emergency phone numbers are provided in the **Table 1**. Directions to Meadowlands Hospital Medical Center are included in **Figure 3**.

The Health and Safety Officer will inspect the first-aid kit, eyewash and fire extinguishers that will be available on site.

If an injury or illness is the result of a site-specific exposure, this information will be immediately provided to the treating physician and the Health and Safety Officer.

8.0 SITE MONITORING

Personnel and work area monitoring will be conducted in order to assure that proper engineering controls, work practices, and personnel protection are being utilized. This will help to maintain airborne concentrations and exposures at or below acceptable levels.

During implementation of this project, soils will be monitored periodically with a PID and ambient air will continuously be monitored with a DustTRAK monitor. Based on the monitoring data, the Health and Safety Officer may elect to upgrade or downgrade the levels of protection, modify the HASP, or cease operations to assure worker or public safety. See **Table 3** for action levels.

9.0 EQUIPMENT DECONTAMINATION

Equipment that comes in contact with contaminated soil and/or groundwater will be decontaminated. This equipment will be visually inspected to determine if any materials have adhered to it. Equipment that has been deemed contaminated will undergo decontamination activities prior to leaving the site.

Langan will provide, as needed, an on-site decontamination area that will allow capture of waters from the decontamination activities. Contaminated equipment will be driven into the decontamination pool and will be steam cleaned until visible signs of contaminated material have been removed. The decontamination washwater will be contained in the pool and pumped by a sump pump into 55-gallon drums. The remaining decontamination residuals (soil) will also be containerized in 55-gallon drums. Additionally, any material used during the decontamination process (Tyvek, Plastic, etc.) will be properly packaged and disposed of to the onsite dumpster for disposal as solid waste.

Table 1
List of HASP Personnel
Metro Central, LLC
Amusement Park and Water Park Project
American Dream Meadolands
East Rutherford, New Jersey

Health and Safety Position	Personnel	Description of Health and Safety Duties	Work Phone #	Cell Phone #
Health and Safety Officer	Elisa Buckley	Specify the health and safety requirements for the job and coordinate its implementation with the field manager. Review and approve all work plans to assure safe work regulations, policies, and procedures. Approve any changes to the HASP.	201-398-4522	973-650-3715
Field Manager	Michael Bator	Responsible for field implementation of the HASP, enforcement of the safety rules and regulations, and consultation with the health and safety officer on regulatory or health and safety issues.	201-794-6900 x4315	201-779-6458

Emergency Agencies	Phone #
East Rutherford Fire Department	201-933-9411
East Rutherford Police Department	201-438-0165
Bergen County Department of Health Services	201-225-7000
Bergen County Hazardous Materials Division / NJDEP Hazardous Materials Reporting	877-WARN-DEP
National Response Center	800-424-8802
Chemtrec	800-424-9300
Center for Disease Control	770-488-7100
EPA (RCRA Superfund Hotline)	800-424-9346
TSCA Hotline	202-554-1404
New Jersey Poison Control Center	800-222-1222
Meadowlands Hospital Medical Center	201-392-3100

TABLE 2
TLV's-TWA for Contaminants of Concern
Metro Central, LLC
Amusement Park and Water Park Project
American Dream Meadowlands
East Rutherford, New Jersey

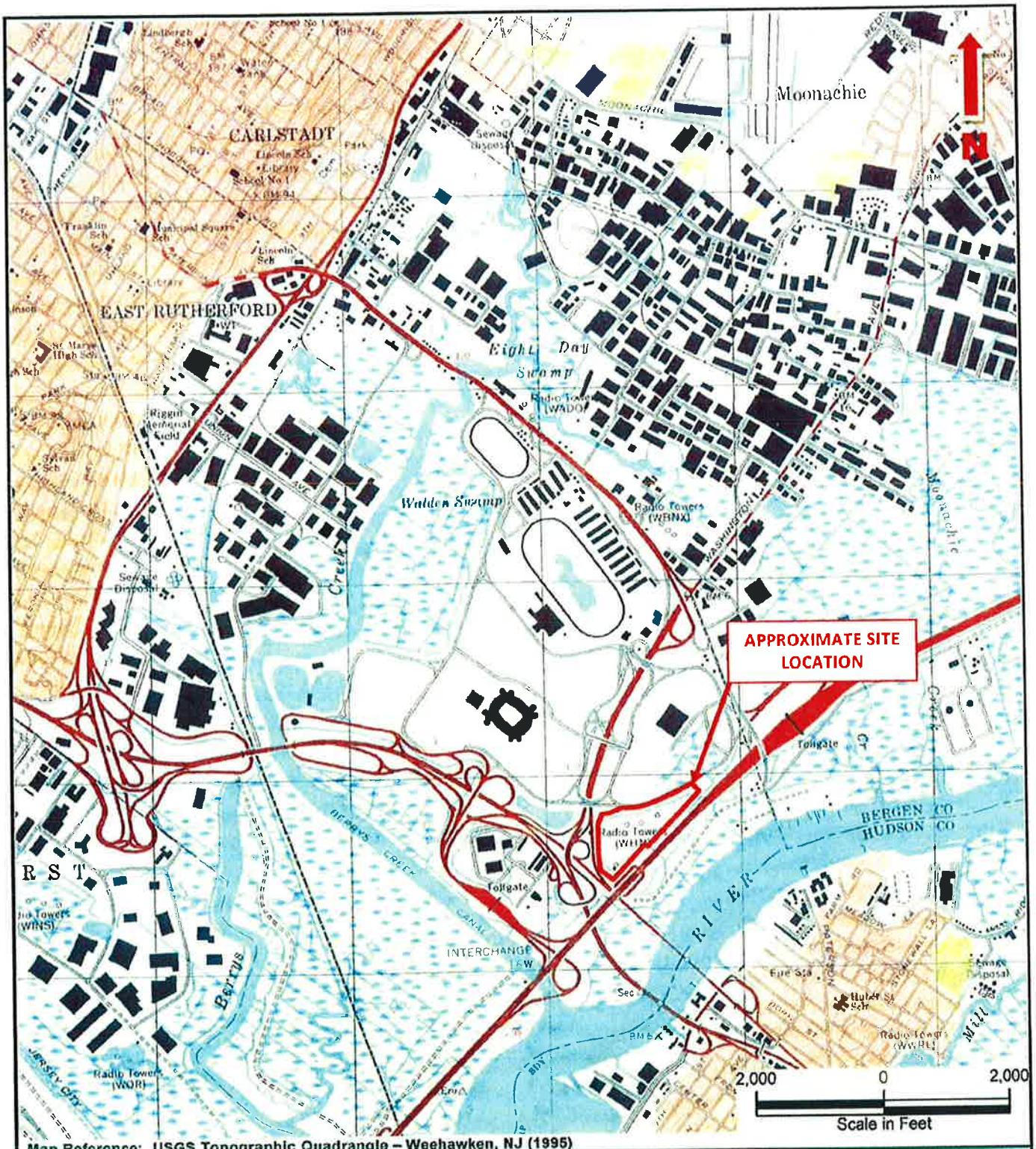
Compound	OSHA : TLV-TWA	NIOSH: TLV-TWA	IDLH
Poly-Aromatic Hydrocarbons: (includes benzo(a)anthracene, benzo(a)pyrene, benzo(b)flouranthene, benzo(k)fuouranthene, bis(2-Ethylhexyl)phthalate, dibenz (a,h) anthracene, chrysene, and indeno(1,2,3-cd)pyrene)	0.2 mg/m^3	0.1 mg/m^3	80 mg/m^3
PCBs	0.5 mg/m3	0.001 mg/m^3	5 mg/m3
Antimony	0.5 mg/m^3	0.5 mg/m^3	50 mg/m^3
Arsenic (organic compounds)	0.5 mg/m^3	none	N.D.
Arsenic (inorganic compounds)	0.010 mg/m^3	0.002 mg/m^3	5 mg/m^3 (as As)
Beryllium	0.002 mg/m3	0.0005 mg/m3	4 mg/m3
Cadmium	0.005 mg/m^3	lowest feasible	9 mg/m^3
Lead	0.050 mg/m^3	0.1 mg/m^3	100 mg/m^3
Mercury	0.1 mg/m^3	0.1 mg/m^3	10 mg/m^3
Zinc	5 mg/m^3	5 mg/m^3	500 mg/m^3
Manganese	5 mg/m3	1 mg/m3	500 mg/m3
Methylene chloride	25 ppm	lowest feasible	lowest feasible
Nickel	1 mg/m3	0.015 mg/m3	10 mg/m3
Aluminum	5 mg/m3	10 mg/m3	N.D.
Selenium	0.2 mg/m3	0.2 mg/m3	1 mg/m3
Silver	0.01 mg/m3	0.01 mg/m3	10 mg/m3
Chlorobenzene	75 ppm	75 ppm	1000 ppm
1,4-Dichlorobenzene	N.D.	75 ppm	150 ppm
Chlordane	0.5 mg/m3	0.5 mg/m3	100 mg/m3
Vanadium	N.D.	N.D.	35 mg/m3
Total Petroleum Hydrocarbons	N.A.	N.A.	N.A.

Notes: N.D. = Not determined
N.A. = Not applicable
mg/m^3 - milligrams per cubic meter
ppm - parts per million
IDLH - Immediately Dangerous to life and health
eV - electron volts

TABLE 3
INSTRUMENTATION ACTION LEVELS
Metro Central, LLC
Amusement Park and Water Park Project
American Dream Meadowlands
East Rutherford, New Jersey

Instrument	Action Level	Level of Protection / Action Required
PID*	<= 1 ppm within exclusion zone	Level D
	> 1 ppm and <= 20 ppm (prolonged period) within AOC zone	Level C
	> 20 ppm (prolonged period) within AOC zone	Stop Work / Suppress Emissions / Evacuate and re-evaluate.
	≥1 ppm sustained for 1 minute at AOC zone boundary.	Stop Work / Backfill source of emissions and re-evaluate.
Multi-Gas Meter	≥ 5% and ≤ 15% within AOC zone	Stop Work / Vent vapors and re-evaluate.
DustTRAK Aerosol Monitor	> 0.150 mg/m^3 above BKD (prolonged period) at perimeter of AOC zone or visible dust.	Stop Work / Implement dust control / Continue dust monitoring as specified in Section 6.0.

BKD = Background concentration
*PID readings will be taken at personnel breathing zone height.



Map Reference: USGS Topographic Quadrangle – Weehawken, NJ (1995)

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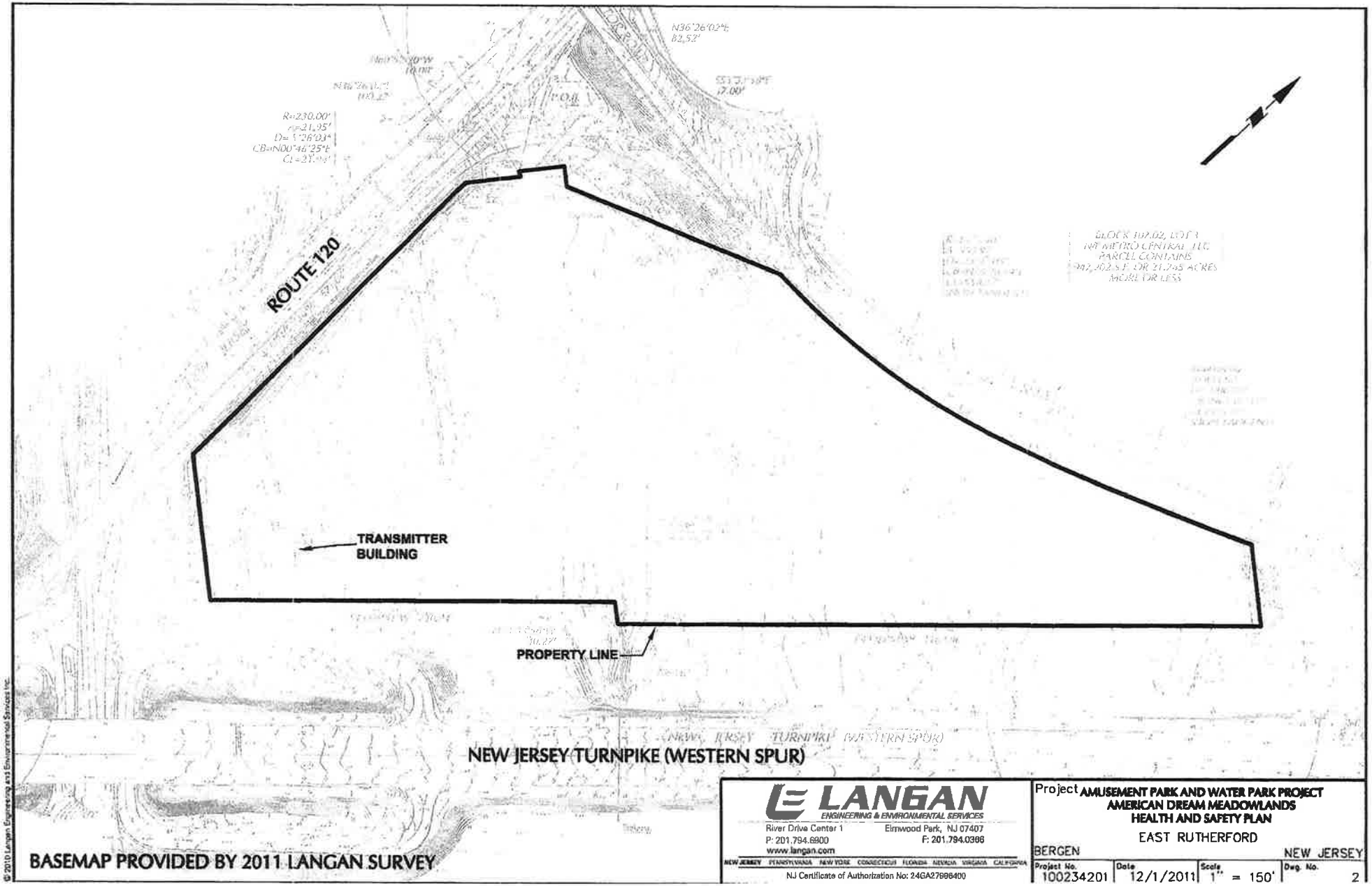
ELMWOOD PK, NJ • NEW YORK, NY • PHILADELPHIA, PA • DOYLESTOWN, PA
NEW HAVEN, CT • MIAMI, FL • TRENTON, NJ

USGS SITE LOCATION MAP
AMUSEMENT PARK AND WATER PARK
AMERICAN DREAM MEADOWLANDS
BLOCK 107.02, LOT 3

EAST RUTHERFORD — NEW JERSEY

JOB NO	DATE	SCALE	FIGURE NO.
100234201	10/13/2011	1"=2,000'	1

NJ Certificate of Authorization No: 24GA27996400
\\langan.com\data\EP\data2\100234201\Office Data\Reports\Environmental\Site Investigation\Figures\Figure 1 - USGS Site Location Map.doc



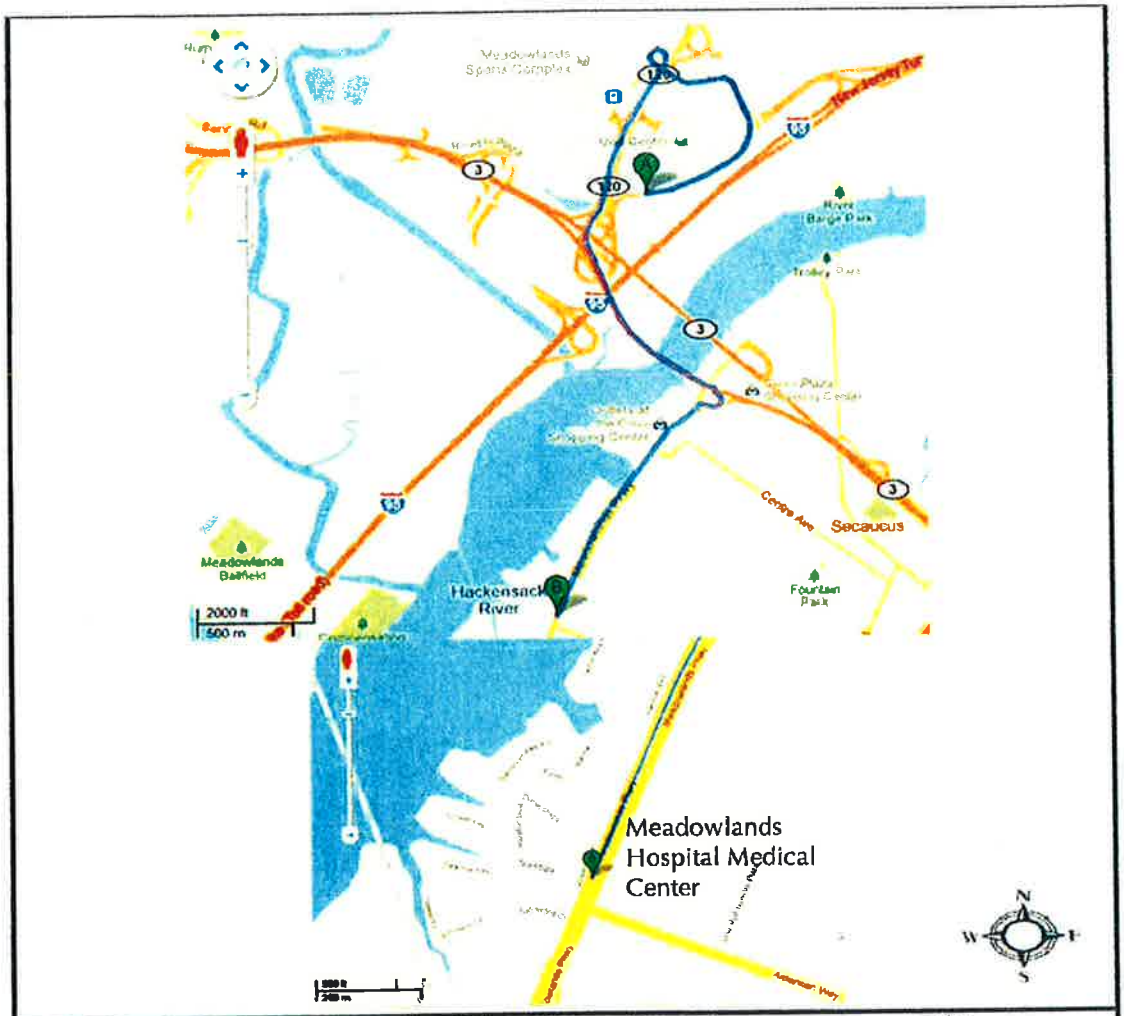
BASEMAP PROVIDED BY 2011 LANGAN SURVEY

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NJ Certificate of Authorization No: 24GA27996400

Project **AMUSEMENT PARK AND WATER PARK PROJECT**
AMERICAN DREAM MEADOWLANDS
HEALTH AND SAFETY PLAN
EAST RUTHERFORD
BERGEN NEW JERSEY

Project No.	Date	Scale	Dwg. No.
100234201	12/1/2011	1" = 150'	2



Directions:		
	Head east on S Connection Rd toward Plaza K	0.7 miles
	Continue onto Rd D	0.2 miles
	Take the ramp onto NJ-120 S	0.7 miles
	Keep left at the fork, follow signs for NJ-3 E/Lincoln Tunnel	0.07 miles
	Keep left at the fork, follow signs for NJ-3 E and merge onto NJ-3E	0.8 miles
	Take the Meadowlands Parkway exit	0.1 miles
	Turn left at Meadowlands Pkwy	0.03 miles
	Continue straight onto Meadowlands Pkwy	0.9 miles
	Total Estimated Time: 8 minutes Distance:	3.5 miles

Langan
Engineering and Environmental Services, Inc.

Directions and Route to
Meadowlands Hospital Medical Center
Metro Central, LLC
South Connection Road
East Rutherford **New Jersey**

Proj. 100234201		Date 9-7-2011	Fig No. 3

APPENDIX B

Soil Reuse Plan (SRP)

SITE-SPECIFIC SOIL REUSE PROPOSAL

For

METRO CENTRAL, LLC
Amusement Park And Water Park Project
American Dream Meadowlands
East Rutherford, New Jersey

Prepared By:

Langan Engineering & Environmental Services
River Drive Center 1
Elmwood Park, New Jersey 07407
NJ Certificate of Authorization No.: 24GA27996400

29 December 2011
100234201

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

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1.0 INTRODUCTION

On behalf of the Triple Five Development, LLC, Langan Engineering and Environmental Services (Langan) has prepared this Soil Reuse Proposal (SRP) associated with the Remedial Action Workplan (RAW) for the proposed construction of the Amusement Park and Water Park Project. The project site is located in the Hackensack Meadowlands District and is designated as Block 107.02, Lot 3 on the East Rutherford Tax Map (Figure 1). The property is bound to the north by the "East Peripheral Road," to the east by the New Jersey Turnpike, to the south by NJ State Route 3, and to the west by NJ State Route 120. This property is affiliated with the American Dream Meadowlands (formerly Meadowlands Xanadu) located within the Meadowlands Sports Complex.

This SRP is for the reuse of site-wide historic fill that will be generated during the construction of the proposed construction of the amusement park and water park project. Langan's 19 October 2011 Site Investigation Report (SIR) and December 2011 Remedial Investigation Report (RIR) detected the presence of site-wide historic fill consisting of poly-aromatic hydrocarbons (PAHs) and metals at concentrations exceeding the New Jersey Department of Environmental Protection (NJDEP) Soil Remediation Standards (SRS).

The proposed project consists of the construction of an Amusement Park and Water Park at the site. The soils excavated for foundations, utilities, etc. will be used on-site to raise the grade of the proposed area to final construction elevation. Additionally, clean concrete from the three demolished radio towers and radio transmitter building will be used as fill on the site, in accordance with the NJDEP document entitled *Guidance for Characterization of Concrete and Clean Material Certification for Recycling*. Imported fill will be necessary to complete site filling operations. This fill will either be certified clean or like-on-like fill, in accordance with the NJDEP document entitled *Fill Guidance at SRP Sites*. The historic fill will underlie the portions of the property that will be "capped" with the building foundations, and/or asphalt. At the completion of the project, a Deed Notice will be filed with the Bergen County Clerk's office to reflect the construction activity and the capping of the historic fill.

This SRP addresses on-site reuse of material that will ultimately be covered by an asphalt/concrete cap in accordance with the requirements set forth by the NJDEP.

1.1 Operational History of the Site

The property was vacant land prior to the 1950s. The vacant land included open water ditches and wetlands. Around 1950, three radio towers and a transmitter building were constructed within the wetlands and ditches. Two of the three original radio towers were located south of the property, where the NJ Turnpike is currently located. The three radio towers, present on the property, were re-located prior to the Turnpike roadway construction, around the 1970s.

Between 1950 and 1970, the property grade was raised with unknown fill, noted as "Route 20 East Fill" and the wetlands and ditches were altered and redirected, respectively. Additionally, the towers were re-located and roadway improvements were conducted (Route 20 and Route 3 roadway improvements), and the sports complex was developed to the north. Since the 1970s the tower locations have not changed.

Since the 1950s the property has operated as a radio transmission station formerly noted as WMGM, WHN, WEVD, WFAN, and ESPN.

1.2 NJDEP Oversight

The site is not currently under NJDEP oversight. Langan has completed a Preliminary Assessment Report (PAR) and Site Investigation Report (SIR) both dated 19 October 2011 and a December Remedial Investigation Report (RIR).

The purpose of this SRP, which was developed in accordance with the NJDEP's Tech Rules, is to reuse the soils on the site. The soils will be generated during the excavation of building foundations and utility trenches. As detailed in Langan's 19 October 2011 SIR, the fill contains PAHs and metals at concentrations above the NJDEP SRS. These compounds and their respective

concentrations are reflective of the NJDEP's definition of historic fill and, as such, Langan recommends the on-site reuse of soils as the most efficient and cost effective remedial strategy for managing these contaminated soils during construction activities. Therefore, a SRP was incorporated into the RAW, for approval by NJDEP. After construction activities are completed, the soils will be managed utilizing institutional and engineering controls consisting of a Deed Notice and a cap.

Exceedances of antimony, extractable petroleum hydrocarbons (EPH), polychlorinated biphenyls (PCBs), and chlordane were detected during Langan's SIR and ongoing remedial investigation in isolated "hot spots". These non-historic fill compounds are addressed in Langan's RAW and are not part of this SRP. The non-historic fill compounds are designated for excavation and off-site disposal.

During concrete sampling at the site, window caulking on the radio transmitter building contained PCB concentrations above NJDEP SRS. This window caulking should be abated prior to demolition and will be not used as fill for the project. The window caulking is designated for off-site disposal. The concrete associated with the three radio towers was not sampled due to safety concerns. If the tower concrete concentrations are similar to the fill, the concrete will be re-used for the project. However, if the tower concrete has contaminants that exceed the NJDEP Non-Residential SRS, the concrete will be designated for off-site disposal.

1.3 Summary of Proposed Reuse

The material that is the subject of this SRP is excess fill that will be generated during site grading and excavation of building foundations and utility trenches at the site. Additionally, concrete below NJDEP NRDCSRS from the radio transmitter building will also be used as fill at the site. The proposed reuse of this material on the site is as fill that will be placed under structures and/or within the paved parking lots and access roads.

2.0 PHYSICAL SETTING

2.1 Site Description and Location

The property is situated on approximately 22 acres of historically filled land that is designated as Tax Block 107.02, Lot 3 in the Borough of East Rutherford, Bergen County, New Jersey. The property is bordered by the arena site and wetlands to the north, the New Jersey Turnpike to the east, Route 3 to the south, and Route 120 to the west (Figure 2)

The property is currently occupied by a radio transmitter building and three radio towers. The transmitter building and three radio towers are no longer in use.

2.2 Property Ownership

The most recent Tax Assessment Roll of the Borough of East Rutherford indicates that Tax Block 107.02, Lot 3 is owned by Metro Central, LLC.

2.3 Topography

The topography of the property generally slopes from the north to the south. The elevation at the property ranges from approximately 14 feet above mean sea level to 2 feet above mean sea level (Figure 2).

The property is located within a 32-mile area identified by the New Jersey Meadowlands Data Book (2002) as the Hackensack Meadowlands District (HMD). This area is characterized by extensive marshland and shallow groundwater.

2.4 Geology

The property is located within the Hackensack River basin of the Piedmont physiographic province of the Appalachian Highlands. The generalized 1996 Bedrock Geologic Map of Northern New Jersey, published by the United States

Geological Survey (USGS) and the New Jersey Geological Survey (NJGS), characterizes the underlying bedrock in the region as reddish-brown silty to sandy mudstone and siltstone belonging to the Brunswick Formation dating from the Lower Jurassic and Upper Triassic Period. The 1959 Bedrock Map of the Hackensack Meadowlands Geologic Report Series - No. 1 by Kemble Widmer, State Geologist, identifies the bedrock directly beneath the property to be red shale.

In more recent geologic times, the property vicinity was covered by glacial advances. These ice sheets scoured and eroded the Hackensack River Valley and then deposited the eroded material as they retreated. As a result, glacial till deposits from the last glacial advance cover most of the bedrock in the area.

During the last glacial advance, Lake Hackensack formed as glacial melting occurred and retreated northward. Glacial meltwaters flowing into the lake deposited alternating layers of sand, silt and clay on the lake bottom. Deposition resulted in one coarse-grain varve and one fine-grain varve per year. The term "varved clay" is used to generally identify these materials in this report. Variations in water levels since deposition have led to over-consolidation of the upper portion of this stratum.

Water levels in the ocean and lakes rose causing the natural dam which enclosed Lake Hackensack to break. The draining of the lake caused a discontinuous layer of silty sand to deposit over portions of the area. Then, rising ocean levels and the decomposition of vegetation and the tidal marshes created organic deposits (peat, or "meadowmat", and organic silt and clay) as tidal marsh areas developed in the Hackensack River basin. The term "marsh deposits" is used to generally identify the materials in this stratum in this report.

2.4.1 Site Subsurface Conditions

Subsurface conditions consist of fill materials underlain by organic silt and peat (marsh deposits). Geotechnical investigations performed by Langan have identified varved clay, glacial till and shale bedrock beneath the silt

and peat strata. The majority of the property is covered by grasses and some wetlands. Based on the subsurface investigations performed by Langan, the observed subsurface strata are summarized as follows:

Surface Materials

The majority of the property is covered by grasses and some wetlands. Small areas of the property (roadway) are gravel covered.

Fill

Underlying the property is a fill material consisting of sand, silt and organics with varying proportions of gravel and miscellaneous materials such as brick, wood, plastic, glass and glass. The fill was generally encountered from 5 to 17 feet below current grade.

Marsh Deposits

A layer of marsh deposits consisting of dark brown peat (meadowmat) and gray to brown organic silt was encountered beneath the fill. The marsh deposits range in thickness of up to five feet, where encountered.

Varved Clay

The environmental soil borings were not advanced into the varved clay. However, geotechnical borings were advanced on the property and identify varved clay beneath the marsh deposits.

Glacial Till and Shale bedrock

The geotechnical investigation identified glacial till beneath the varved clay stratum. Shale (bedrock) was encountered below the varved clay.

2.5 Hydrogeology

The depth to groundwater varies on the property. Groundwater was encountered in the uplands (northern portion) at approximately seven feet below

grade and at approximately two feet below grade in the lower elevations (eastern portion).

2.6 Surface Water

Non-tidal emergent wetlands and tidally influenced emergent wetlands are located on the western and eastern portions of the property (AOC 33), respectively. The tidally influenced wetlands are connected to the Hackensack River through an unnamed tributary to Hackensack River and an unnamed tributary to Cedar Creek. The section of the Hackensack River near the property is classified as an SE2 water body by the State of New Jersey, indicating a general surface water classification applied to saline estuarine waters.

Berry's Creek is also located approximately one mile southwest of the property. Berry's Creek is classified as an FW2-NT/SE2 water body by the State of New Jersey, indicating a general surface water classification applied to a fresh water/saline estuarine waters interface. The "NT" designation signifies that it is a non-trout water body.

3.0 SOIL REUSE PROPOSAL

3.1 Introduction

This SRP is for the reuse of fill generated during the construction of the Amusement Park and Water Park project on the site. This material is excess fill that will be generated during grading, excavation activities for building foundations and utilities during construction at the site. Additionally, concrete below the NJDEP NRDCSRS from the radio transmitter building will also be used as fill at the site. The proposed reuse for this material on the site is as fill that will be placed under structures and/or within the paved parking lots and access roads.

Based on Langan's SIR, on-site soils contain PAH and metals at concentrations above the NJDEP SRS; therefore, reuse of this material will require NJDEP approval. Engineering and institutional controls will be implemented at the completion of the project in order to manage the soils and provide a barrier to ensure the safety of the public. The cap will consist of building foundations, landscaped areas, and/or asphalt/concrete in accordance with the requirements set forth in N.J.A.C 7:26E, *Technical Requirements for Site Remediation* (Tech Rule). Additionally, a Deed Notice will be filed with the Bergen County Clerk's office to reflect the construction activity and the capping of the fill material.

3.2 Regulatory Activities

As previously stated, the site is not currently under NJDEP oversight. Langan has submitted the following documents to the NJDEP that are applicable to this SRP:

- 19 October 2011 *Preliminary Assessment Report*
- 19 October 2011 *Site Investigation Report*
- 15 December 2011 *Remedial Investigation Report*

3.3 Site of Soil Origin

Based on the information gathered by Langan during the PAR, SIR and RIR existing subsurface materials at the site conform to the definition of historic fill: non-indigenous material, including construction debris, demolition debris, fly ash and non-hazardous solid waste, which was placed at the site to raise the topographic elevation and to allow development to occur. Any contamination associated with these materials occurred prior to emplacement. Additionally, no chromate chemical production waste, other chemical production waste or waste from processing of metal or mineral ores, residues, slag or tailings have been identified at the site.

3.4 Environmental Quality

As detailed in Langan's 19 October 2011 SIR for the site, the fill material contains benzo[a]anthracene, benzo[a]pyrene, benzo[b]flouranthene, benzo[k]fluoranthene, dibenzo[a,h]anthracene, indeno[1,2,3-cd]pyrene, arsenic, beryllium, cadmium, lead, and zinc were detected at concentrations above their respective NJDEP SRS. Also, exceedances of antimony, extractable petroleum hydrocarbons (EPH), polychlorinated biphenyls (PCBs), and chlordane were detected during Langan's site investigation and remedial investigation. These non-historic fill compounds are addressed in Langan's RAW are not part of this SRP.

As previously stated, a majority of these contaminants are typical of historic fill materials, as outlined by the NJDEP's Tech Rule. As such, Langan recommended the on-site reuse of soil as the most efficient and cost effective remedial strategy for managing contaminated soils during construction activities. Therefore, this SRP is incorporated into the RAW. The SRP and Langan's site-specific Health and Safety Plan (HASP) outline material handling criteria from the NJDEP Tech Rule. After construction activities are completed, institutional and engineering controls consisting of a Deed Notice and a cap will be implemented to manage the contaminated soil. The Deed Notice will meet the current requirements of Subchapter 8 and Appendix E of the Tech Rules. The cap will consist of a combination of permeable and impermeable caps (i.e. landscaping, asphalt, concrete, and buildings) that are designed to restrict soil migration and limit human exposure to the contamination.

As seen on Table 1, the PAH and metal (excluding antimony) contamination encountered on the site is typical of historic fill under the definition set forth by the NJDEP in the Tech Rules. Langan's SIR also identified isolated areas on the site that contain non-historic fill material compounds such as antimony, EPH, PCBs, and chlordane.

Imported fill will be required at the site. This imported material will be placed in compliance with the 11 August 2011 NJDEP *Fill Guidance at SRP Sites*. The

imported fill will either be certified clean fill or like-on-like fill described in the *Fill Guidance at SRP Sites* document. The exact volume of soil to be reused and imported is unknown at this time. The imported fill will be handled in accordance with this SRP. Also, at the completion of construction, the imported fill will be incorporated into the institutional and engineering controls outlined in the RAW for the management of contaminated soils.

3.5 Soil Treatment Prior to Reuse

No chemical pretreatment or stabilization of the soil is anticipated prior to reuse on-site.

3.6 Description of Proposed Reuse

The exact volume of soil to be reused and imported is unknown at this time. Asphalt pavement, concrete building foundations, access roads, and landscaped areas will serve as a cap, thus eliminating direct contact with the on-site soils or imported material, minimizing infiltration from precipitation, and eliminating direct human exposure.

3.7 Reuse Volume

The exact volume of soil to be reused and imported is unknown at this time. On-site historic fill materials will be used where possible; however additional soil volume will be necessary. As previously mentioned, imported fill will be required at the site. This imported material will be placed in compliance with the 11 August 2011 NJDEP *Fill Guidance at SRP Sites* document. The imported fill will either be certified clean fill or like-on-like fill described in the *Fill Guidance at SRP Sites* document. The exact volume of soil to be reused and imported is unknown at this time.

3.8 Reuse Soil Placement

The soil reused will be subject to the following guidelines:

1. Soil reuse activities will be performed in accordance with the site specific HASP prepared by Langan, which is included in the RAW.

2. Records of soil placement will be maintained and the soil will be properly capped in order to satisfy the Deed Notice requirements.

3.9 Measures to Minimize Environmental Impact

The SRP will comply with applicable federal, state and local regulations. The RAW has outlined the measures to be implemented during construction to mitigate environmental impacts caused during the handling and transportation of soil. These same measures will be in place during the importation of material to the site. These measures are outlined in Section 7 of the RAW. Also, a perimeter air monitoring plan (PAMP) is included within the RAW. The PAMP will be implemented during demolition and earthwork activities at the site.

3.10 Assessment of Potential Adverse Effects on Health and the Environment

The primary contaminants of concern identified within the fill consist of PAHs and metals. The material will be utilized as fill under the proposed structures and/or the paved parking lots and access roads. The identified contaminants pose no significant risk for construction crews, as these compounds are of low mobility under normal conditions. The prime exposure risk to construction crews may occur either through prolonged dust inhalation or prolonged dermal contact. However, the use of common engineering controls (dust control and appropriate work dress) and basic hygienic and safe work practices specified in the Contractor's HASP will mitigate these concerns.

Finally, the caps (i.e. landscaping, asphalt, concrete, and buildings) placed over the soil will act as containment and infiltration controls that will isolate the soil from the environment and mitigate any concerns of direct exposure to the public.

3.11 Schedule

To be determined at a later date.

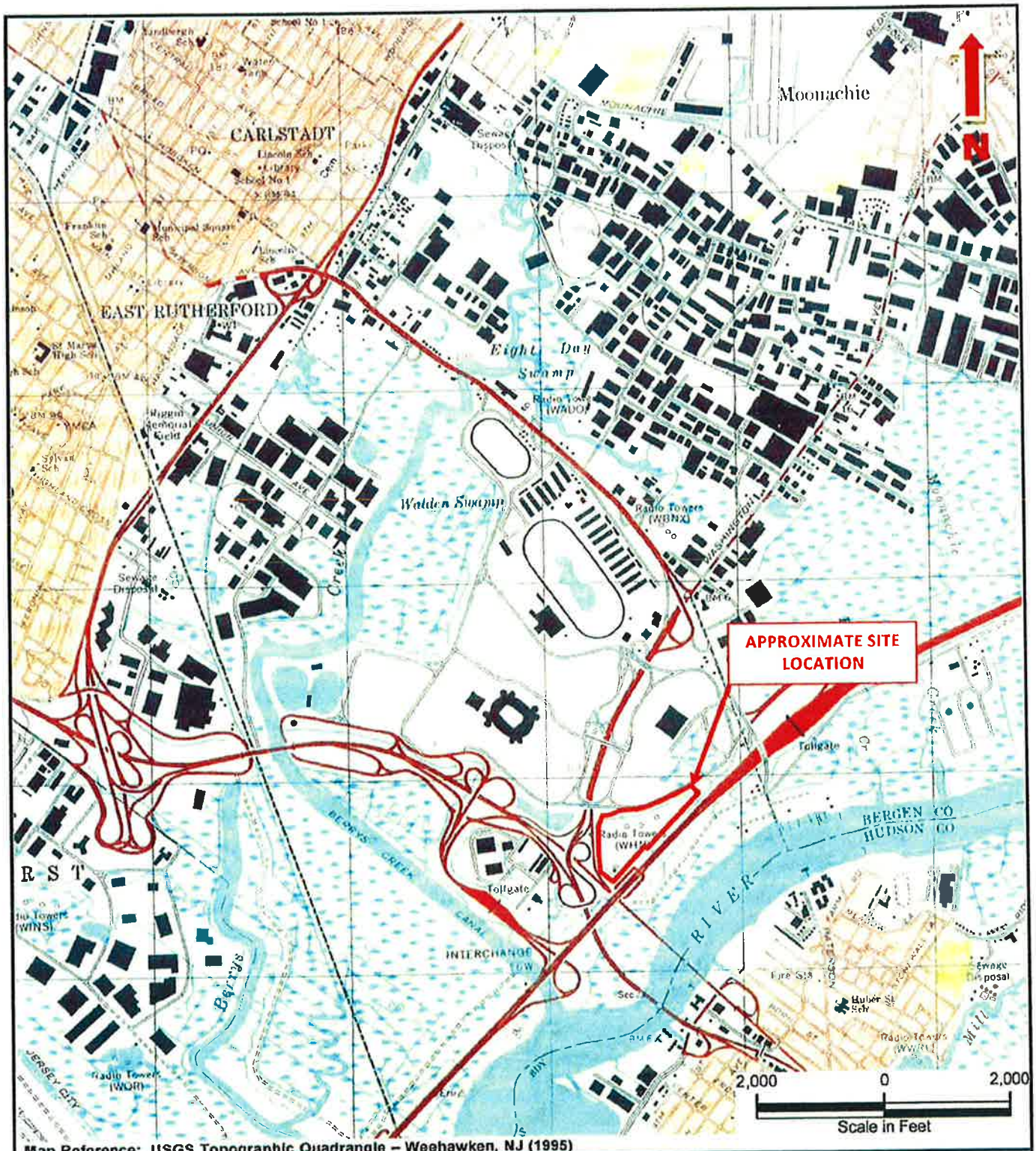
3.12 List of Contacts

To be provided at a later date.

TABLE 1
MAXIMUM CONCENTRATIONS OF COMPOUNDS EXCEEDING THE NJDEP SRS
METRO CENTRAL, LLC
AMUSEMENT PARK AND WATER PARK PROJECT
AMERICAN DREAM MEADOWLANDS
EAST RUTHERFORD, NEW JERSEY

Compounds Found in Exceedance of the NJDEP Soil Remediation Standards	NJDEP Soil Remediation Standards			Maximum Concentration (mg/kg)
	Residential Direct Contact (mg/kg)	Non-Residential Direct Contact (mg/kg)	Impact to Groundwater (mg/kg)	
Volatile Organics				
Chlorobenzene	510	7400	0.4	0.53
1,4-Dichlorobenzene	5	13	1	4.0
Methylene chloride*	34	97	0.007	0.02
Poly-Aromatic Hydrocarbons (PAH)				
Benzo[a]anthracene	0.6	2	0.5	3.2
Benzo[a]pyrene	0.2	0.2	0.2	2.8
Benzo[b]fluoranthene	0.6	2	2	3.3
Bis(2-Ethylhexyl)phthalate	35	140	790	74
Dibenzo[a,h]anthracene	0.2	0.2	0.5	0.52
Indeno[1,2,3-cd]pyrene	0.6	2	5	1.4
Total PCBs	0.2	1	---	12.7
Pesticides				
Chlordane	0.2	1	0.03	1.04
Metals				
Mercury	23	65	0.1	6.60
Aluminum	78000	---	3900	14000
Antimony	31	450	6	690
Arsenic	19	19	19	24
Beryllium	16	140	0.5	0.99
Cadmium	78	78	1	31
Lead	400	800	59	6300
Manganese	11000	5900	42	600
Nickel	1600	23,000	31	150
Selenium	390	5,700	7	9
Silver	390	5,700	1	19
Vanadium	78	1,100	---	140
Zinc	23000	110,000	600	3,300
Total Petroleum Hydrocarbons	5100	5100	5100	7700

*Maximum concentration found in concrete sample; detection may have been a laboratory issue and not indicative of true methylene chloride concentrations.



Map Reference: USGS Topographic Quadrangle – Weehawken, NJ (1995)

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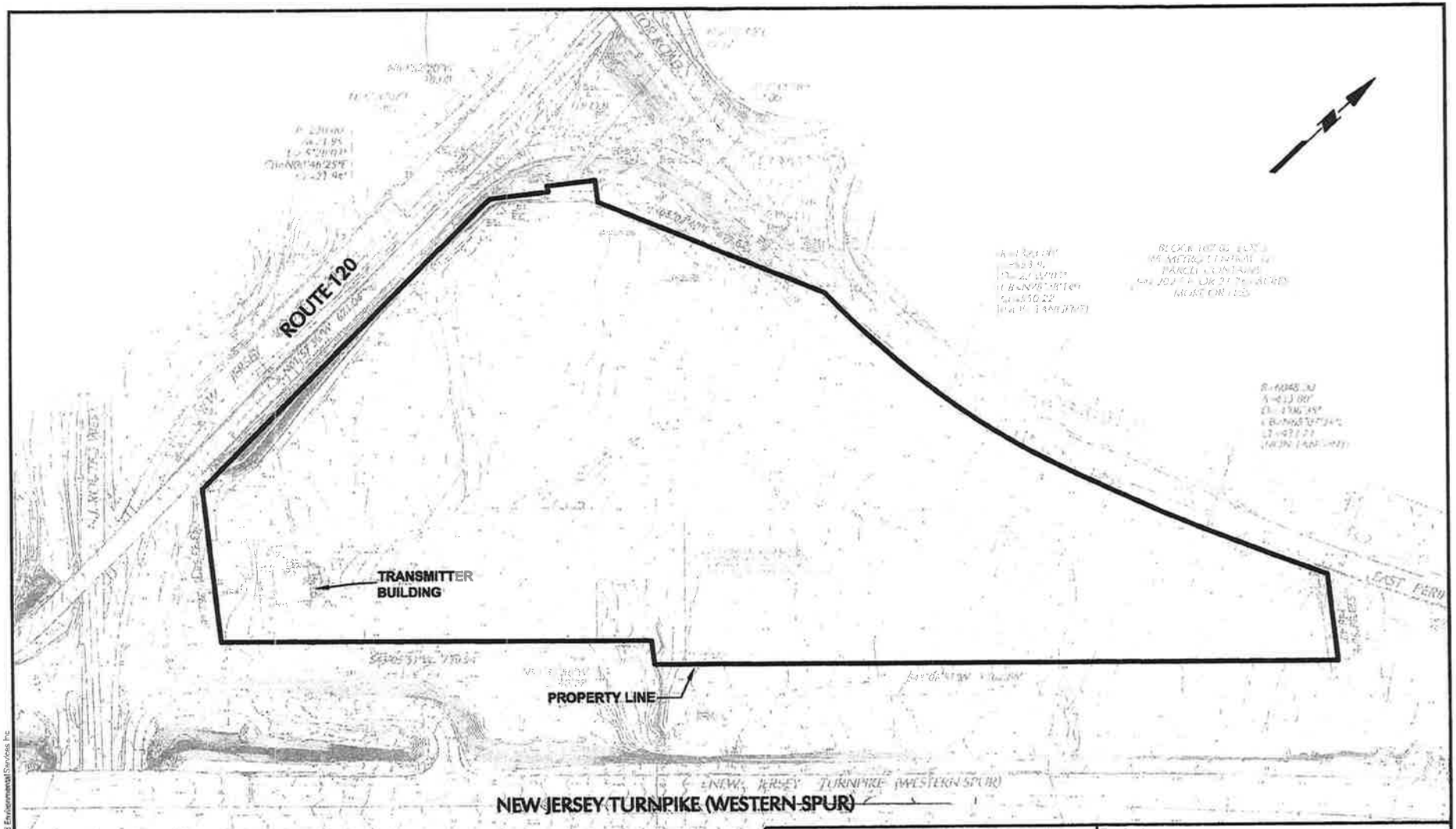
ELMWOOD PK, NJ • NEW YORK, NY • PHILADELPHIA, PA • DOYLESTOWN, PA
NEW HAVEN, CT • MIAMI, FL • TRENTON, NJ

USGS SITE LOCATION MAP
AMUSEMENT PARK AND WATER PARK
AMERICAN DREAM MEADOWLANDS
BLOCK 107.02, LOT 3

EAST RUTHERFORD — NEW JERSEY

JOB NO.	DATE	SCALE	FIGURE NO.
100234201	10/13/2011	1"=2,000'	1

NJ Certificate of Authorization No: 24GA27996400
\\langan.com\data\EP\data2\100234201\Office Data\Reports\Environmental\Site Investigation\Figures\Figure 1 - USGS Site Location Map.doc



BASEMAP PROVIDED BY 2011 LANGAN SURVEY

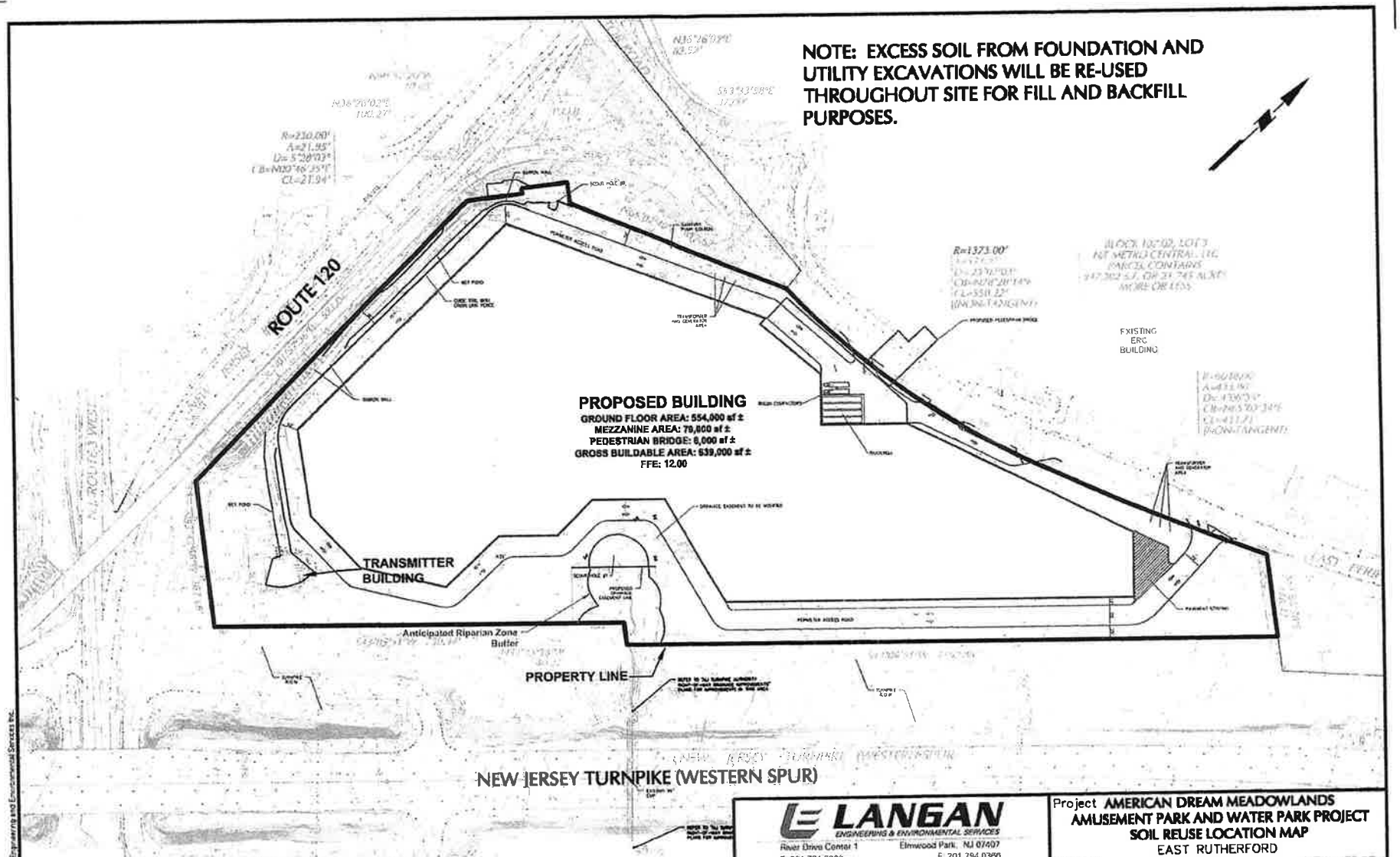
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Project AMUSEMENT PARK AND WATER PARK PROJECT
AMERICAN DREAM MEADOWLANDS
SOIL REUSE PLAN
EAST RUTHERFORD
BERGEN NEW JERSEY

Project No.	Date	Scale	Dwg. No.
100234201	12/1/2011	1" = 150'	2

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Filename: \\langan.com\data\EP\data2\100234201\Cadd Data — 100234201\Environmental\RAW\SRP\Fig 2 Site Plan.dwg Date: 12/21/2011 Time: 11:08 User: mbaier Style Table: Langan.stb Layout: B Size Sheet (Bottom) (1)



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Project AMERICAN DREAM MEADOWLANDS
AMUSEMENT PARK AND WATER PARK PROJECT
SOIL REUSE LOCATION MAP
EAST RUTHERFORD
BERGEN NEW JERSEY

Project No.	Date	Scale	Dwg. No.
100234201	12/1/2011	1" = 150'	3

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APPENDIX C

Perimeter Air Monitoring Plan

PERIMETER AIR MONITORING PLAN

For

METRO CENTRAL, LLC
Amusement Park And Water Park Project
American Dream Meadowlands
East Rutherford, New Jersey

Prepared By:

Langan Engineering & Environmental Services
River Drive Center 1
Elmwood Park, New Jersey 07407
NJ Certificate of Authorization No.: 24GA27996400

29 December 2011
100234201

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ENGINEERING & ENVIRONMENTAL SERVICES

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1.3 Proposed Construction/Demolition Activities 2
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ATTACHMENTS

Attachment A Aerosol Monitor Specifications
Attachment B Weather Station Specifications

1.0 INTRODUCTION

This Perimeter Air Monitoring Plan (PAMP) has been prepared for the proposed Amusement Park and Water Park project located in East Rutherford, Bergen County, New Jersey (Figure 1). The project site is located in the Hackensack Meadowlands District and is designated as Block 107.02, Lot 3 on the East Rutherford Tax Map (Figure 1). The property is bound to the north by the "East Peripheral Road," to the east by the New Jersey Turnpike, to the south by NJ State Route 3, and to the west by NJ State Route 120.

This PAMP specifies air monitoring procedures to be implemented along the perimeter of work areas during demolition and construction activities associated with the proposed amusement park and water park project. The monitoring data will be used to evaluate airborne dust and fiber concentrations at the perimeter of the site, as well as dust and fiber suppression measures utilized at the site.

The air monitoring specified in this plan will be supplemented by the air monitoring performed during construction activities by the individual contractors and workers pursuant to their separate and individual OSHA-compliant Health and Safety Plans (HASPs). The individual contractor HASPs will be prepared in accordance with 29 CFR Part 1910. The monitoring under this plan will not be used to evaluate worker health and safety within the site work zones.

1.1 Site Description

The site is located on approximately 22 acres located of land situated on Block 107.02, Lot 3 in the Borough of East Rutherford, Bergen County, New Jersey (Figure 1). The site is affiliated with the American Dream Meadowlands, formerly Meadowlands Xanadu.

The site is presently vacant. A radio transmitter building and three radio towers are present on the site. These structures are no longer used. The site is bordered by the Meadowlands Sports Complex to the north, the New Jersey Turnpike to the east, Route 3 to the south, and Route 120 to the west.

1.2 Contaminants of Concern

Langan's 19 October 2011 Site Investigation Report (SIR) identified soil contamination in areas where construction activities will be performed. The soil contaminants include poly-aromatic hydrocarbons (PAHs), metals, extractable petroleum hydrocarbons (EPH), antimony, chlordane, and polychlorinated biphenyls (PCBs). The contamination has been attributed to historic fill materials used to raise the topographic grade during the initial development of the site as well as "hot spots" of non-historic fill contamination found in several areas.

A summary of contaminants detected at concentrations exceeding the New Jersey Department of Environmental Protection (NJDEP) Soil Remediation Standards (SRS) is provided in Table 1. A complete discussion of the site contaminants is provided in the SIR.

1.3 Proposed Construction/Demolition Activities

The construction activities will include, but not be limited to installation of underground utilities; construction of access roadways; construction of a amusement park and water park; roadway construction; earthwork cuts and fills; grading; paving; construction dewatering; management of contaminated materials; site remediation activities; and hot spot removals. Demolition will include, but not limited to, radio tower demolition and radio transmitter building demolition.

During construction, the site will be surrounded by a security fence to limit site access. For the purposes of this air monitoring plan, the security fence will constitute the boundary of the site. The site is depicted on Figure 2. The site will be fenced for the duration of the project.

1.4 Background Dust/Fiber Generators

This plan was developed to monitor concentrations of airborne dust and fibers generated by the on-site work activities. However, the site and surrounding area contain numerous sources of airborne dust and fiber unrelated to the site

construction activities. These background sources may include, but are not limited to highway and access road traffic and vehicle exhaust, factories and other commercial/industrial facilities, nearby construction projects, fires, street sweepers, pyrotechnic displays, and other sources of airborne particulates.

This plan accounts for background dust concentrations when comparing dust monitoring data to the action levels presented in Section 2.0.

2.0 AIR MONITORING ACTION LEVELS

The following action level will be used to evaluate the dust and fiber monitoring data collected pursuant to this plan.

Particulates:

Action Level - The action level for particulates is 150 ug/m^3. This action level is based on the National Ambient Air Quality Standard (NAAQS) for particulates up to 10 micrometers in size (PM-10) over a 24-hour averaging period. Because the site is located in a non-residential area and excavation activities will be limited in duration, the action level is expected to be very conservative.

Airborne Fibers:

Monitoring at the perimeter of the work area will include monitoring for airborne fibers to screen for potential emissions of asbestos fibers during demolition of the radio transmitter building. Monitoring will be for total fibers of all kinds, not solely asbestos. The action level for total airborne fibers is 0.010 fibers/cc. This action level is based on 40 CFR 763 post abatement acceptable clearance criteria requirements for asbestos abatement projects.

3.0 INSTRUMENTATION

The air monitoring instruments required to implement this plan include the following:

- Particulate meters such as a TSI DustTRAK, or equal, will be used to monitor airborne dust ranging in size between 0.1 to 10 microns. The output scaling of the equipment will be set to measure particulate concentrations ranging between 0 $\mu g/m^3$ and 10,000 $\mu g/m^3$. The particulate meters can be equipped with audio and visual alarms and have data logging capabilities and sufficient memory to store a minimum of two weeks of data recorded at 15-minute intervals. The meters will also be equipped with weatherproof enclosures and omni-directional sampling ports. A specification cut sheet for the proposed TSI DustTrak Model 8520 is included as Attachment A.

- Samples for airborne fiber monitoring at the site shall be collected using high volume pumps. The air samples will be collected on 0.8-micron pore, cellulose ester filters, mounted in an electrically conductive 25mm plastic-sampling cassette. The pumps will be calibrated using a rotometer prior to and at the end of sampling. Air samples will be uniquely numbered and sent to a laboratory daily for analysis. Full chain-of-custody procedures will be employed in sending the air samples to the laboratory. The samples collected will be analyzed using Phase Contrast Microscopy (PCM) in accordance with NIOSH Method #7400. In general, approximately six air samples will be collected daily during radio tower demolition activities.

- An automated weather station such as a Davis Vantage Pro II Weather Station, or equal, will be used to monitor wind speed and wind direction. The station will have data logging capabilities and sufficient memory to store a minimum of two weeks of data recorded at 15-minute intervals. A specification cut sheet for the proposed equipment is included as Attachment B.

4.0 AIR MONITORING PROCEDURES

The following procedures will be implemented during the air monitoring activities.

4.1 Number and Placement of Monitoring Locations

One weather station will be installed in a strategic location for the duration of the project. The weather sensor will be installed in a location free of surrounding structures or other impediments to wind movement.

Dust monitors with weatherproof enclosures will be installed inside the security fences surrounding the site. Due to the large proposed construction area, six dust monitoring stations are proposed to be located around the perimeter of the site provided during site construction and demolition. The dust monitors can be installed at the locations shown on Figure 3. The monitors will be installed at a height of approximately 6 feet above grade for the duration of dust-generating activities in these areas.

Fiber monitors will be installed inside the security fence surrounding the existing site. Four fiber monitors are proposed to be installed at the locations shown on Figure 3. The monitors will be installed at a height of approximately 6 feet above grade for the duration of demolition activities. The monitors can be configured to sample continuously, with one sample collected from each monitor daily for fiber analysis. The fiber monitors will operated for the duration of the radio transmitter building demolition.

Since the air monitoring may be a dynamic process, NJDEP will be verbally notified in advance when the equipment needs to be relocated and will receive updated maps of the monitoring stations.

4.2 Background Air Monitoring

Background dust concentrations will be calculated using data collected during the time period from one to two hours after the end of each day's work activities until one to two hours before the start of the following day's work activities. The weather station and dust monitors will be programmed to log data once every 15 minutes for 24 hours a day so that this background data will be available for analysis.

Background fiber concentrations will be recorded prior to the start of demolition activities to assess general conditions in the area. However, alarm conditions for airborne fibers will be based on total fiber concentrations in the daily samples unadjusted for background conditions.

4.3 Dust Concentration Monitoring

The weather station and dust monitors will be programmed to log data as noted above. A site health and safety officer will be trained in the operation and maintenance of the equipment. The aerosol monitor can be equipped with an audio and visual (i.e. flashing light) alarm system that will identify any conditions which exceed the action level. If the alarm is triggered, the site health and safety officer will re-evaluate the current dust suppression measures and work practices, implement more aggressive dust suppression if necessary, and/or implement changes in work practices to reduce the amount of airborne dust.

Additionally, an air monitoring technician (AMT) will visit the site at least once per week to download the monitoring data and perform any necessary maintenance. The AMT will use the data to calculate average daily and average weekly dust concentrations at each monitor location. The technician will also calculate average background dust concentrations as discussed above. The data for each week will be recorded on a Weekly Air Monitoring Data Log. A sample data log is provided in Table 2.

The average daily dust concentrations and the average weekly dust concentrations will be compared to the action level discussed in Section 2.0. If the daily or weekly dust concentrations exceed the action levels, the air monitoring technician will notify the site health and safety officer, site superintendent, and site engineer to determine if more aggressive dust suppression measures are needed or if changes in the work practices should be considered.

4.4 Airborne Fiber Concentration Monitoring

During the radio transmitter building demolition, airborne fiber samples will be retrieved daily from each fiber monitor and analyzed for total fibers using Phase Contrast Microscopy (PCM) in accordance with NIOSH Method #7400. The samples will be analyzed on a rush turnaround time so that the total fiber results are available for review the following morning.

The total fiber sample results will be compared to the action level listed in Section 2.0. Any sample exceeding the total fiber concentration action level of 0.01 f/cc will be additionally analyzed for asbestos fiber content using transmission electron microscopy (TEM) on a 24-hour turnaround time. In addition, the air monitoring technician will notify the site health and safety officer, site superintendent, and site engineer, and more aggressive dust/fiber suppression measures will be implemented at the site closest to where the sample was collected.

If further analysis of any daily fiber sample using TEM reveals an asbestos content exceeding 70 structures per square millimeter, the air monitoring technician will immediately notify the site health and safety officer, site superintendent, and site engineer to stop work on the site closest to where the sample was collected. The site health and safety officer has been given the authority to stop work at the site in the event of a health and safety incident. After stopping work, the work activities and practices performed will be reviewed to determine the cause of the elevated asbestos fiber sample result. Existing dust/fiber suppression measures will be re-evaluated and modified as necessary prior to resuming work.

5.0 ALARM CONDITION RESPONSE PLAN

5.1 Particulate Monitoring Response Plan

1. If a 15-minute time-weighted average (TWA) for PM-10 concentration exceeds 150 ug/m^3, the AMT will review the background particulate

concentration data and adjust the TWA to account for background PM-10 levels. The AMT will then record the adjusted TWA and reset the monitors.

- Level 1 - If the adjusted 15-minute alarm TWA is greater than or equal to 150 ug/m^3 and less than or equal to 225 ug/m^3, site work will be temporarily relocated to an excavation area with potentially lower dust levels. Apply water fog to areas identified as potential sources of dust emissions and cover portions of the excavation with polypropylene sheeting.

- Level 2 – If the adjusted 15-minute alarm TWA is greater than 225 ug/m^3 and less than or equal to 300 ug/m^3, Level 1 actions should be completed along with application of particulate matter emission suppression techniques such as foam over the surface of the inactive open areas/surfaces/pits. The pace of remedial activities should be decreased and a fence with screening should be erected around work areas to contain emissions.

2. If a second, consecutive 15-minute time-weighted average (TWA) for PM-10 concentration exceeds 150 ug/m^3, or if the adjusted 15-minute alarm TWA is greater than 300 ug/m^3, the following abatement action will be implemented:

    - Level 3 – Level 2 actions should be completed along with cessation of excavation and loading activities. Work with a lower potential to generate emissions should be performed, if applicable.

3. If a third, consecutive 15-minute time-weighted average (TWA) for PM-10 concentration exceeds 150 ug/m^3, or if the adjusted 15-minute alarm TWA is greater than 450 ug/m^3, the following abatement action will be implemented:

    - Level 4 – Level 3 actions should be completed along with cessation of all site work, reassessment of remedial operations that contribute to dust emissions, reevaluation of the air monitoring workplan and implementation of methods necessary to mitigate emissions that occur after site work ceases.

4. Once the PM-10 concentration falls below 150 ug/m^3 for 15 minutes, work may resume.

5.2 Airborne Fiber Monitoring Response Plan

1. If airborne fiber levels at the perimeter of the site demolition work area exceed the 0.010 f/cc action level, the following procedures shall be implemented:

   - The air monitoring technician will notify the site health and safety officer, site superintendant, and site engineer. The work procedures will be evaluated to determine the source of the high fiber level, and more aggressive dust suppression measures shall be taken.

   - The samples exceeding 0.01 f/cc for total fibers will be analyzed using TEM methodology to determine asbestos content. If the result of the TEM analysis exceeds 70 structures per square millimeter, work activities in the areas nearest the sample location will be stopped. The air monitoring technician, site health and safety officer, site superintendant, and site engineer will evaluate possible sources of the fibers. Existing dust/fiber suppression measures will be re-evaluated and modified as necessary prior to resuming work.

6.0 QUALITY ASSURANCE

6.1 Calibration

All instruments will be calibrated in accordance with the manufacturer's specifications. Instrument calibration will be documented in a dedicated logbook.

6.2 Operations

All instruments will be operated in accordance with the manufacturer's specifications. The air monitoring technician will maintain the manufacturer's literature, including an operations manual, for each piece of monitoring equipment used at the site.

6.3 Documentation

The weather station, high volume pumps and dust monitors will be inspected weekly and the data downloaded and processed as described in Section 4.0. The data and other relevant monitoring information will be maintained in a dedicated logbook.

TABLE 1
MAXIMUM CONCENTRATIONS OF COMPOUNDS EXCEEDING THE NJDEP SRS
METRO CENTRAL, LLC
AMERICAN DREAM MEADOWLANDS
EAST RUTHERFORD, NEW JERSEY

Compounds Found in Exceedance of the NJDEP Soil Remediation Standards	NJDEP Soil Remediation Standards			Maximum Concentration (mg/kg)
	Residential Direct Contact (mg/kg)	Non-Residential Direct Contact (mg/kg)	Impact to Groundwater (mg/kg)	
Volatile Organics				
Chlorobenzene	510	7400	0.4	0.53
1,4-Dichlorobenzene	5	13	1	4.0
Methylene chloride*	34	97	0.007	0.02
Poly-Aromatic Hydrocarbons (PAH)				
Benzo[a]anthracene	0.6	2	0.5	3.2
Benzo[a]pyrene	0.2	0.2	0.2	2.8
Benzo[b]fluoranthene	0.6	2	2	3.3
Bis(2-Ethylhexyl)phthalate	35	140	790	74
Dibenzo[a,h]anthracene	0.2	0.2	0.5	0.52
Indeno[1,2,3-cd]pyrene	0.6	2	5	1.4
Total PCBs	0.2	1	---	12.7
Pesticides				
Chlordane	0.2	1	0.03	1.04
Metals				
Mercury	23	65	0.1	6.60
Aluminum	78000	---	3900	14000
Antimony	31	450	6	690
Arsenic	19	19	19	24
Beryllium	16	140	0.5	0.99
Cadmium	78	78	1	31
Lead	400	800	59	6300
Manganese	11000	5900	42	600
Nickel	1600	23,000	31	150
Selenium	390	5,700	7	9
Silver	390	5,700	1	19
Vanadium	78	1,100	---	140
Zinc	23000	110,000	600	3,300
Total Petroleum Hydrocarbons	5100	5100	5100	7700

*Maximum concentration found in concrete sample; detection may have been a laboratory issue and not indicative of true methylene chloride concentrations.

TABLE 2

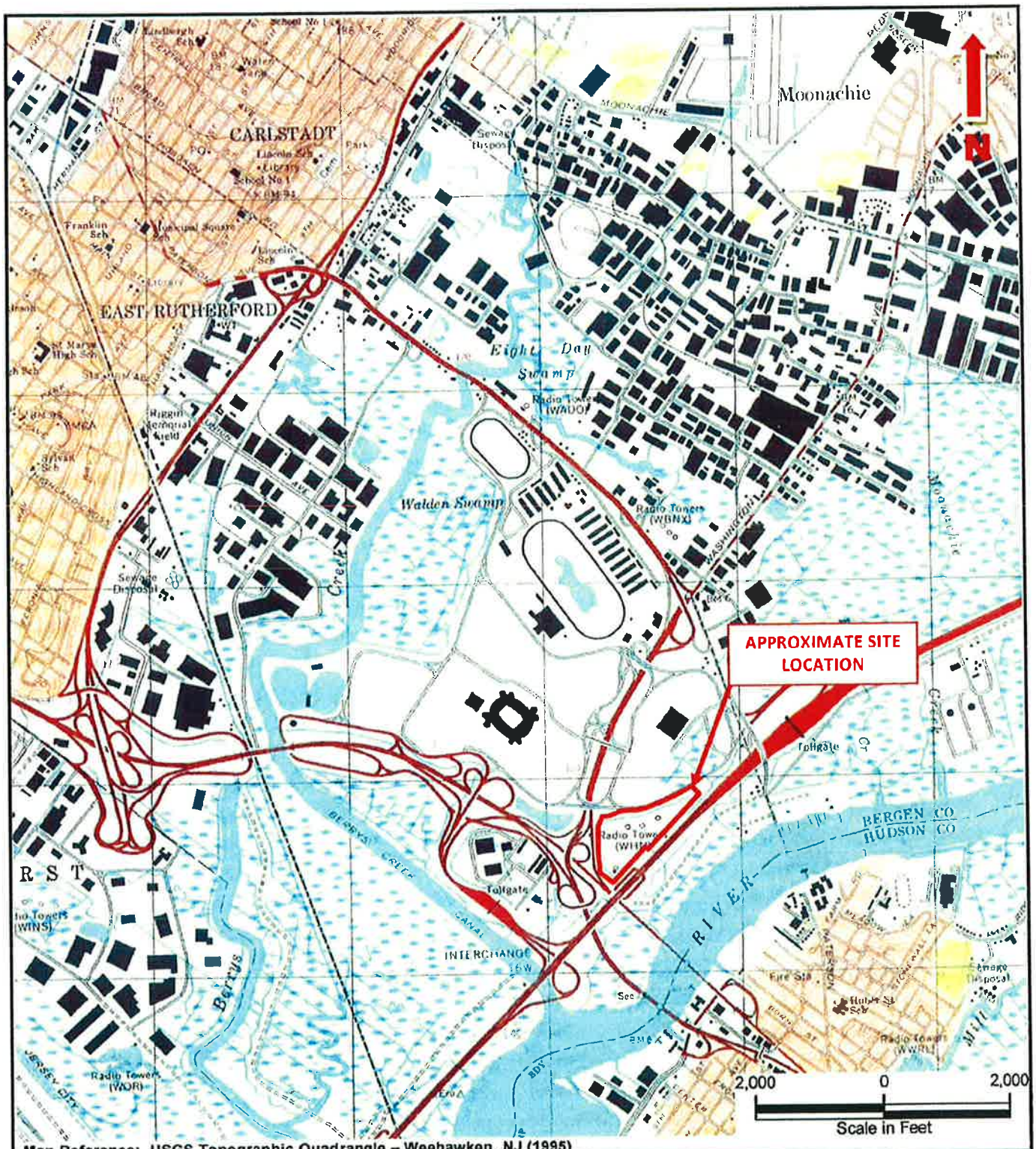
SAMPLE WEEKLY AIR MONITORING DATA LOG
AMUSEMENT PARK AND WATER PARK PROJECT
AMERICAN DREAM MEADOWLANDS
EAST RUTHERFORD, NEW JERSEY

Work Zone Location: _____
Monitoring Period: _____
Air Monitoring Technician: _____
Company: _____

Day	Average Daily Background Concentration	PM-10 Acute Action Level (above background)	Adjusted Acute Action Level	Average Daily Particulate Concentration (ug/m³)						Comments / Notes
	(ug/m³)	(ug/m³)	(ug/m³)	Station 1	Station 2	Station 3	Station 4	Station 5	Station 6	
Sample Calculation	**A**	**150**	**A + 345 x 8 / Hours Worked**	Data	Data	Data	Data	Data	Data	Explain data exceeding adjusted acute action level, note action taken
Monday										
Tuesday										
Wednesday										
Thursday										
Friday										
Saturday										
Sunday										

	Average Weekly Background Concentration	Acute Action Level (above background)	Adjusted Acute Action Level	Average Weekly Particulate Concentration (ug/m³)						Comments / Notes
	(ug/m³)	(ug/m³)	(ug/m³)	Station 1	Station 2	Station 3	Station 4	Station 5	Station 6	

Additional Comments / Notes



Map Reference: USGS Topographic Quadrangle – Weehawken, NJ (1995)

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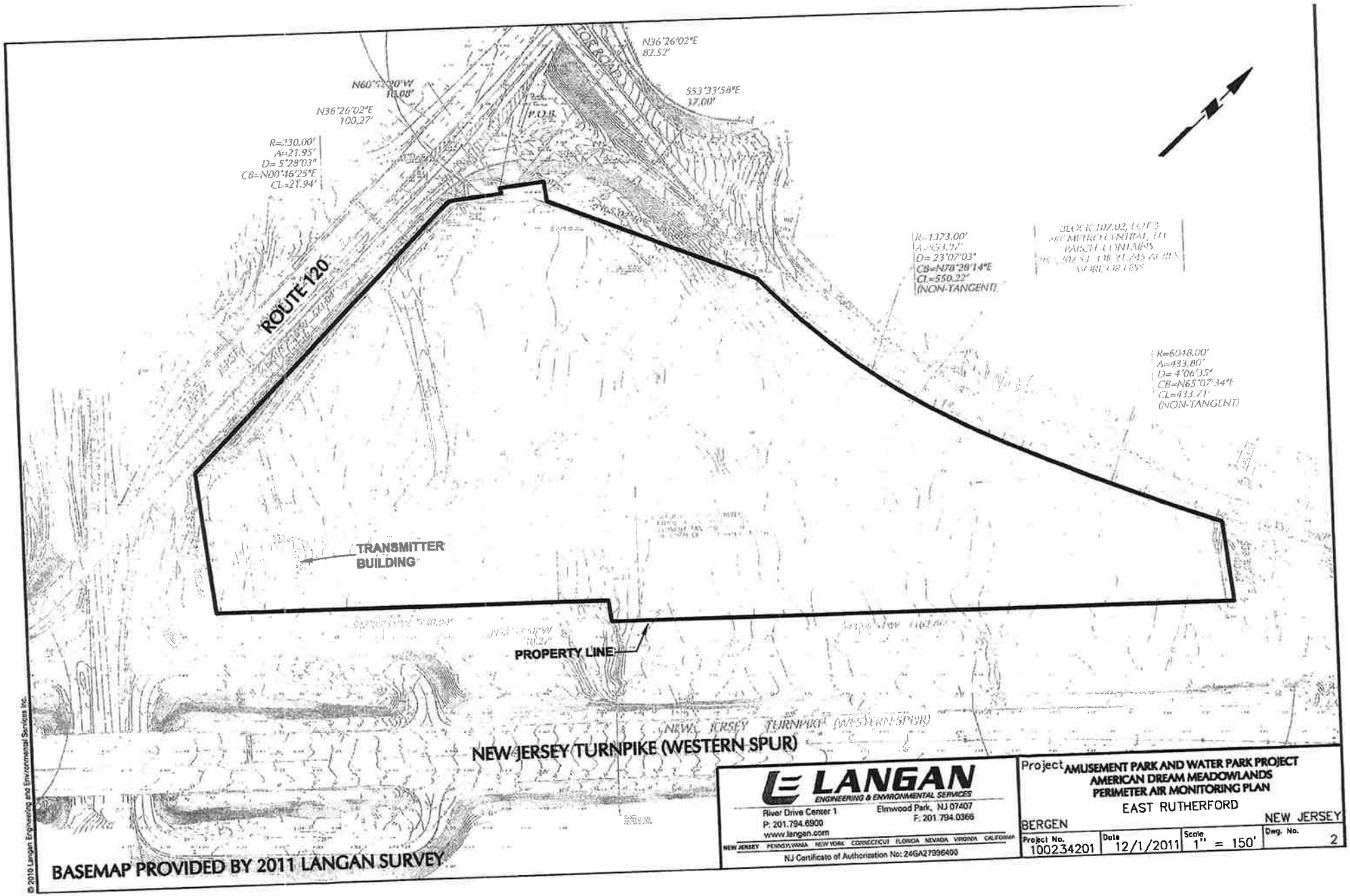
ELMWOOD PK, NJ • NEW YORK, NY • PHILADELPHIA, PA • DOYLESTOWN, PA
NEW HAVEN, CT • MIAMI, FL • TRENTON, NJ

USGS SITE LOCATION MAP
AMUSEMENT PARK AND WATER PARK
AMERICAN DREAM MEADOWLANDS
BLOCK 107.02, LOT 3

EAST RUTHERFORD — NEW JERSEY

JOB NO.	DATE	SCALE	FIGURE NO.
100234201	10/13/2011	1"=2,000'	1

NJ Certificate of Authorization No: 24GA27996400
\\langan.com\data\EP\data2\100234201\Office Data\Reports\Environmental\Site Investigation\Figures\Figure 1 - USGS Site Location Map.doc

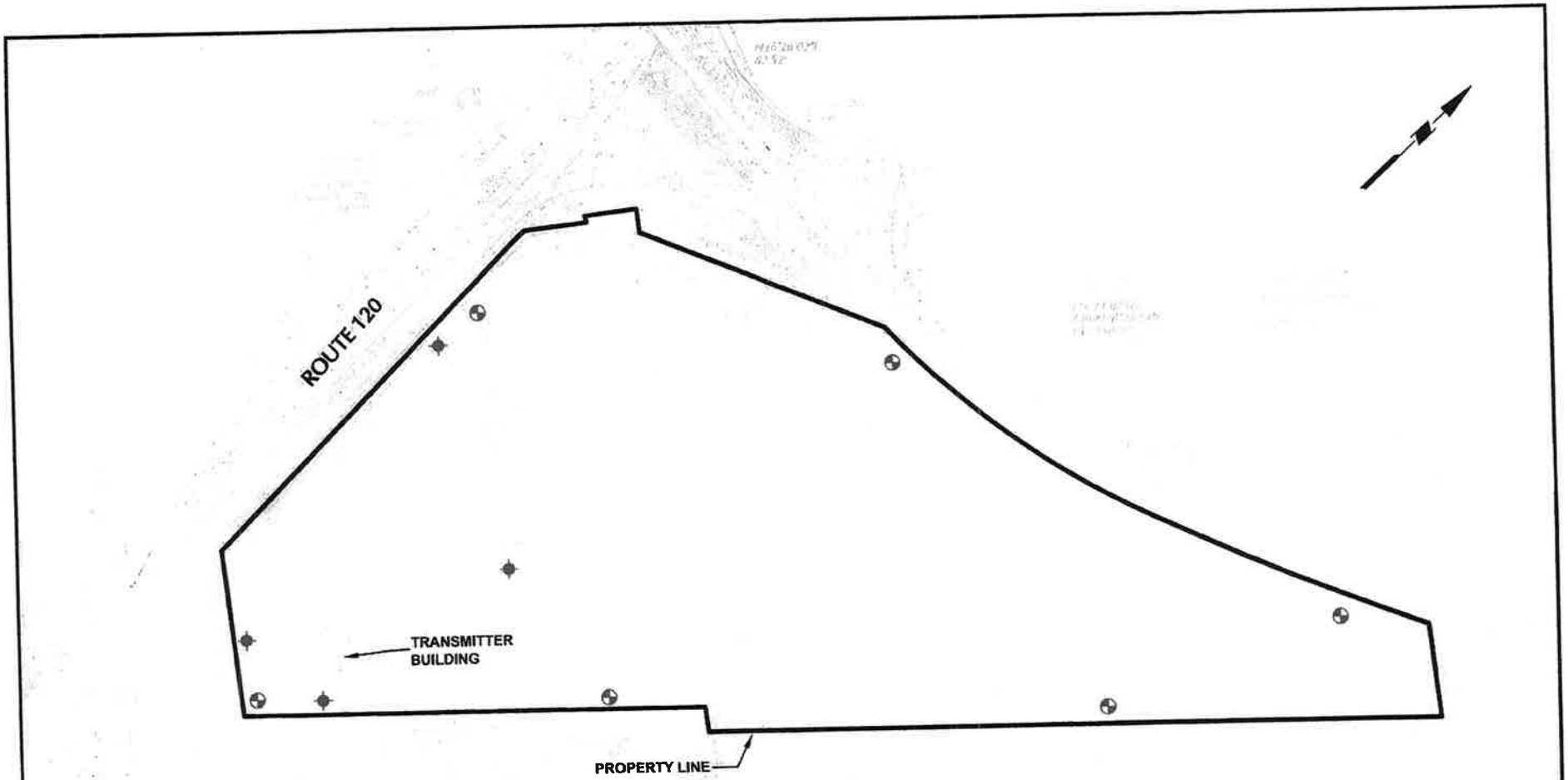


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NJ Certificate of Authorization No: 24GA27996400

Project: AMUSEMENT PARK AND WATER PARK PROJECT
AMERICAN DREAM MEADOWLANDS
PERIMETER AIR MONITORING PLAN
EAST RUTHERFORD
BERGEN NEW JERSEY

Project No.	Date	Scale	Dwg. No.
100234201	12/1/2011	1" = 150'	2



NEW JERSEY TURNPIKE (WESTERN SPUR)

BASEMAP PROVIDED BY 2011 LANGAN SURVEY

LEGEND

- PROPOSED DUST MONITORING STATION
- PROPOSED FIBER MONITORING STATION

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AMUSEMENT PARK AND WATER PARK PROJECT
AMERICAN DREAM MEADOWLANDS
PERIMETER AIR MONITORING PLAN
PROPOSED DUST AND FIBER MONITORING STATIONS
EAST RUTHERFORD
BERGEN NEW JERSEY

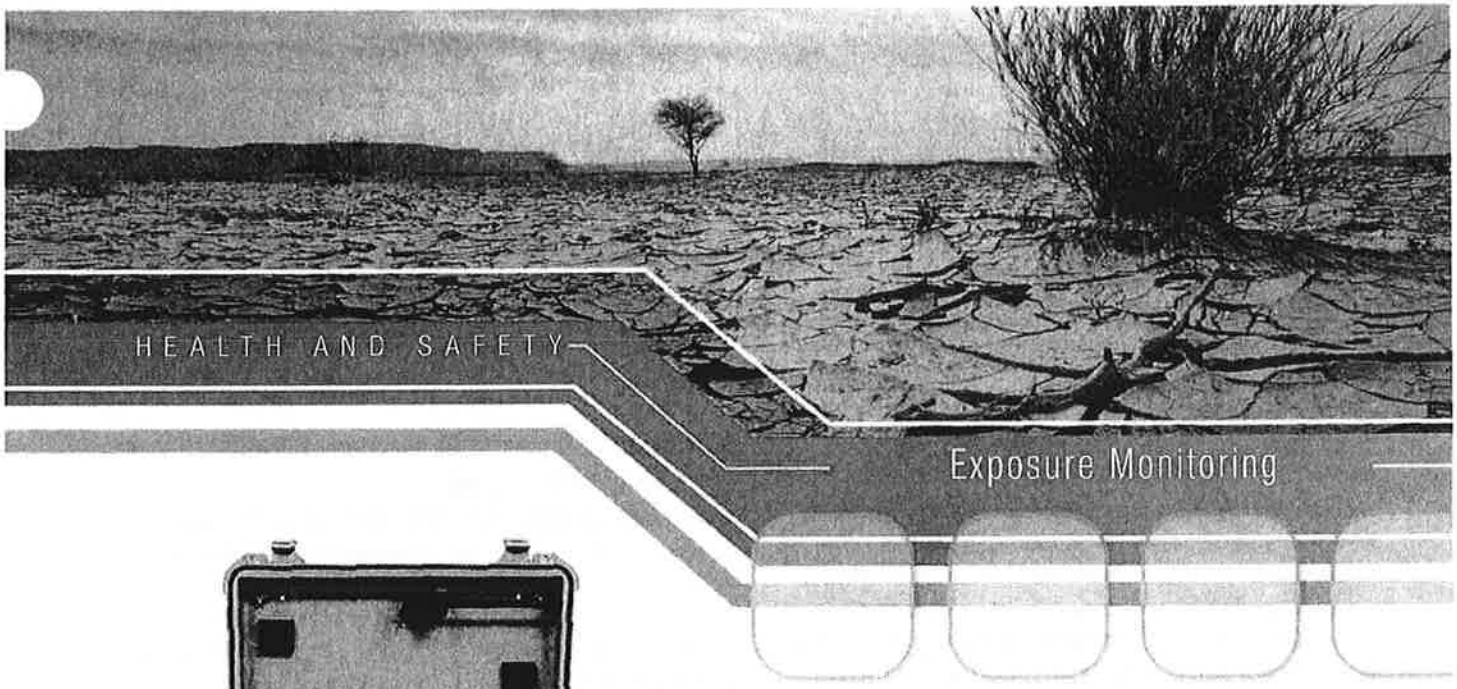
Project No.	Date	Scale	Dwg. No.
100234201	12/1/2011	1" = 150'	3

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Filename: \\Langan.com\data\EP\data2\100234201\Cadd Data - 100234201\Environmental\RAW\PAM\Fig 3 Proposed Monitoring Stations.dwg Date: 12/15/2011 Time: 15:02 User: ebuckley Style Table: Langan.stb Layout: B Size Sheet (Bottom) (1)

ATTACHMENT A

Aerosol Monitor Specifications





DustTrak™ Aerosol Monitor Environmental Enclosure

Model 8535

The new DustTrak™ II and DRX Aerosol Monitor Models 8530 and 8533 are portable, battery-operated, laser-photometers that measure and record airborne dust concentrations. The new DustTrak aerosol monitors have a new custom designed weatherproof Environmental Enclosure for making the same accurate and precise measurements outdoors.

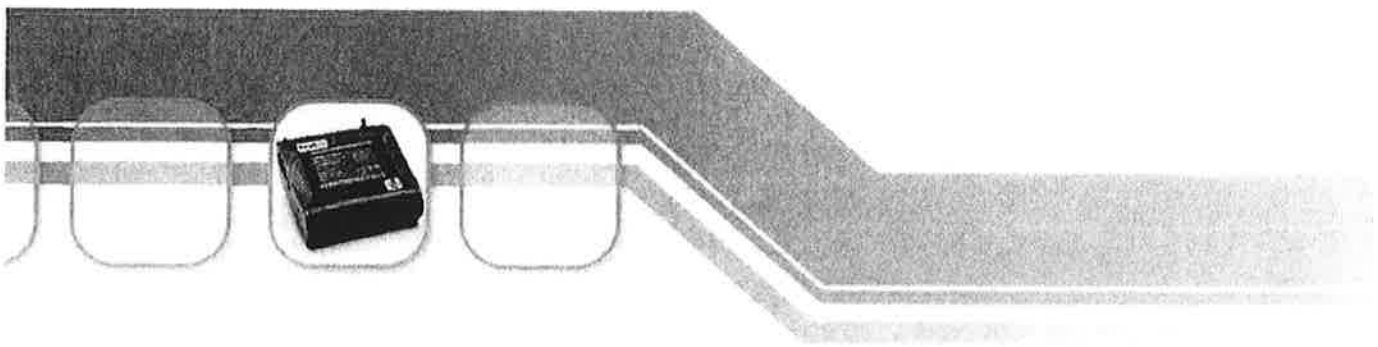
Features and Benefits

- New optional accessories
  - Internal Battery System
  - Heat Shield
  - Solar Power System
  - Wireless Radio Modems
- 360° omni-directional sampling inlet specifically designed to sample efficiently in a broad range of wind conditions
- Mount enclosure to a standard survey tripod equipped with a ⅝"–11 threaded stud
- Water trap that prevents precipitation from entering the instrument
- The rugged enclosure provides a secure method of deploying the DustTrak aerosol monitor and its accessories

Applications

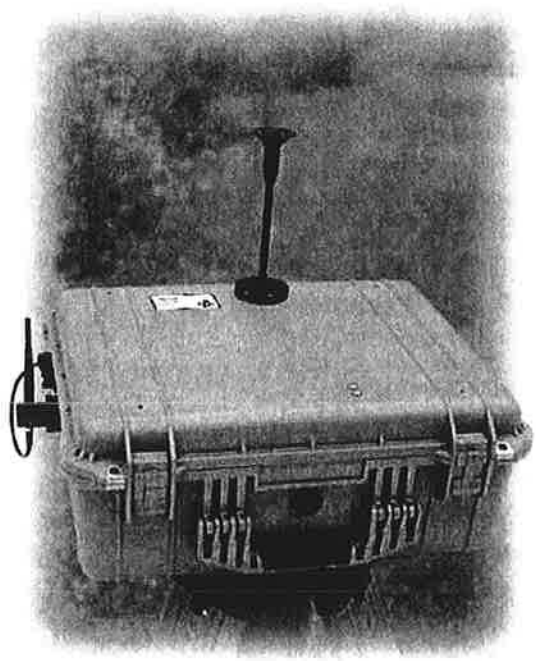
- Outdoor environmental monitoring
  - Fugitive emissions monitoring
  - Site perimeter monitoring
  - Fence-line monitoring
  - Dust control operations
  - Environmental research studies
- Construction sites
- Harsh industrial environments
- Urban pollution studies

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Any Environment, Any Application

The new DustTrak Environmental Enclosure Model 8535 can be used in conjunction with the DustTrak aerosol monitor for many different applications. While its primary use is in outdoor applications it may also be advantageous in indoor industrial applications to provide additional security and protection for the instrument. The enclosure should be set up in a location where it can easily sample the aerosols of interest. It should be placed away from obstructions which may affect wind currents. The sampling inlet on the Environmental Enclosure samples most efficiently from 0 to 22 mph/0 to 36 kph.



New Optional Accessories for the DustTrak™ Environmental Enclosure

Internal Battery System—this internal power system will provide continuous power to the DustTrak aerosol monitor and the wireless radio modems when dedicated AC power is not available, allowing autonomous, 24-hour operation of the DustTrak Environmental Enclosure. This optional accessory is supplied with two sets of batteries, allowing one set of batteries to be charged while the other is in operation. It includes; two sets of 36 Ah lead acid batteries, and battery charger with universal line cord.

Heat Shield—it is mounted directly to the top of the Environmental Enclosure and is for use in applications where the enclosure needs to be shielded from direct sunlight.

Solar Power System—this external power system will provide continuous power to the DustTrak aerosol monitor and wireless radio modem when dedicated AC power is not available for remote, long-term unattended sampling applications. It will power all equipment and charge the external battery during the daytime, and then automatically switches to battery power during the night or in low-light conditions. It includes; two solar panels with stand, weatherproof battery and charge regulator enclosure, charge regulator, extended-life lead acid battery, and DC power cables.

Wireless Radio Modems—the wireless radio modem provides for two-way communications between the DustTrak II or DRX aerosol monitor using TrakPro™ Data Analysis Software. You can set up and program your DustTrak II or DRX aerosol monitor for remote sampling and retrieve data remotely using this new system. It includes; wireless radio (922 MHz or 2.4 GHz) modems for computer and instrument (sold separately), USB cable, dipole antenna, modem configuration software CD, and manual.

Specifications

Model 8535

DustTrak™ Environmental Enclosure

Sampling Conditions

Wind Speed	0 to 22 mph (0 to 36 kph)
Operating Temperature	32 to 120°F (0 to 50°C)
Storage Temperature	-4 to 140°F (-20 to 60°C)

Physical

External Dimensions (HWD)	8.1 x 16.9 x 20.6 in. (21 x 43 x 52 cm)
Weight (with Internal Battery System and DustTrak)	38 lb (17 kg)

Clean Inlet
Weekly, under normal conditions, or daily if concentrations are over 30 mg/m³

Re-grease O-rings
As needed

Internal Battery System

Power Requirements

Internal Battery Pack	12 VDC, 36 Ah
Battery Run-time	24 to 40 hours (typical)
Battery Charge Time	8 hours at 72°F (22°C) (New battery, deep discharge to 95% charge)

Solar Power System

Power Requirements

Solar System Run-time	Continuous (with adequate sunlight)
Rated Power	80 x 2 watts
Power Tolerance	±5%
Nominal Voltage	12 volts
External Battery Pack	12 VDC, 100 Ah
Battery Run-time	90 to 120 hours (typical)
Battery Charge Time	<10 hours at 72°F (22°C) (New battery, deep discharge to 95% charge, with adequate sunlight)
Operating Temperature	32 to 120°F (0 to 50°C)
Storage Temperature	-4 to 140°F (-20 to 60°C)

Physical (Solar Panels)

Dimensions (HWD)	2 x 43 x 48 in. (5 x 109 x 122 cm)
Weight	34 lb (15.3 kg)

Physical (Battery and Case)

Dimensions (HWD)	8.5 x 15.3 x 17 in. (22 x 39 x 43 cm)
Weight	85 lb (38.3 kg)

Wireless Radio Modem

Power Requirements

Power Supply Voltage	5–12 V
Receive Current	–90 mA @ 922 MHz –115 mA @ 2.4 GHz
Transmit Current	–185 mA @ 922 MHz –200 mA @ 2.4 GHz
Power Down Current	50 mA

Operating Temperature
32°F to 158°F (0°C to 70°C)

Storage Temperature
–4°F to 158°F (–20°C to 70°C)

Physical

Dimensions (HWD)	1.12 x 5.50 x 2.75 in. (3 x 14 x 7 cm)
Weight	7.1 oz (200 g)

Country specific wireless transmission information

US, Canada, Australia, New Zealand	922 MHz
Europe, Asia	2.4 GHz

Transmission Ranges (typical—line-of-sight)

Indoor/Urban Range (with 2.1 dB dipole antenna)	Up to 1500 feet (450 m) @ 922 MHz Up to 600 feet (180 m) @ 2.4 GHz
Outdoor RF line-of-sight range (with 2.1 dB dipole antenna)	Up to 7 mi (11 km) @ 922 MHz Up to 3 mi (5 km) @ 2.4 GHz
Outdoor RF line-of-sight range (with high gain antenna)	Up to 20 mi (32 km) @ 922 MHz Up to 10 mi (16 km) @ 2.4 GHz
Transmit Power Output	100 mW (20 dBm) @ 922 MHz 50 mW (17 dBm) @ 2.4 GHz

Data Rate
9,600 bps

To Order

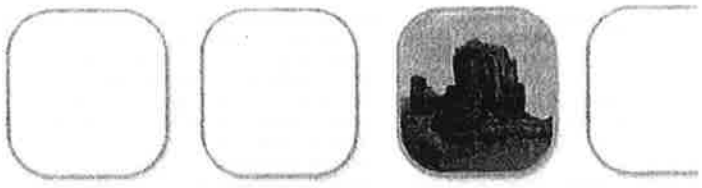
Model 8535 DustTrak Environmental Enclosure

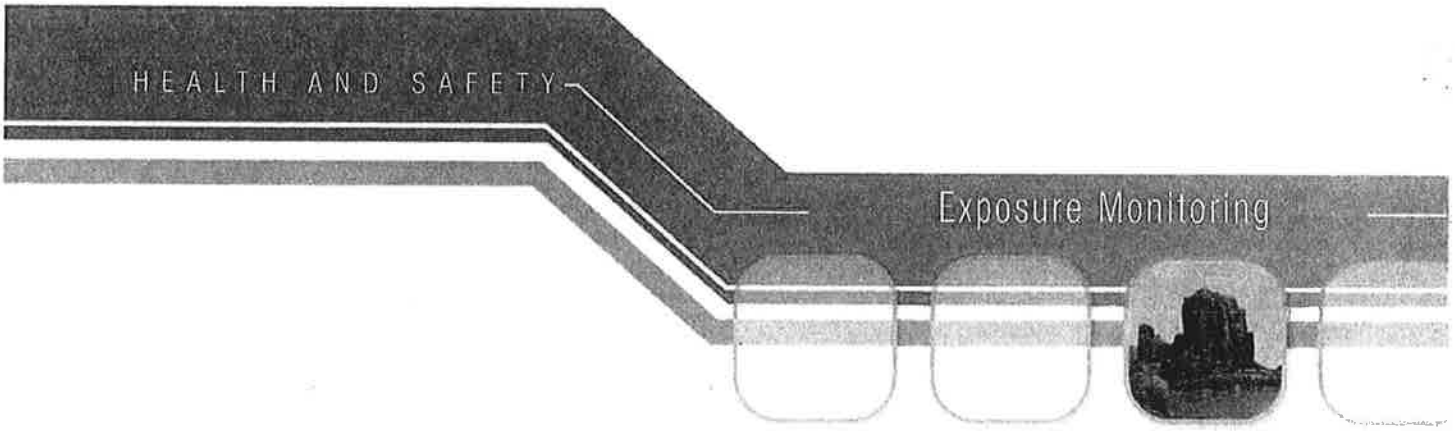
Specify	*Description*
8535	Weatherproof Case with Survey Tripod Mount 360° Omni-directional Sampling Inlet, Water Trap Bottle, internal equipment bracket with VELCRO® Straps, Dust Caps, Tubing, Plug, O-rings, and external weatherproof AC/DC Power Supply.

Optional Accessories

Specify	*Description*
801801	Internal Battery System
801810	Heat Shield
801811	Solar Power System
801820	922 MHz Modem with Antenna Mount for Enclosure
801821	922 MHz Computer Modem
801825	2.4 GHz Modem with Antenna Mount for Enclosure
801826	2.4 GHz Computer Modem

Specifications are subject to change without notice. TSI, the TSI logo, DustTrak, and TrakPro are trademarks of TSI Incorporated. Microsoft and Windows are trademarks of Microsoft Corporation. VELCRO is a registered trademark of Velcro Industries B.V.





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Germany	Tel: +49 241 523030	E-mail: tsigmbh@tsi.com	Website: www.tsiinc.de
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Singapore	Tel: +65 6595 6388	E-mail: tsi-singapore@tsi.com	

Contact your local TSI Distributor or visit our website **www.tsi.com** for more detailed specifications.

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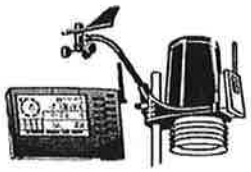
P/N 8001991 Rev B
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ATTACHMENT B

Weather Station Specifications

Wireless Vantage Pro2™ & Vantage Pro2™ Plus Stations

(Including Fan-Aspirated Models)



6152 6162
6153 6163

VANTAGE PRO2™

Vantage Pro2™ (6152, 6153) and Vantage Pro2™ Plus (6162, 6163) Wireless Weather Stations include two components: the Integrated Sensor Suite (ISS) which houses and manages the external sensor array, and the console which provides the user interface, data display, and calculations. The ISS and Vantage Pro2 console communicate via an FCC-certified, license-free, spread-spectrum frequency-hopping (FHSS) transmitter and receiver. User-selectable transmitter ID codes allow up to eight stations to coexist in the same geographic area. The frequency hopping spread spectrum technology provides greater communication strength over longer distances and areas of weaker reception. The Wireless Vantage Pro2™ Plus weather station includes two additional sensors that are optional on the Vantage Pro2: the UV sensor and the solar radiation sensor. The console may be powered by batteries or by the included AC-power adapter. The wireless ISS is solar powered with a battery backup. Use WeatherLink™ for Vantage Pro and Vantage Pro2 to let your weather station interface with a computer, to log weather data, and to upload weather information to the internet.

The 6152 and 6162 rely on passive shielding to reduce solar-radiation induced temperature errors in the outside temperature sensor readings. The Fan-aspirated 6153 and 6163 combine passive shielding with a solar-powered fan that draws outside air in over the temperature and humidity sensors, providing a much more accurate temperature reading than that available using passive shielding alone.

Integrated Sensor Suite (ISS)

Operating Temperature	-40° to +150°F (-40° to +65°C)
Non-operating Temperature	-40° to +158°F (-40° to +70°C)
Current Draw (ISS SIM only)	0.14 mA (average), 30 mA (peak) at 4 to 6 VDC
Solar Power Panel	0.5 Watts (ISS SIM), plus 0.75 Watts (Fan-Aspirated)
Battery (ISS SIM /Fan-Aspirated)	CR-123 3-Volt Lithium cell / 2 - 1.2 Volt NiCad C-cells
Battery Life (3-Volt Lithium cell)	8 months without sunlight - greater than 2 years depending on solar charging
Battery Life (NiCad C-cells)	1 year
Fan Aspiration Rate (Fan-Aspirated Only)	190 feet/min. (0.9 m/s) (full sun), 80 feet/min. (0.4 m/s) (battery only) (intake flow rate) 500 feet/min. (2.5 m/s) (full sun), 280 feet/min. (1.4 m/s) (battery only) (sensor chamber flow rate)
Connectors, Sensor	Modular RJ-11
Cable Type	4-conductor, 26 AWG
Cable Length, Anemometer	40' (12 m) (included) 540' (165 m) (maximum recommended)
Wind Speed Sensor	Wind cups with magnetic switch
Wind Direction Sensor	Wind vane with potentiometer
Rain Collector Type	Tipping bucket, 0.01" per tip (0.2 mm with metric rain adapter), 33.2 in^2 (214 cm^2) collection area
Temperature Sensor Type	PN Junction Silicon Diode
Relative Humidity Sensor Type	Film capacitor element
Housing Material	UV-resistant ABS, ASA plastic

ISS Dimensions:

Product #	(Length x Width x Height)	Package Weight
6152	11.00" x 9.38" x 14.00" (279 mm x 238 mm x 355 mm)	5.7 lbs. (2.6 kg)
6162		6.1 lbs. (2.6 kg)
6153	11.00" x 9.38" x 21.00" (279 mm x 238 mm x 533 mm)	8.6 lbs. (3.9 kg)
6163		9 lbs. (4.1 kg)

DAVIS® **Davis Instruments** 3465 Diablo Ave., Hayward, CA 94545-2778 USA
(510) 732-9229 • FAX (510) 670-0589 • sales@davisnet.com • www.davisnet.com
DS6152_62_53_63 (Rev. G, 4/27/11)

Console

Console Operating Temperature	+32° to +140°F (0° to +60°C)
Non-Operating (Storage) Temperature	+14° to +158°F (-10° to +70°C)
Current Draw	0.9 mA average, 30 mA peak, (add 120 mA for display lamps, add 0.125 mA for each optional wireless transmitter received by the console) at 4 - 6 VDC
AC Power Adapter	5 VDC, 300 mA, regulated
Batteries	3 C-cells
Battery Life	up to 9 months
Connectors	Modular RJ-11
Housing Material	UV-resistant ABS plastic
Console Display Type	LCD Transflective
Display Backlight	LEDs
Dimensions (console: length x width x height, display length x height)	
Console with antenna down	10.625" x 6.125" x 1.625" (270 mm x 156 mm x 41 mm)
Console with antenna extended up	10.625" x 9.625" x 1.625" (270 mm x 245 mm x 41 mm)
Display	5.94" x 3.375" (151 mm x 86 mm)
Weight (with batteries)	1.88 lbs. (.85 kg)

Data Displayed on Console

Data display categories are listed with General first, then in alphabetical order.

General

Historical Data	Includes the past 24 values listed unless otherwise noted; all can be cleared and all totals reset
Daily Data	Includes the earliest time of occurrence of highs and lows; period begins/ends at 12:00 am
Monthly Data	Period begins/ends at 12:00 am on the first of the month
Yearly Data	Period begins/ends at 12:00 am on the first of January unless otherwise noted
Current Display Data	Current display data describes the current reading for each weather variable. In most cases, the variable lists the most recently updated reading or calculation. Some current variable displays can be adjusted so there is an offset for the reading
Current Graph Data	Current graph data appears in the right-most column in the console graph and represents the latest value within the last period on the graph; totals can be set or reset. Display intervals vary. Examples include: Instant, 15-min., and Hourly Reading; Daily, Monthly, High and Low
Graph Time Interval	1 min., 10 min., 15 min., 1 hour, 1 day, 1 month, 1 year (user-selectable, availability depends upon variable selected)
Graph Time Span	24 Intervals + Current Interval (see Graph Intervals to determine time span)
Graph Variable Span (Vertical Scale)	Automatic (varies depending upon data range); Maximum and Minimum value in range appear in ticker
Alarm Indication	Alarms sound for only 2 minutes (time alarm is always 1 minute) if operating on battery power. Alarm message is displayed in ticker as long as threshold is met or exceeded. Alarms can be silenced (but not cleared) by pressing the DONE key.
Transmission Interval	Varies with transmitter ID code from 2.25 seconds (#1=shortest), to 3 seconds (#8=longest)
Update Interval	Varies with sensor - see individual sensor specs

Barometric Pressure

Resolution and Units	0.01" Hg, 0.1 mm Hg, 0.1 hPa/mb (user-selectable)
Range	16.00" to 32.50" Hg, 410 to 820 mm Hg, 540 to 1100 hPa/mb
Elevation Range	-999' to +15,000' (-500 m to 4570 m) (Note that console screen limits entry of lower elevation to -999' when using feet as elevation unit.)
Uncorrected Reading Accuracy	±0.03" Hg (±0.8 mm Hg, ±1.0 hPa/mb) (at room temperature)
Sea-Level Reduction Equation Used	United States Method employed prior to use of current "R Factor" method

Equation Source	Smithsonian Meteorological Tables
Equation Accuracy	±0.01" Hg (±0.3 mm Hg, ±0.3 hPa/mb)
Elevation Accuracy Required	±10' (3m) to meet equation accuracy specification
Overall Accuracy	±0.03" Hg (±0.8 mm Hg, ±1.0 hPa/mb)
Trend (change in 3 hours)	Change 0.06" (2 hPa/mb, 1.5 mm Hg) = Rapidly Change 0.02" (.7hPa/mb, .5 mm Hg)= Slowly
Trend Indication	5 position arrow: Rising (rapidly or slowly), Steady, or Falling (rapidly or slowly)
Update Interval	1 minute or when console BAR key is pressed twice
Current Display	Instant
Current Graph Data	Instant, 15-min., and Hourly Reading; Daily, Monthly, High and Low
Historical Graph Data	15-min. and Hourly Reading; Daily, Monthly Highs and Lows
Alarms	High Threshold from Current Trend for Storm Clearing (Rising Trend Low Threshold from Current Trend for Storm Warning (Falling Trend)
Range for Rising and Falling Trend Alarms	0.01 to 0.25" Hg (0.1 to 6.4 mm Hg, 0.1 to 8.5 hPa/mb)

Clock

Resolution	1 minute
Units	Time: 12 or 24 hour format (user-selectable)
Date	US or International format (user-selectable)
Accuracy	±8 seconds/month
Adjustments	Time: Automatic Daylight Savings Time (for users in North America and Europe that observe it in AUTO mode, MANUAL setting available for all other areas) Date: Automatic Leap Year
Alarms	Once per day at set time when active

Dewpoint (calculated)

Resolution and Units	1°F or 1°C (user-selectable) °C is converted from °F rounded to the nearest 1°C
Range	-105° to +130°F (-76° to +54°C)
Accuracy	±3°F (±1.5°C) (typical)
Update Interval	10 to 12 seconds
Source	World Meteorological Organization (WMO)
Equation Used	WMO Equation with respect to saturation of moist air over water
Variables Used	Instant Outside Temperature and Instant Outside Relative Humidity
Current Display Data	Instant Calculation
Current Graph Data	Instant Calculation; Daily, Monthly High and Low
Historical Graph Data	Hourly Calculations; Daily, Monthly Highs and Lows
Alarms	High and Low Threshold from Instant Calculation

Evapotranspiration (calculated, requires solar radiation sensor)

Resolution and Units	0.01" or 0.1 mm (user-selectable)
Range	Daily to 32.67" (832.1 mm); Monthly & Yearly to 199.99" (1999.9 mm)
Accuracy	Greater of 0.01" (0.25 mm) or ±5%, Reference: side-by-side comparison against a CIMIS ET weather station
Update Interval	1 hour
Calculation and Source	Modified Penman Equation as implemented by CIMIS (California Irrigation Management Information System) including Net Radiation calculation
Current Display Data	Latest Hourly Total Calculation
Current Graph Data	Latest Hourly Total Calculation, Daily, Monthly, Yearly Total
Historical Graph Data	Hourly, Daily, Monthly, Yearly Totals
Alarm	High Threshold from Latest Daily Total Calculation

Forecast

Variables Used	Barometric Reading & Trend, Wind Speed & Direction, Rainfall, Temperature, Humidity, Latitude & Longitude, Time of Year
Update Interval	1 hour
Display Format	Icons on top center of display; detailed message in ticker at bottom
Variables Predicted	Sky Condition, Precipitation, Temperature Changes, Wind Direction and Speed

Heat Index (calculated)

Resolution and Units	1°F or 1°C (user-selectable) °C is converted from °F rounded to the nearest 1°C
Range	-40° to +165°F (-40° to +74°C)
Accuracy	±3°F (±1.5°C) (typical)
Update Interval	10 to 12 seconds
Source	United States National Weather Service (NWS)/NOAA
Formulation Used	Steadman (1979) modified by US NWS/NOAA and Davis Instruments to increase range of use
Variables Used	Instant Outside Temperature and Instant Outside Relative Humidity
Current Display Data	Instant Calculation
Current Graph Data	Instant Calculation; Daily, Monthly High
Historical Graph Data	Hourly Calculations; Daily, Monthly Highs
Alarm	High Threshold from Instant Calculation

Humidity

Inside Relative Humidity (sensor located in console)

Resolution and Units	1%
Range	1 to 100% RH
Accuracy	±3% (0 to 90% RH), ±4% (90 to 100% RH)
Update Interval	1 minute
Current Display Data	Instant (user-adjustable offset available)
Current Graph Data	Instant; Hourly Reading; Daily, Monthly High and Low
Historical Graph Data	Hourly Readings; Daily, Monthly Highs and Lows
Alarms	High and Low Threshold from Instant Reading

Outside Relative Humidity (sensor located in ISS)

Resolution and Units	1%
Range	1 to 100% RH
Accuracy	±3% (0 to 90% RH), ±4% (90 to 100% RH)
Temperature Coefficient	0.03% per °F (0.05% per °C), reference 68°F (20°C)
Drift	±0.5% per year
Update Interval	50 seconds to 1 minute
Current Display Data	Instant (user-adjustable offset available)
Current Graph Data	Instant; Hourly Reading; Daily, Monthly High and Low
Historical Graph Data	Hourly Readings; Daily, Monthly Highs and Lows
Alarms	High and Low Threshold from Instant Reading

Extra Outside Relative Humidity (sensor located inside Temperature/Humidity Station)

Resolution and Units	1%
Range	1 to 100% RH
Accuracy	±3% (0 to 90% RH), ±4% (90 to 100% RH)
Temperature Coefficient	0.03% per °F (0.05% per °C), reference 68°F (20°C)
Drift	±0.5% per year
Update Interval	50 seconds to 1 minute
Current Display Data	Instant Reading (user adjustable)
Alarms	High and Low Threshold from Instant Reading

Leaf Wetness (requires leaf wetness sensor)

Resolution	1
Range	0 to 15
Dry/Wet Threshold	User-selectable
Accuracy	±0.5
Update Interval	15 to 18 seconds
Current Graph Data	Instant Reading; Daily High and Low; Monthly High
Historical Graph Data	Hourly Readings; Daily Highs and Lows; Monthly Highs
Alarms	High and Low Thresholds from Instant Reading

Moon Phase

Console Resolution	1/8 (12.5%) of a lunar cycle, 1/4 (25%) of lighted face on console
WeatherLink Resolution	0.09% of a lunar cycle, 0.18% of lighted face maximum (depends on screen resolution)
Range	New Moon, Waxing Crescent, First Quarter, Waxing Gibbous, Full Moon, Waning Gibbous, Last Quarter, Waning Crescent
Accuracy	±38 minutes

Rainfall

Resolution and Units	0.01" or 0.2 mm (user-selectable) (1 mm at totals ≥ 2000 mm)
Daily/Storm Rainfall Range	0 to 99.99" (0 to 999.8 mm)
Monthly/Yearly/Total Rainfall Range	0 to 199.99" (0 to 6553 mm)
Rain Rate	0 to 96" (0 to 2438 mm)
Accuracy	For rain rates up to 2"/hr (50 mm/hr): ±4% of total or +0.01" (0.2mm) (0.01" = one tip of the bucket), whichever is greater. For rain rates from 2"/hr (50 mm/hr) to 4"/hr (100 mm/hr): ±4% of total or +0.01" (0.25 mm) (0.01" = one tip of the bucket), whichever is greater
Update Interval	20 to 24 seconds
Storm Determination Method	0.02" (0.5 mm) begins a storm event, 24 hours without further accumulation ends a storm event
Current Display Data	Totals for Past 15-min
Current Graph Data	Totals for Past 15-min, Past 24-hour, Daily, Monthly, Yearly (start date user-selectable) and Storm (with begin date); Umbrella is displayed when 15-minute total exceeds zero
Historical Graph Data	Totals for 15-min, Daily, Monthly, Yearly (start date user-selectable) and Storm (with begin and end dates)
Alarms	High Threshold from Latest Flash Flood (15-min. total, default is 0.50", 12.7 mm), 24-Hour Total, Storm Total,
Range for Rain Alarms	0 to 99.99" (0 to 999.7 mm)

Rain Rate

Resolution and Units	0.01" or 0.1 mm (user-selectable) at typical rates (see Fig. 3 and 4)
Range	0, 0.04"/hr (1 mm/hr) to 96"/hr (0 to 2438 mm/hr)
Accuracy	±5% for rates less than 5" per hour (127 mm/hr)
Update Interval	20 to 24 seconds
Calculation Method	Measures time between successive tips of tipping bucket. Elapsed time greater than 15 minutes or only one tip of the rain collector constitutes a rain rate of zero.
Current Display Data	Instant
Current Graph Data	Instant and 1-min. Reading; Hourly, Daily, Monthly and Yearly High
Historical Graph Data	1-min Reading; Hourly, Daily, Monthly and Yearly Highs
Alarm	High Threshold from Instant Reading

Soil Moisture (requires soil moisture Sensor)

Resolution	1 cb
Range	0 to 200 cb
Update Interval	75 to 90 seconds
Current Graph Data	Instant Reading; Daily and Monthly High and Low
Historical Graph Data	Hourly Readings; Daily and Monthly Highs and Lows
Alarms	High and Low Thresholds from Instant Reading

Solar Radiation (requires solar radiation sensor)

Resolution and Units	1 W/m^2
Range	0 to 1800 W/m^2
Accuracy	±5% of full scale (Reference: Eppley PSP at 1000 W/m^2)
Drift	up to ±2% per year
Cosine Response	±3% for angle of incidence from 0° to 75°
Temperature Coefficient	-0.067% per °F (-0.12% per °C); reference temperature = 77°F (25 °C)
Update Interval	50 seconds to 1 minute (5 minutes when dark)
Current Graph Data	Instant Reading and Hourly Average; Daily, Monthly High
Historical Graph Data	Hourly Average, Daily, Monthly Highs
Alarm	High Threshold from Instant Reading

Sunrise and Sunset

Resolution	1 minute
Accuracy	±1 minute
Reference	United States Naval Observatory

Temperature

Inside Temperature (sensor located in console)	
Resolution and Units	Current Data: 0.1°F or 1°F or 0.1°C or 1°C (user-selectable) °C is converted from °F rounded to the nearest 1°C Historical Data and Alarms: 1°F or 1°C (user-selectable)
Range	+32° to +140°F (0° to +60°C)
Sensor Accuracy	±1°F (±0.5°C)
Update Interval	1 minute
Current Display Data	Instant (user-adjustable offset available)
Current Graph Data	Instant Reading; Daily and Monthly High and Low
Historical Graph Data	Hourly Readings; Daily and Monthly Highs and Lows
Alarms	High and Low Thresholds from Instant Reading
Outside Temperature (sensor located in ISS)	
Resolution and Units	Current Data: 0.1°F or 1°F or 0.1°C or 1°C (user-selectable) nominal (see Fig. 1) °C is converted from °F rounded to the nearest 1°C Historical Data and Alarms: 1°F or 1°C (user-selectable)
Range	-40° to +150°F (-40° to +65°C)
Sensor Accuracy	±1°F (±0.5°C) above 20°F (-7°C), ±2°F (±1°C) under 20°F (-7°C) (see Fig. 2)
Radiation Induced Error (Passive Shield)	+4°F (2°C) at solar noon (insolation = 1040 W/m^2, avg. wind speed ≤ 2 mph (1 m/s)) (reference: RM Young Model 43408 Fan-Aspirated Radiation Shield)
Radiation Induced Error (Fan-Aspirated Shield)	+0.6°F (0.3°C) at solar noon (insolation = 1040 W/m^2, avg. wind speed ≤ 2 mph (1 m/s)) (reference: RM Young Model 43408 Fan-Aspirated Radiation Shield)
Update Interval	10 to 12 seconds
Current Display Data	Instant (user-adjustable offset available)
Current Graph Data	Instant Reading; Daily, Monthly, Yearly High and Low
Historical Graph Data	Hourly Readings; Daily, Monthly, Yearly Highs and Lows
Alarms	High and Low Thresholds from Instant Reading
Extra Temperature Sensors or Probes	
Resolution and Units	Current Data: 1°F or 1°C (user-selectable) °C is converted from °F rounded to the nearest 1°C Historical Data and Alarms: 1°F or 1°C (user-selectable)

Range	-40° to +150°F (-40° to +65°C)
Sensor Accuracy	±1°F (±0.5°C) above 20°F (-7°C), ±2°F (±1°C) under 20°F (-7°C) (see Fig. 2)
Update Interval	10 to 12 seconds (40 to 48 seconds for Leaf Wetness/Temperature and Soil Moisture/Temperature Stations)
Current Display Data	Instant Reading (user-adjustable offset available)
Alarms	High and Low Thresholds from Instant Reading

Temperature Humidity Sun Wind Index (requires solar radiation sensor)

Resolution and Units	1°F or 1°C (user-selectable) °C is converted from °F rounded to the nearest 1°C
Range	-90° to +165°F (-68° to +74°C)
Accuracy	±4°F (±2°C) (typical)
Update Interval	10 to 12 seconds
Sources and Formulation Used	United States National Weather Service (NWS)/NOAA Steadman (1979) modified by US NWS/NOAA and Davis Instruments to increase range of use and allow for cold weather use
Variables Used	Instant Outside Temperature, Instant Outside Relative Humidity, 10-minute Average Wind Speed, 10-minute Average Solar Radiation
Formulation Description	Uses Heat Index as base temperature, affects of wind and solar radiation are either added or subtracted from this base to give an overall effective temperature
Current Graph Data	Instant and Hourly Calculation; Daily, Monthly High
Historical Graph Data	Hourly Calculation; Daily, Monthly Highs
Alarm	High Threshold from Instant Reading

Ultra Violet (UV) Radiation Dose (requires UV sensor)

Resolution and Units	0.1 MEDs to 19.9 MEDs; 1 MED above 19.9 MEDS
Range	0 to 199 MEDs
Accuracy	±5% of daily total
Drift	up to ±2% per year
Update Interval	50 seconds to 1 minute (5 minutes when dark)
Current Graph Data	Latest Daily Total (user resetable at any time from Current Screen)
Historical Graph Data	Hourly, Daily Totals (user reset from Current Screen does not affect these values)
Alarm	High Threshold from Daily Total
Alarm Range	0 to 19.9 MEDs

Ultra Violet (UV) Radiation Index (requires UV sensor)

Resolution and Units	0.1 Index
Range	0 to 16 Index
Accuracy	±5% of full scale (Reference: Yankee UVB-1 at UV index 10 (Extremely High))
Cosine Response	±4% (0° to 65° incident angle); 9% (65° to 85° incident angle)
Update Interval	50 seconds to 1 minute (5 minutes when dark)
Current Graph Data	Instant Reading and Hourly Average; Daily, Monthly High
Historical Graph Data	Hourly Average, Daily, Monthly Highs
Alarm	High Threshold from Instant Calculation

Wind

Wind Chill (Calculated)

Resolution and Units	1°F or 1°C (user-selectable) °C is converted from °F and rounded to the nearest 1°C
Range	-110° to +135°F (-79° to +57°C)
Accuracy	±2°F (±1°C) (typical)
Update Interval	10 to 12 seconds
Source	United States National Weather Service (NWS)/NOAA
Equation Used	Osczevski (1995) (adopted by US NWS in 2001)
Variables Used	Instant Outside Temperature and 10-min. Avg. Wind Speed
Current Display Data	Instant Calculation

Current Graph Data	Instant Calculation; Hourly, Daily and Monthly Low
Historical Graph Data	Hourly, Daily and Monthly Lows
Alarm	Low Threshold from Instant Calculation
Wind Direction	
Range	0 - 360°
Display Resolution	16 points (22.5°) on compass rose, 1° in numeric display
Accuracy	±3°
Update Interval	2.5 to 3 seconds
Current Display Data	Instant (user-adjustable offset available)
Current Graph Data	Instant; 10-min. Dominant; Hourly, Daily, Monthly Dominant
Historical Graph Data	Past 6 10-min. Dominants on compass rose only; Hourly, Daily, Monthly Dominants
Wind Speed	
Resolution and Units	1 mph, 1 km/h, 0.4 m/s, or 1 knot (user-selectable). Measured in mph, other units are converted from mph and rounded to nearest 1 km/hr, 0.1 m/s, or 1 knot.
Range	2 to 180 mph, 2 to 156 knots, 1 to 80 m/s, 3 to 290 km/h
Update Interval	Instant Reading: 2.5 to 3 seconds, 10-minute Average: 1 minute
Accuracy	±2 mph (2 kts, 3 km/h, 1 m/s) or ±5%, whichever is greater
Maximum Cable Length	540' (165 m)
Current Display Data	Instant
Current Graph Data	Instant; 10-minute and Hourly Average; Hourly High; Daily, Monthly and Yearly High with Direction of High
Historical Graph Data	10-min. and Hourly Averages; Hourly Highs; Daily, Monthly and Yearly Highs with Direction of Highs
Alarms	High Thresholds from Instant Reading and 10-minute Average

Wireless Communications

Transmit/Receive Frequency	US Models: 902-928 MHz FHSS, Overseas Models: 868.0 - 868.6 MHz FHSS
ID Codes Available	8
Output Power	902-928 MHz FHSS: FCC-certified low power, less than 8 mW, no license required 868.0 - 868.6 MHz FHSS. CE-certified, less than 8 mW, no license required
Range	
Line of Sight	up to 1000 feet (300 m)
Through Walls	200 to 400 feet (60 to 120 m)
Sensor Inputs	
RF Filtering	RC low-pass filter on each signal line

Sensor Charts

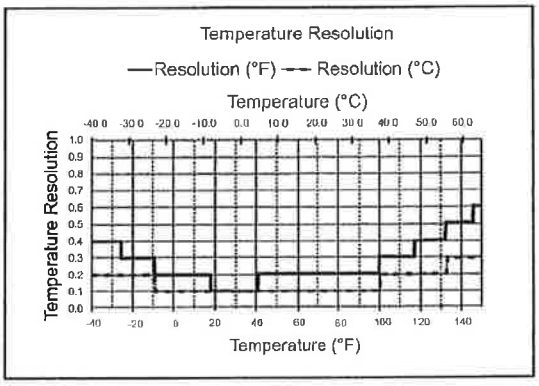


Figure 1. Temperature Resolution

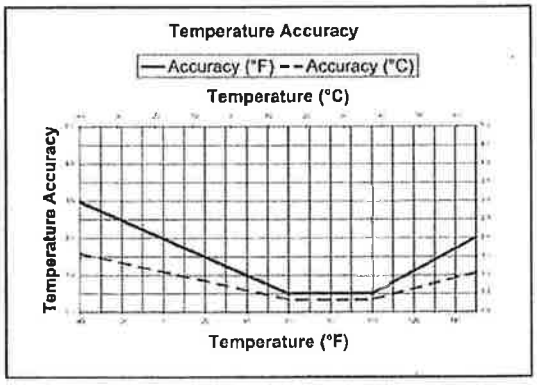


Figure 2. Temperature Accuracy

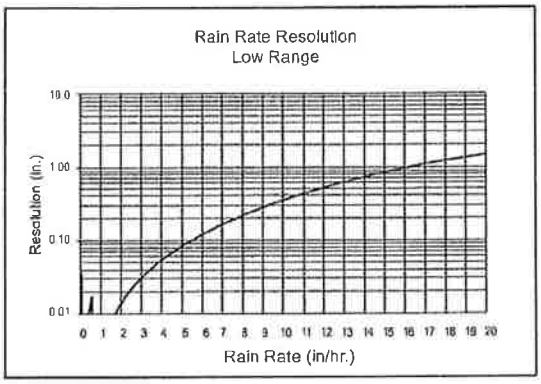


Figure 3. Low Range Rain Rate Resolution

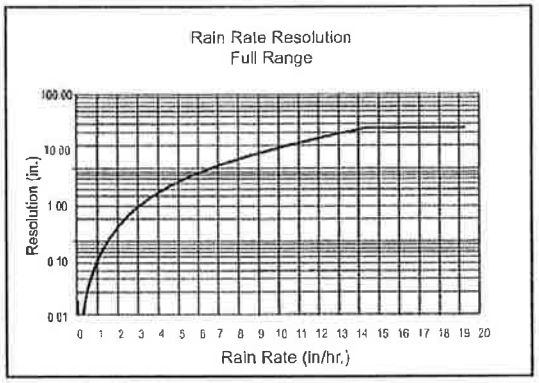


Figure 4. Full Range Rain Rate Resolution

Package Dimensions

Product #	Package Dimensions (Length x Width x Height)	Package Weight	UPC Codes
6152 6152EU 6152UK	17.0" x 11.0" x 13.0" (410 mm x 264 mm x 330 mm)	12.8 lbs. (5.8 kg)	011698 00229 0 011698 00347 1 011698 00348 8
6162 6162EU 6162UK		13.3 lbs. (6.0 kg)	011698 00306 8 011698 00307 5 001698 00308 2
6153 6153EU 6153UK	15.0" x 13.0" x 24.0" (378 mm x 327 mm x 594 mm)	12.8 lbs. (5.8 kg)	011698 00335 8 011698 00336 5 001698 00337 2
6163 6163EU 6163UK		13.3 lbs. (6.0 kg)	011698 00341 9 011698 00342 6 001698 00342 3

APPENDIX D

Hazardous Materials Inspection Report

HAZARDOUS MATERIALS INSPECTION REPORT

For

METRO CENTER, LLC
Amusement Park And Water Park Project
American Dream Meadowlands
Block 107.02, Lot 3
East Rutherford, New Jersey

Prepared By:

Langan Engineering & Environmental Services
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4 April 2008
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(Old project # 009169201)
100234201

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

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APPENDICES

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LIST OF ACRONYMS

USEPA	United States Environmental Protection Agency
AHERA	Asbestos Hazard Emergency Response Act
OSHA	Occupational Safety and Health Administration
CFR	Code of Federal Regulation
NESHAPS	National Standards for Hazardous Air Pollutants
HAZMAT	Hazardous and Potentially-Hazardous Materials
HUD	Housing and Urban Development
NJDEP	New Jersey Department of Environmental Protection
NJDOL	New Jersey Department of Labor and Industry
NJDOH	New Jersey Department of Health
RCRA	Resource Conservation and Recovery Act
PAH	Polynuclear Aromatic Hydrocarbon (PAH)
PLM	Polarized Light Microscopy
TEM	Transmission Electron Microscopy
ACM	Asbestos-Containing Materials
LBP	Lead-Based Paint
PCB	Polychlorinated Biphenyls (PCB)
SF	Square Feet
LF	Linear Feet
mg/cm^2	Milligrams per square centimeter
XRF	X-ray Fluorescence
AAS	Atomic Absorption Spectrometry
TCLP	Toxicity Characteristic Leaching Procedures

EXECUTIVE SUMMARY

Langan Engineering & Environmental Services (Langan) has prepared this Inspection Report to identify the presence/absence of hazardous and potentially-hazardous materials (hazmat) requiring removal and disposal prior to demolition of the structures located on the property designated as Tax Block 107.02, Lot 3 in the Borough of East Rutherford, Bergen County, New Jersey. This 21.75-acre lot will hereinafter be referred to as the "subject property" or "property". The structures located on the property include three radio antenna towers, each accompanied by a shed located at the base of each antenna tower, and a transmitter building.

The hazmat evaluated during the study documented in this report included: Asbestos Containing Materials (ACM); Lead-Based Paint (LBP); Polychlorinated Biphenyls (PCB) and/or Mercury-containing electrical components; chemical containers (paints, fuels, oils, cleaning agents, etc.); coolants (glycol, Freon); smoke detectors and/or emergency signs containing radioactive elements; consumer electronics containing potentially hazardous materials; and concrete impacted by PCBs and polynuclear aromatic hydrocarbons (PAHs).

Asbestos-Containing Materials (ACM)

Asbestos-containing green 9" x 9" floor tiles and associated mastic were identified throughout a majority of the interior of the transmitter building. This material is currently concealed beneath two layers of non-ACM 12"x 12" floor tiles and associated mastics. Refer to Tables 1 and 2 and Drawing 1 for a detailed inventory of the inspection findings.

Lead-Based Paint (LBP)

A comparison of the X-ray Fluorescence (XRF) screening results to the Housing and Urban Development (HUD) guidelines revealed the window assemblies, door assemblies, and structural steel in the transmitter building exhibit LBP. The radio antenna towers also exhibit LBP. Refer to Table 3 for a detailed inventory of the LBP screening results.

PCB and Mercury-Containing Electrical Equipment

Fluorescent light fixtures were observed throughout the transmitter facility. Fluorescent bulbs and tubes contain trace amounts of mercury. In addition, light ballasts installed on fluorescent light fixtures may contain PCBs. The light fixtures at the facility were energized and could not be

dismantled, therefore, for the purpose of this investigation ballasts are assumed to be PCB-containing.

Beacon lights and associated ballasts are anticipated to be present on the three radio towers. These items could not be directly inspected, therefore, the bulbs are assumed to contain Mercury and the ballasts are assumed to contain PCBs.

Four transformers were observed on the property; one within the transmitter building and one within the shed located at the base of each of the three towers. Transformers observed in two radio tower sheds were labeled "dry-type" and are not anticipated to contain dielectric fluid. Labels were not observed on the remaining transformers, therefore, these transformers are assumed to contain PCB-containing dielectric fluid.

Refer to Table 4 for an inventory of the PCB/Mercury-containing components identified.

Miscellaneous Chemicals

A variety of chemical products were observed throughout the transmitter building, including: diesel fuel; oils; coolants; roofing tar; cleaning products; batteries; compressed gas cylinders; and paints. These materials and their containers, particularly the two 275-gallon diesel fuel tanks, require proper removal and disposal prior to demolition of the transmitter building. Refer to Table 4 for an approximate inventory of the miscellaneous chemicals identified.

Radioactive Materials

Smoke detectors and emergency signs that may contain radioactive elements may be present in the transmitter building. After the building's electrical system is de-energized, and prior to demolition of the building, any of these items present should be inspected to determine their radioactive content. Items containing radioactive elements must be removed and properly disposed of prior to demolition of the building.

Consumer Electronics

A variety of consumer electronics remain in the transmitter, including: computers; computer monitors; telephones; and other equipment. These items may contain hazardous substances and should be removed and properly disposed of prior to demolition of the transmitter building.

Impacted Concrete and Masonry

Concrete containing PCBs at concentrations above NJDEP remediation standards was found at two locations within the transmitter building. Caulking containing PCBs was also found on the transmitter building windows. Refer to Tables 5 and 6 for a summary of the sample results. The caulking and areas of impacted concrete must be removed and properly disposed of prior to demolition of the building. In addition, concrete and masonry materials at the radio tower foundations and sheds must be sampled and characterized following removal of the radio towers and before demolition of the foundation and sheds.

1.0 INTRODUCTION

Langan Engineering & Environmental Services (Langan) has prepared this Inspection Report to identify the presence/absence of hazardous and potentially-hazardous materials (hazmat) requiring removal and disposal prior to demolition of the structures located on the property designated as Tax Block 107.02, Lot 3 in the Borough of East Rutherford, Bergen County, New Jersey. This 22.58-acre lot will hereinafter be referred to as the "subject property" or "property". The structures located on the property include three radio antenna towers, each accompanied by a shed located at the base of each antenna tower, and a transmitter building.

The hazmat evaluated during the study documented in this report included: Asbestos Containing Materials (ACM); Lead-Based Paint (LBP); Polychlorinated Biphenyls (PCB) and/or Mercury-containing electrical components; chemical containers (paints, fuels, oils, cleaning agents, etc.); coolants (glycol, Freon); smoke detectors and/or emergency signs containing radioactive elements; consumer electronics containing potentially hazardous materials; and concrete impacted by PCBs and polynuclear aromatic hydrocarbons (PAHs).

This report presents the findings of our field observations, results of sample analysis, X-ray Fluorescence (XRF) screening data, estimated quantities and locations of hazmat identified, and remedial recommendations.

2.0 SITE DESCRIPTION

The subject property is situated between several roadways and the New Jersey Sports and Exposition Authority Meadowlands Sports Complex. The property is bounded by the western spur of the New Jersey Turnpike to the east, Route 3 to the south, Route 120 to the west and the Izod Center Arena perimeter roadway to the north. The approximate geographic coordinates of the property are N 40° 49' 42.6" latitude and W 74° 3' 15.1" longitude. The site includes the following buildings/structures:

Transmitter Building

The transmitter building is a one-story structure occupying a footprint of approximately

3,500 square feet. It is constructed of steel beams with concrete decking, and concrete masonry unit walls.

Radio Antenna Towers and Sheds

Each of the three metal radio towers is approximately 550 feet tall. Small concrete masonry sheds measuring approximately 50 square feet in size are located at the base of each tower.

3.0 ASBESTOS CONTAINING MATERIALS

The asbestos inspection activities and observations are summarized below.

3.1 Terminology

Suspect Asbestos-Containing Materials

Asbestos has historically been used in certain types of construction and building materials. Until a material is examined using light microscopy or a similar technique, the building material is considered as a suspect asbestos-containing material. A few examples of these materials include floor tiles, ceiling panels, thermal system insulation, fireproofing insulation, roofing materials, etc. Any suspect ACM should be handled as if it were an asbestos containing material.

Asbestos–Containing Material

A material with an asbestos concentration greater than one percent (1%) by weight is considered to be asbestos-containing by the United States Environmental Protection Agency (USEPA). Thus, a material which contains asbestos in concentrations greater than one percent (1%) by weight is considered "positive", while materials that do not contain asbestos or contain asbestos at concentrations less than one percent (1%) by weight are considered "negative".

Friable Asbestos–Containing Material

A friable material is one that can be easily crumbled, pulverized, or reduced to powder by hand or mechanical pressure. This characteristic of a building material

is directly linked to the potential of the material to release asbestos fibers into the air.

Non-friable Asbestos–Containing Material

Materials that are organically bound normally fall into this category as long as they are in good condition. Some of the materials that would be defined as non-friable material include floor tiles, roofing materials, mastic, etc.

3.2 Observations and Findings

The field investigation of the subject buildings/structures was conducted on 14 February 2008 by Langan's Mr. Robert Kingsbury and on 23 August 2011 Mr. Miroslaw Baran (USEPA accredited asbestos inspectors). During Langan's investigations, suspect materials observed in the buildings were documented, assessed, quantified, and sampled as necessary. Suspect materials visually observed during Langan's investigation included:

1. White veneer layer of the wall and ceiling plaster system;
2. Brown undercoat layer of the wall and ceiling plaster system;
3. Sheetrock wallboard;
4. Tan mottled 12"x 12" floor tile and associated mastic (top layer);
5. Blue mottled 12"x 12" floor tile and associated mastic (top layer);
6. Grey mottled 12"x 12" floor tile and associated mastic (middle layer);
7. Green 9"x 9" floor tile and associated mastic (bottom layer);
8. Window glazing;
9. Roof membrane;
10. Roof flashing.
11. Mastic on Tower Metal Roofs Seams;
12. Isolating pads in Towers;
13. Cinderblock mortar;
14. Pyroblocks;

15. Window caulking;
16. Mastic on sewage pump station;
17. Brick mortar;
18. Wall joint caulking;
19. Mastic on exterior wall;
20. Wall paper;
21. Door and lintel caulking;
22. Sheetrock joint compound.

Appropriate samples of each of these materials were collected and submitted to the AmeriSci, New York for asbestos content analysis. Samples were analyzed by Polarized Light Microscopy (PLM) in accordance with USEPA method 600/R-93/116. Non-friable Organically Bound (NOB) samples, which were determined to be non asbestos-containing via PLM analysis, were subject to further analysis utilizing Transmission Electron Microscopy (TEM). A material that is determined to contain greater than one percent (1%) of asbestos by weight is considered to be asbestos-containing in accordance with the USEPA definition of an asbestos-containing material.

A total of seventy (70) samples were collected and analyzed by PLM and TEM as required. Analysis of two (2) of these samples indicated asbestos contents greater than one percent (1%) in the materials represented. The materials represented by these two (2) samples (i.e. green 9"x 9" floor tiles and associated mastic) are considered to be "positive" for asbestos in accordance with the USEPA definition of an asbestos-containing material.

Refer to Table 2 for a detailed listing of the samples that were collected and the results. Refer to Drawing 1 for a plan showing the ACM findings. Copies of the laboratory data reports are provided in Appendix A, and copies of applicable personnel and laboratory certification are provided in Appendix B.

4.0 LEAD-BASED PAINT

A Niton XL300 X-Ray Fluorescence (XRF) Spectrum Analyzer was used to inspect the subject buildings and structures for the presence of lead-based paint (LBP). The Niton analyzer uses a cadmium 109 radioactive source and an advanced solid-state radiation detector to generate an x-ray fluorescence spectrum of a painted surface. During the analysis, the intensity of the x-rays is converted by the instrument's internal software into an estimate of the concentration of lead in the substance being analyzed. The results are interpreted as concentrations of lead in milligrams per square centimeter (mg/cm^2). This device is a field-screening tool, used to collect multiple readings in a short period of time. The method of measurement is based on spectrometric analysis of lead x-ray fluorescence within a controlled depth of interrogation. The reading is an estimate of lead content in all layers of paint. The results are displayed in mg/cm^2.

The definition of lead-based paint as per Housing and Urban Development (HUD) guidelines was used to compare and evaluate painted surfaces. According to the HUD guidelines, an XRF reading below 1.0 mg/cm^2 would designate paint as non-LBP, while a reading of 1.0 mg/cm^2 or greater would designate paint as LBP.

The LBP inspection was conducted on 14 February 2008 by Langan's Mr. Robert Kingsbury, a USEPA-accredited and State of New Jersey certified Lead Inspector/Risk assessor. The locations that were screened primarily consisted of paint on the interior walls, floors, and ceilings, door components, structural elements, window components, and radio towers and associated sheds. These components were observed to have different color surface paint. Overall the paint was in good to poor condition throughout the various structures.

A total of forty-two (42) painted locations were screened for lead during Langan's inspection. Table 3 contains a detailed summary of the XRF screening results, while the table below provides a brief summary of the results.

Painted Components Screened	Locations Screened	Locations with Lead Results Greater than 1.0 mg/cm²	Comments
Interior and exterior plaster, sheetrock concrete masonry unit walls, ceilings and, concrete floors	23	0	Paint identified to be non-LBP. The paint was observed to be in good-fair condition.
Door and window components	9	6	Paint identified to be LBP The paint was observed to be in good-fair condition.
Moldings, metal stairs	6	0	Paint identified to be non-LBP. The paint was observed to be in good condition.
Radio towers	4	4	Paint identified to be LBP. The paint was observed to be in good-fair condition.

5.0 PCB AND MERCURY-CONTAINING ELECTRICAL EQUIPMENT

PCB and Mercury-containing electrical equipment observed at the site is described below. A detailed inventory of the components identified is provided in Table 4.

- Fluorescent light fixtures were observed throughout the transmitter facility. The fixtures were energized and could not be dismantled, therefore, for the purpose of this investigation, ballasts associated with each fixture are assumed to be PCB-containing. Approximately 55 fixtures with one ballast each for a total of 55 ballasts were observed.

- Fluorescent light bulbs are considered mercury-containing equipment. Approximately 55 fixtures with two bulbs each for a total of one hundred ten (110) bulbs were observed. Approximately twenty (20) compact fluorescent screw-in type bulbs were also observed.

- One transformer was observed within the transmitter building and a small transformer was located inside each of the three radio tower sheds for a total of four transformers. Transformers located in two of the radio tower sheds were labeled "dry-type" and are not expected to contain dielectric fluid. The remaining transformers were not labeled as being "dry-type" units, therefore, these transformers are assumed to contain PCB-based dielectric fluid.

6.0 MISCELLANEOUS CHEMICALS

Miscellaneous chemicals observed at the site are described below. An approximate inventory of the materials observed is provided in Table 4.

- Two 275-gallon aboveground storage tanks (ASTs) containing diesel fuel for the facility's emergency generator were observed within a concrete containing dike in the basement. The exact quantity of fuel remaining in the tanks and piping is unknown.

- One emergency generator was observed in the facility's basement. Staining from oil leaks was observed on the floor beneath the generator. The generator is anticipated to contain motor oil, glycol-based engine coolant, and diesel fuel. Exact quantities of these materials are unknown.

- A number of batteries were observed throughout the transmitter building, including batteries associated with the emergency generator, a car battery located in the garage, and several smaller batteries associated with backup lights or other equipment.

- A number of 1-gallon cans, ½-gallon cans, and aerosol cans of paint and paint products were observed in the transmitted building. The exact quantity of product remaining in the cans is unknown.

- A 55-gallon drum labeled "silicone sealer" and another unlabeled 35-gallon drum were observed in the garage of the transmitted building. The exact quantity of material remaining in the drums is unknown.

- Two compressed gas cylinders measuring approximately 10 inches in diameter by 5 feet long were observed in the garage of the transmitted building. One cylinder was labeled "Nitrogen". The quantity of gas remaining in the cylinders is unknown.

- Two 5-gallon pails of "roof coating" containing "encapsulated asbestos fibers" were observed in the garage of the transmitter building, along with a container labeled "low viscosity oil". The quantity of material remaining in the containers is unknown.

- Several small bottles/containers of cleaning agents were observed in the transmitted building. The exact quantity of material remaining in the containers is unknown.

- The transmitter building is equipped with an air conditioning system, with condenser units located on the roof of the building and air handlers within the building. The system is anticipated to contain glycol and/or Freon coolant.

7.0 RADIOACTIVE MATERIALS

Certain types of smoke detectors and emergency exit signs contain radioactive elements. It is estimated that up to 10 smoke detectors and 10 emergency exit signs may be present in the transmitter building. These items, if present, are assumed to contain radioactive elements. An approximate inventory of these items is provided in Table 4.

8.0 CONSUMER ELECTRONICS

Various consumer electronics potentially containing hazardous materials were observed throughout the facility. These items are regulated as Universal Waste under New Jersey's Recycling Regulations (NJAC 7:26A). The items observed in the facility included computers, computer monitors, telephones, and miscellaneous electronic equipment. An approximate inventory of the materials is provided in Table 4.

9.0 CONCRETE AND MASONRY MATERIALS

Concrete and masonry building materials used in the construction of the transmitter building, radio tower foundations, and/or radio tower sheds will be reused onsite as fill material or disposed of at approved off-site disposal facilities following demolition of the structures. To determine reuse/disposal requirements, the concrete and masonry materials were evaluated in accordance with the 12 January 2010 NJDEP *Guidance for Characterization of Concrete and Clean Material Certification for Recycling*.

9.1 Sample Location Selection

Concrete/masonry components of the structures at the property were evaluated using the in-situ characterization procedures described in the NJDEP guidance document. In situ sample locations were selected by first visually inspecting the structures for evidence of contamination including staining, potential contaminant sources, and/or odors. Sample locations were then selected, with the sample location biased towards the areas suspected to be most impacted.

Although both the transmitter building and radio tower foundations/sheds were inspected for visual evidence of impacts, samples were only collected from the transmitter building. Safety concerns regarding induced electrical current in the radio towers and equipment connected to them prevented collection of samples from the radio tower foundations and sheds. The radio tower foundations and sheds will be sampled in accordance with the NJDEP guidance document following removal of the towers.

A total of 13 sample locations were selected at the transmitter building. The sampling locations and rationale are summarized in Table 5 and shown on Drawing 2.

9.2 Sample Collection

On 14 February 2008 and 23 August 2011, in-situ samples were collected from the transmitter building for laboratory analysis. Samples of concrete/masonry materials were collected by chip and/or core sampling to a depth of no more than 1 inch. Samples of window and doorway caulk were collected by cutting pieces of the caulk from the sample location. Expansion joint material was not observed in the building.

The samples were submitted to a New Jersey-certified analytical laboratory for analysis. The sample analytical parameters and analytical rationale are summarized in Table 5.

9.3 Sample Results

The sample results are summarized in Table 6 and shown on Drawing 2. A copy of the laboratory data packages for are provided in Appendix C. Analysis of the samples revealed the following:

- Volatile organic compounds (VOCs) were not detected at concentrations above the NJDEP Soil Remediation Standards or NJDEP Default Impact to Groundwater Soil Screening Levels in the one sample analyzed for VOCs (sample C5, collected from the stained generator pad).

- Semi-volatile organic compounds (SVOCs), including PAHs, were not detected at concentrations above the NJDEP Soil Remediation Standards or NJDEP Default Impact to Groundwater Soil Screening Levels in any of the 11 samples analyzed for SVOCs and/or PAHs.

- The metals Aluminum and Manganese were detected at concentrations above the NJDEP Default Impact to Groundwater Soil Screening Levels in the one sample analyzed for metals (sample C5, collected from the stained generator pad). These metals are naturally-occurring metals and are not considered an environmental concern. No other metals were detected at concentrations above the NJDEP Soil Remediation Standards or NJDEP Default Impact to Groundwater Soil Screening Levels.

- Pesticides were not detected at concentrations above the NJDEP Soil Remediation Standards or NJDEP Default Impact to Groundwater Soil Screening Levels in the one sample analyzed for pesticides (sample C5, collected from the stained generator pad).

- PCBs were detected at concentrations above the NJDEP Soil Remediation Standards and NJDEP Default Impact to Groundwater Soil Screening Levels at three sample locations (sample C4, collected from the floor slab beneath the aboveground diesel fuel tanks, and sample C5, collected from the stained generator pad, and sample WC-1, collected from window caulking on the east side of the building).

- Petroleum hydrocarbons were not detected at concentrations above the most stringent NJDEP petroleum hydrocarbon criterion of 1,700 mg/kg.

10.0 CONCLUSIONS AND RECOMMENDATIONS

The following conclusions and recommendations are provided based on the data and observations documented in this report.

10.1 Asbestos Containing Materials

Regulatory Guidelines and Requirements

Federal

In accordance with the Clean Air Act (CAA), the USEPA established National Emission Standards for hazardous Air Pollutants (NESHAP) to protect the public from exposure to airborne pollutants. Asbestos was one of the air pollutants that was addressed under the NESHAP 40 CFR Part 61. The purpose of asbestos NESHAP regulations is to protect the public health by minimizing the release of asbestos when facilities, which contain ACM, are being renovated or demolished. The USEPA is responsible for enforcing regulations related to asbestos during renovations and demolition, however, the CAA allows the USEPA to delegate this authority to State and Local Agencies. Even after the USEPA delegates responsibility to a state or local agency, they retain the authority to oversee agency performance and to enforce NESHAP regulations as appropriate.

State

Asbestos in New Jersey is regulated by Chapters 60 and 120, "Asbestos Licenses and Permits", which is published jointly by the NJDOH and NJDOL as N.J.A.C. 8:60 and 12:120. These regulations pertain to licensing of asbestos abatement workers, supervisors, and contractors, and impose requirements relating to hazards to the public safety and health during the removal, encapsulation, or disturbance of friable asbestos, or any handling of ACM that may result in the release of asbestos fibers.

Approximately 3,000 square feet of non-friable asbestos-containing floor tiles and mastic, 200 linear feet of window and louver caulking and two (2) 5-gallon buckets of roof coating were identified in the transmitter building. Approximately 70 square feet of roof seam mastic was identified on Tower 1 and 3 roofs. Refer to Table 1 for a summary of the asbestos inspection findings.

Prior to demolition or renovation of any of the facility, ACM which would be impacted must be properly removed and disposed by a licensed asbestos handling contractor in accordance with Federal, State, and Local regulations. Proper notifications must be filed with the USEPA, applicable State of New Jersey and local regulatory agencies prior to performing such activities.

Abatement design documents should be prepared to identify the locations of ACM removal and specify removal work practices. These documents must be prepared by a USEPA accredited asbestos abatement project designer.

10.2 Lead Based Paint

Based on a comparison of the XRF screening results to HUD guidelines, the buildings and structures were determined to exhibit LBP. LBP was identified on the radio towers, the window and door assemblies, and the structural steel of the transmitter building.

Incidental handling of LBP as part of a demolition or renovation project, when the objective of such handling itself is not meant as "mitigation or permanent elimination" of a LBP hazard, is not considered to constitute "lead abatement" pursuant to the New Jersey Uniform Construction Code (See N.J.A.C. 5:23-1.4). As such, if renovation activities similar to the ones previously described are to be undertaken as part of the reconstruction activities at the site, then these activities are not subject to the requirements of the New Jersey Lead Hazard Evaluation and Abatement Code (N.J.A.C. 5:17) and the New Jersey Standards for Lead Certification (N.J.A.C. 8:62).

Given the assumption above, any contractor may undertake LBP-handling activities while undertaking work for which it is otherwise qualified, as long as the contractor acts in a prudent manner. Please note, that personnel from each contractor may directly disturb LBP (via cutting into the paint's substrate, changing a component, demolition of paint surfaces, etc.), as long as effective methods are utilized to protect the workers from undue exposure to the LBP pursuant to the OSHA Lead Construction Standard.

Concentrated LBP waste that may be generated by stripping or scraping abatement operations would likely be classified as hazardous waste under current Federal and State codes, requiring its specialized containerization and disposal. LBP associated with surfaces and components to be demolished is often handled as non-hazardous waste, as mixed waste with LBP applied usually does not "fail" the TCLP (Toxic Characteristic Leachate Procedure) test for classifying characteristic hazardous waste. This being the case, we do not expect that a significant portion of the waste generated by the planned demolition activities would need to be handled as hazardous waste.

Handling of the building components to be demolished as part of the planned project will require dust suppression and control relative to OSHA compliance and good industry practice to prevent fugitive dust exposure to personnel in adjacent areas. Specific waste handling is expected to be necessary on this project where concentrated waste is generated by demolition, specific stripping, scraping, and similar operations.

Painted surfaces that would be impacted by planned activities (i.e. drilling, cutting, etc.) and create dust, should be properly addressed by following safe work practices and good housekeeping procedures. Grinding and sanding of paint without HEPA filter exhaust, open flame gas fired torch, unconfined abrasive blasting, and chemical strippers containing methylene chloride or other human carcinogenic chemicals are not recommended.

10.3 PCB and Mercury-Containing Electrical Equipment

Fluorescent light fixtures were observed throughout the transmitter facility. The fixtures were all energized and could not be dismantled, therefore, for the purpose of this investigation, all ballasts are assumed to be PCB-containing. Approximately 55 fixtures with two bulbs each for a total of one hundred ten (110) bulbs and 55 ballasts were observed. Twenty (20) compact fluorescent screw-in type bulbs were also observed.

Beacon lights and associated ballasts are anticipated to be present on the three radio towers. These items could not be directly inspected, therefore, the bulbs are assumed to contain Mercury and the ballasts are assumed to contain PCBs.

One transformer was observed within the transmitter building and a small transformer was located in each of the three radio tower sheds for a total of four transformers. Transformers in two of the radio tower sheds were labeled as being "dry-type" units, therefore, these items are not expected to contain dielectric fluid. The remaining transformers were not labeled, therefore, the fluids within these transformers are assumed to be PCB-containing. A detailed inventory of the components identified is provided in Table 4.

Hazardous Materials consisting of the fluorescent light bulbs, beacon lights, PCB-containing light fixture ballasts and transformers containing PCB dielectric fluid will need to be properly removed, recycled, and/or disposed of at facilities permitted to accept such waste. The removal, handling, recycling, and disposal must be performed in accordance with applicable Federal, State, and Local regulations.

10.4 Miscellaneous Chemicals

Various chemical products remain in the building and must be properly removed and disposed of along with their containers prior to demolition. An approximate inventory of the materials is provided in Table 4. The removal activities, in particular cleaning and removal of the diesel fuel ASTs, must be performed in accordance with all applicable Federal, State and local regulations and industry standard practices. All chemical products and containers with residual product remaining must be recycled or disposed of at facilities licensed to treat, store, and/or dispose of such materials.

10.5 Radioactive Materials

Smoke detectors and emergency signs potentially containing radioactive elements are present in the transmitter building. After de-energizing the

building's electrical system and prior to demolition, any of these items present should be examined to determine their radioactive content. Any items containing radioactive elements, or where radioactive content cannot be determined, must be disposed of in accordance with all applicable Federal, State and local regulations at facilities licensed to treat, store, and/or dispose of such materials.

10.6 Consumer Electronics

A variety of consumer electronics remain in the transmitter building. These items may contain potentially hazardous materials and should be removed prior to demolition of the building. The removed materials must be recycled or disposed of in accordance with all applicable Federal, State and local regulations at facilities licensed to treat, store, and/or dispose of such materials.

10.7 Impacted Concrete and Masonry Materials

Concentrations of PCBs exceeding NJDEP remediation standards were found in concrete at two locations within the transmitter building. These locations included the floor beneath the diesel fuel ASTs and the pad beneath the emergency generator. Impacted concrete at these two locations should be segregated during demolition of the building and disposed of at an approved offsite disposal facility as solid waste. The remainder of the concrete and masonry materials in the transmitter building may be demolished, crushed, and reused onsite as backfill material in accordance with the Remedial Action Workplan and Soil Reuse Plan for the project.

Concentrations of PCBs exceeding NJDEP remediation standards were also found in window caulking on the west side of the transmitter building. Based on this finding, all window caulking in the transmitter building must be removed prior to demolition of the building and disposed of at an approved offsite disposal facility.

Concrete and masonry materials used to construct the radio tower foundations and sheds were not sampled during this investigation due to safety concerns regarding induced currents in the radio towers. These concrete and masonry materials must be sampled for PCBs and PAHs in accordance with NJDEP guidance following removal of the radio towers and prior to demolition of the foundations and sheds. Any concrete containing PCBs and/or PAHs at concentrations above the applicable NJDEP remediation standards should be removed and disposed of at an approved offsite disposal facility.

11.0 LIMITATIONS, EXCEPTIONS AND ASSUMPTIONS

Opinions and recommendations presented in this report apply to site conditions and features as they existed at the time of Langan's site visit, and those reasonably foreseeable. They cannot necessarily apply to conditions and features of which Langan is unaware and has not had the opportunity to evaluate.

The conclusions presented in this report are professional opinions based solely upon Langan's visual observations of reasonably accessible areas, laboratory test data, and current regulatory requirements. These conclusions are intended exclusively for the purpose stated herein and at the site and for the project indicated. The inspections did not include intrusive/destructive investigation techniques or dismantlement of mechanical equipment.

This report is not meant to be used as a remediation/abatement specification, nor bidding document. This report has been prepared solely to discuss the findings of and data gathered during our preliminary hazardous materials investigation, which were conducted to address the subject property.

It is important to recognize that even the most comprehensive scope of services may fail to detect all asbestos containing materials that may be associated with the property. Therefore, Langan cannot act as insurers and cannot "certify" that all ACMs associated with the buildings and spaces surveyed have been identified, and no expressed or implied representation or warranty is included or intended in our report, except that our

services were performed within the limits prescribed by our client and with the customary thoroughness and competence of our profession. Any suspect material that is not listed in this report must be presumed as ACM until confirmed otherwise via laboratory testing. All ACM identified or presumed must be properly removed prior to beginning any renovation or demolition activities.

TABLE 1
SUMMARY OF ASBESTOS SURVEY FINDINGS
BLOCK 107.02, LOT 3
EAST RUTHERFORD, NEW JERSEY

HOMOGENEOUS MATERIALS	LOCATIONS	ACM or Non-ACM	ESTIMATED QUANTITY of ACM SF/LF	CONDITION	COMMENTS & RESPONSE ACTION
Wall and ceiling plaster-(2 layers)	Throughout majority of building	Non-ACM	–	Good-poor	Damaged plaster observed in the office area. Plaster was covered by sheetrock in many locations
Sheetrock wallboard and joint compound	Throughout majority of building	Non-ACM	–	Good	—
White mottled 12"x12" floor tile and associated mastic	Throughout majority of building	Non-ACM	–	Good	Top layer of tile
Blue mottled 12"x12" floor tile and associated mastic	Throughout majority of building	Non-ACM	3,000 SF	Good	Top layer of tile (border tile)
Grey 12"x12" floor tile and associated mastic	Throughout majority of building	Non-ACM		Concealed	Middle layer of tile
Green 9"x9" floor tile and associated mastic	Throughout majority of building	**ACM**		Concealed	Bottom layer of tile
Window glazing	Associated with windows	Non-ACM	–	Good	—
Roof membrane and associated flashing	Rooftop	Non-ACM	–	Good	—
Window/Louver caulking	Façades – Radio Transmitter Building	**ACM**	200 LF	Good	12 masonry window and louver openings.
Roof seam mastic	Roofs of Tower 1 and 3 Buildings	**ACM**	70 SF	Good	–

TABLE 1
SUMMARY OF ASBESTOS SURVEY FINDINGS
BLOCK 107.02, LOT 3
EAST RUTHERFORD, NEW JERSEY

HOMOGENEOUS MATERIALS	LOCATIONS	ACM or Non-ACM	ESTIMATED QUANTITY of ACM SF/LF	CONDITION	COMMENTS & RESPONSE ACTION
Roof coating materials containing asbestos fibers	Garage – Radio Transmitter Building	**ACM**	2 EA	Good	Two 5-gallon buckets of roof coating were observed in the garage.
Cinderblock mortar	Tower Buildings	Non-ACM	–	Good	—
Isolating pads	Tower Buildings	Non-ACM	–	Good	—
Pyro-block	Radio Transmitter Building	Non-ACM	–	Good	—
Brick mortar	Radio Transmitter Building	Non-ACM	–	Good	—
Wall caulking	Radio Transmitter Building	Non-ACM	–	Good	—
Mastic on wall	South Façade - Radio Transmitter Building	Non-ACM	–	Good	—
Wall paper	Kitchen - Radio Transmitter Building	Non-ACM	–	Good	—
Door caulking	Façades – Radio Transmitter Building	Non-ACM	–	Good	—
Shutter door caulking	Garage – Radio Transmitter Building	Non-ACM	–	Good	—

TABLE 1
SUMMARY OF ASBESTOS SURVEY FINDINGS
BLOCK 107.02, LOT 3
EAST RUTHERFORD, NEW JERSEY

HOMOGENEOUS MATERIALS	LOCATIONS	ACM or Non-ACM	ESTIMATED QUANTITY of ACM SF/LF	CONDITION	COMMENTS & RESPONSE ACTION
Mastic on sewage pump station	Sewage Pump Station	Non-ACM	–	Good	—

NOTES:

1. The findings presented in this Table are professional opinions based solely upon Langan's visual observations of accessible areas and laboratory test data.
2. Refer to Table 2 for the summary of bulk sample results.

TABLE 2
SUMMARY OF BULK SAMPLE ANALYSES RESULTS
BLOCK 107.02, LOT 3
EAST RUTHERFORD, NEW JERSEY

SAMPLE ID NUMBER	DESCRIPTION OF HOMOGENEOUS MATERIAL	SAMPLE LOCATION	RESULTS	
			PLM	TEM
PL-1A	Wall plaster (2layers)	Office	L1:ND L2:ND	--
PL-1B	Wall plaster (2layers)	Office	L1:ND L2:ND	--
PL-1C	Ceiling plaster (2 layers)	Office	L1:ND L2:ND	--
PL-1D	Ceiling plaster (2 layers)	Office	L1:ND L2:ND	--
PL-1E	Wall plaster (2 layers)	Corridor	L1:ND L2:ND	--
PL-1F	Wall plaster (2 layers)	Storage Room	L1:ND L2:ND	--
PL-1G	Ceiling plaster (2 layers)	Storage Room	L1:ND L2:ND	--
PL-1H	Wall plaster (2layers)	Bathroom	L1:ND L2:ND	--
PL-1I	Ceiling plaster (2 layers)	Bathroom	L1:ND L2:ND	--
SR-1A	Sheetrock Wallboard	Center Room	ND	--
SR-1B	Sheetrock Wallboard	Center Room	ND	--
SR-1C	Sheetrock Wallboard	Corridor	ND	--
FT-1A	Tan Mottled 12"x12" Floor Tile and Associated mastic	Center Room-Top Layer	FT:ND MA:ND	FT:ND MA:ND
FT-1B	Tan Mottled 12"x12" Floor Tile and Associated mastic	Center Room-Top Layer	FT:ND MA:ND	FT:ND MA:ND
FT-2A	Blue Mottled 12"x12" Floor Tile and Associated	Center Room-Top Layer	FT:ND MA:ND	FT:ND MA:ND
FT-3A	Grey 12"x12" Floor Tile and Associated mastic	Center Room-Middle Layer	FT:ND MA:ND	FT:ND MA:ND
FT-3B	Grey 12"x12" Floor Tile and Associated mastic	Center Room-Middle Layer	FT:ND MA:ND	FT:ND MA:ND
FT-3C	Grey 12"x12" Floor Tile and Associated mastic	North Corridor-Middle Layer	FT:ND MA:ND	FT:ND MA:ND
FT-4A	Green 9"x9" Floor Tile and Associated mastic	Center Room-Bottom Layer	**FT:CHRY 5.7%** **MA:CHRY 1.5%**	--
FT-4B	Green 9"x9" Floor Tile and Associated mastic	Center Room-Bottom Layer	**ASFP**	--
FT-4C	Green 9"x9" Floor Tile and Associated mastic	North Corridor-Bottom Layer	**ASFP**	--

TABLE 2
SUMMARY OF BULK SAMPLE ANALYSES RESULTS
BLOCK 107.02, LOT 3
EAST RUTHERFORD, NEW JERSEY

SAMPLE ID NUMBER	DESCRIPTION OF HOMOGENEOUS MATERIAL	SAMPLE LOCATION	RESULTS	
			PLM	TEM
FT-2A	Blue Mottled 12"x12" Floor Tile and Associated	Center Room-Top Layer	FT:ND MA:ND	FT:ND MA:ND
WG-1A	Window Glazing	Exterior	ND	–
WG-1B	Window Glazing	Exterior	ND	–
WG-1C	Window Glazing	Exterior	ND	–
RM-1A	Roof membrane	Garage Roof	ND	ND
RM-1B	Roof membrane	Main Roof	ND	ND
RF-1A	Roof Flashing	Garage Roof	ND	ND
RF-1B	Roof Flashing	Main Roof	ND	ND
RM-1-A	Roof Mastic	Tower 1	**CHRY 5.0%**	–
RM-1-B	Roof Mastic	Tower 3	**ASFP**	–
IP-1-A	Isolating Pad	Tower 1	ND	–
IP-1-B	Isolating Pad	Tower 2	ND	–
CBMOR-1-A	Cinderblock Mortar	Tower 1	ND	–
CBMOR-1-B	Cinderblock Mortar	Tower 2	ND	–
PBL-1-A	Pyroblock	Generator Room	ND	–
PBL-1-B	Pyroblock	Generator Room	ND	–
WC-1-A	Window Caulking	Façades	**CHRY 3.0%**	–
WC-1-A	Window Caulking	Façades	**ASFP**	–
WEM-1-A	Mastic on Pump Station	Exterior	ND	ND
WEM-1-B	Mastic on Pump Station	Exterior	ND	–

TABLE 2
SUMMARY OF BULK SAMPLE ANALYSES RESULTS
BLOCK 107.02, LOT 3
EAST RUTHERFORD, NEW JERSEY

SAMPLE ID NUMBER	DESCRIPTION OF HOMOGENEOUS MATERIAL	SAMPLE LOCATION	RESULTS	
			PLM	TEM
BMOR-1-A	Brick Mortar	Façades	ND	--
BMOR-1-B	Brick Mortar	Façades	ND	--
WLC-1-A	Wall Caulking	Façades	ND	ND
WLC-1-B	Wall Caulking	Façades	ND	--
WMA-1-A	Mastic on Wall	South Façade Exterior	ND	ND
WMA-1-B	Mastic on Wall	South Façade Exterior	ND	--
WPP-1-A	Wall Paper	Kitchen	ND	--
WPP-1-B	Wall Paper	Kitchen	ND	--
DC-1-A	Door Caulking	Façade	ND	CHRY Trace
DC-1-B	Door Caulking	Façade	ND	--
SDLC-1-A	Shutter Door Lintel Caulking	Garage	ND	ND
SDLC-1-B	Shutter Door Lintel Caulking	Garage	ND	--
SDC-1-A	Shutter Door Caulking	Garage	ND	CHRY Trace
SDC-1-B	Shutter Door Caulking	Garage	ND	--
SHJC-1-A	Sheetrock Joint Compound	Interior	ND	--
SHJC-1-B	Sheetrock Joint Compound	Interior	ND	--

Notes:

1) Concentrations in weight percent.
2) FT/MA= Floor Tile/Mastic
3) ND = "None Detected" – Asbestos not detected in that sample.
4) CHRY = Chrysotile Asbestos
5) ANTH= Anthophyllite Asbestos
6) ASFP = "Analysis Stopped after First Positive" – Other samples in that homogeneous area not analyzed due to previous positive result.
7) PLM = Polarized Light Microscopy

TABLE 2
SUMMARY OF BULK SAMPLE ANALYSES RESULTS
BLOCK 107.02, LOT 3
EAST RUTHERFORD, NEW JERSEY

8) TEM = Transmission Electron Microscopy
9) NOB = Non-Friable Organically Bound.
10) A material with asbestos content greater than one percent is considered as an asbestos-containing material.

\\langan.com\data\EP\data2\100234201\Office Data\Reports\Hazmat\Old Hazmat\Table 2-ACM Samples-Rev 10-18-11.doc

TABLE 3
XRF SCREENING DATA
BLOCK 107.02, LOT 3
EAST RUTHERFORD, NEW JERSEY

Site Address: East Rutherford, New Jersey Survey Date: 2/14/08 Project Name.: Disney Parcel Action Level: 1.0 mg/cm^2

Survey ID	Test Location	Component	Substrate	Color	Total Lead mg/cm^2	Results	Comments
1	DETECTOR CALIBRATION				2.37		
2	CALIBRATION				1.10		
3	CALIBRATION				1.10		
4	CALIBRATION				1.10		
5	CENTER ROOM	WALL	SHEETROCK	PURPLE	0.00	NEG	
6	CENTER ROOM	WALL	SHEETROCK	PURPLE	0.00	NEG	
7	CENTER ROOM	WALL	SHEETROCK	PURPLE	0.00	NEG	
8	CORRIDOR	WALL	SHEETROCK	PURPLE	0.00	NEG	
9					NULL	VOID	TECH ERROR
10					NULL	VOID	TECH ERROR
11					NULL	VOID	TECH ERROR
12	CORRIDOR	WALL	SHEETROCK	WHITE	0.50	NEG	
13	BATHROOM	WALL	SHEETROCK	WHITE	0.00	NEG	
14	STORAGE	WALL	SHEETROCK	WHITE	0.00	NEG	
15	**OFFICE**	**WINDOW**	**METAL**	**BLACK**	**3.80**	**POS**	**GOOD CONDITION**
16	**OFFICE**	**WINDOW FRAME**	**METAL**	**BLACK**	**2.80**	**POS**	**GOOD CONDITION**
17	CENTER ROOM	CEILING	SHEETROCK	WHITE	0.00	NEG	
18	CENTER ROOM	CEILING	SHEETROCK	BLACK	0.00	NEG	
19	OFFICE	CEILING	PLASTER	BLACK	0.15	NEG	
20	OFFICE	CEILING	PLASTER	WHITE	0.00	NEG	
21	**KITCHEN**	**WINDOW**	**METAL**	**BLACK**	**1.90**	**POS**	**GOOD CONDITION**
22	CENTER ROOM	BASEBOARD	WOOD	PURPLE	0.00	NEG	
23	OFFICE	BASEBOARD	WOOD	PURPLE	0.00	NEG	
24	CORRIDOR	BASEBOARD	WOOD	PURPLE	0.01	NEG	
25					NULL	VOID	TECH ERROR

TABLE 3
XRF SCREENING DATA
BLOCK 107.02, LOT 3
EAST RUTHERFORD, NEW JERSEY

Site Address: East Rutherford, New Jersey Survey Date: 2/14/08 Project Name.: Disney Parcel Action Level: 1.0 mg/cm^2

Survey ID	Test Location	Component	Substrate	Color	Total Lead mg/cm^2	Results	Comments
26	STAIRS TO TRANSFORMER VAULT	STAIRS	METAL	GREY	0.00	NEG	
27	STAIRS TO TRANSFORMER VAULT	STAIRS	METAL	GREY	0.00	NEG	
28	**CENTER ROOM**	**BEAM**	**METAL**	**BLACK**	**2.90**	**POS**	**GOOD CONDITION**
29	CORRIDOR	CEILING	SHEETROCK	PURPLE	0.00	NEG	
30	CENTER ROOM	WALL	SHEETROCK	PURPLE	0.03	NEG	
31	STORAGE	WALL	SHEETROCK	PURPLE	0.15	NEG	
32	**TRANSFORMER VAULT**	**DOOR**	**METAL**	**GREY**	**11.60**	**POS**	**GOOD CONDITION**
33	**TRANSFORMER VAULT**	**DOOR FRAME**	**METAL**	**GREY**	**1.60**	**POS**	**GOOD CONDITION**
34					NULL	VOID	TECH ERROR
35	MECHANICAL ROOM	WALL	CMU	WHITE	0.00	NEG	
36	MECHANICAL ROOM	WALL	CMU	WHITE	0.00	NEG	
37	MECHANICAL ROOM	WALL	CMU	WHITE	0.00	NEG	
38	MECHANICAL ROOM	FLOOR	CONCRETE	GREY	0.00	NEG	
39	MECHANICAL ROOM	CEILING	SHEETROCK	WHITE	0.15	NEG	
40	MECHANICAL ROOM	DOOR	METAL	GREY	0.22	NEG	
41	**EXTERIOR**	**WINDOW**	**METAL**	**SILVER**	**3.60**	**POS**	**FAIR CONDITION**
42	CALIBRATION				1.10		
43	CALIBRATION				1.20		
44	CALIBRATION				1.10		
45	UNIT CALIBRATION				2.37		
46	**TOWER #1**	**TOWER BASE**	**METAL**	**RED**	**3.20**	**POS**	**GOOD CONDITION**
47	**TOWER #1**	**TOWER BASE**	**METAL**	**RED**	**3.00**	**POS**	**GOOD CONDITION**
48	**TOWER #1**	**TOWER BASE**	**METAL**	**RED**	**1.50**	**POS**	**GOOD CONDITION**
49	TOWER #1	SHED WALL	CMU	WHITE	0.00	NEG	
50	TOWER #1	SHED DOOR	METAL	RED	0.00	NEG	

TABLE 3
XRF SCREENING DATA
BLOCK 107.02, LOT 3
EAST RUTHERFORD, NEW JERSEY

Site Address: East Rutherford, New Jersey Survey Date: 2/14/08 Project Name.: Disney Parcel Action Level: 1.0 mg/cm^2

Survey ID	Test Location	Component	Substrate	Color	Total Lead mg/cm^2	Results	Comments
51					NULL	VOID	TECH ERROR
52	**TOWER #2**	**TOWER BASE**	**METAL**	**RED**	**2.10**	**POS**	**GOOD CONDITION**
53	TOWER #2	SHED WALL	CMU	WHITE	0.00	NEG	
54	**TOWER #3**	**TOWER BASE**	**METAL**	**RED**	**2.10**	**POS**	**GOOD CONDITION**
55	TOWER #3	SHED WALL	CMU	WHITE	0.01	NEG	
56	TOWER #3	SHED DOOR	METAL	RED	0.00	NEG	
57	CALIBRATION				1.10		
58	CALIBRATION				1.10		
59	CALIBRATION				1.10		

NEG	= Negative Lead Result
POS	= Positive Lead Result

DAILY CALIBRATIONS

Date 2/14/08 Pre-Calibration Average:
Calibration Check
Good
Post-Calibration Average:
Calibration Check
Good

Date 2/14/08 Pre-Calibration Average:
Calibration Check
Good
Post-Calibration Average:
Calibration Check
Good

TABLE 4
SUMMARY OF HAZMAT IDENTIFIED
BLOCK 107.02, LOT 3
EAST RUTHERFORD, NEW JERSEY

SUSPECTED HAZMAT	APPROXIMATE QUANTITY
Fluorescent light tubes	110 tubes
Fluorescent light fixture ballasts	55 ballasts
Compact Fluorescent light tubes	20 bulbs
High intensity lamps (radio tower beacons)	6 lamps (1)
Lamp ballasts (radio tower beacons)	6 ballasts (1)
Transformers (possibly PCB-containing)	2 transformers
Diesel Fuel Tanks	2 aboveground storage tanks (275-gal. each)
Motor Oil in Emergency Generator	50 gallons (1)
Glycol Coolant in Emergency Generator	100 gallons (1)
Batteries	25 batteries (1)
Paint Products	25 gallons (1)
Drum of "Silicone Sealer"	55 gallons (1)
Unlabeled Drum (product unknown)	35 gallons (1)
Compressed gas cylinders	2 cylinders
5-Gallon Pails of "Roof Coating"	10 gallons (1)
Cleaning Agents	25 gallons (1)
Air Conditioning Coolant (Freon or Glycol)	100 gallons (1)
Smoke Detectors (possible radioactive elements)	10 smoke detectors (1)
Emergency signs (possible radioactive elements)	10 emergency signs (1)
Consumer Electronics	1,000 pounds (1)
PCB-Contaminated Concrete	10 tons (1)
PCB-Containing Window Caulk	50 pounds (1)

(1) = Assumed quantity, actual quantity unknown

TABLE 5
CONCRETE AND MASONRY SAMPLE SUMMARY
BLOCK 107.02, LOT 3
EAST RUTHERFORD, NEW JERSEY

SAMPLE NUMBER	SAMPLE DATE	SAMPLE LOCATION	MATRIX	SAMPLE TYPE	ANALYSIS	REASON FOR SAMPLE
DC-1	2/14/2008	Former transformer pad	Concrete	Grab	PCB	Former transformer
DC-2	2/14/2008	Former transformer pad	Concrete	Grab	PCB	Former transformer
BB	2/14/2008	Exterior brick wall	Brick	Grab	PCB, PAH, TPH	"Background" sample
BC	2/14/2008	Exterior concrete wall	Concrete	Grab	PCB, PAH, TPH	"Background" sample
C1	8/23/2011	Exterior concrete wall	Concrete	Grab	PCB, PAH	"Background" sample
C2	8/23/2011	Former transformer pad	Concrete	Grab	PAH	Former transformer
C3	8/23/2011	Garage floor slab	Concrete	Grab	PCB, PAH, EPH	Discoloration on garage floor
C4	8/23/2011	Diesel AST containment area	Concrete	Grab	PCB, PAH, EPH	AST containment area
C5	8/23/2011	Emergency generator slab	Concrete	Grab	TCL/TAL, EPH	Staining beneath generator
C6	8/23/2011	Electric room floor slab	Concrete	Grab	PCB, PAH	Electric room
DC-1	8/23/2011	Exterior doorway caulk	Caulk	Grab	PCB, PAH	Doorway caulk
WC-1	8/23/2011	Exterior window caulk	Caulk	Grab	PCB, PAH	Window caulk
B-1	8/23/2011	Exterior brick wall	Brick	Grab	PCB, PAH	"Background" sample

NOTES:
TPH = Total Petroleum Hydrocarbons
EPH = Extractable Petroleum Hydrocarbons
PCB = Poly-Chlorinated Biphenyls
PAH = Polycyclic Aromatic Hydrocarbons
TCL/TAL = Full Target Compound List/Target Analyte List Scan

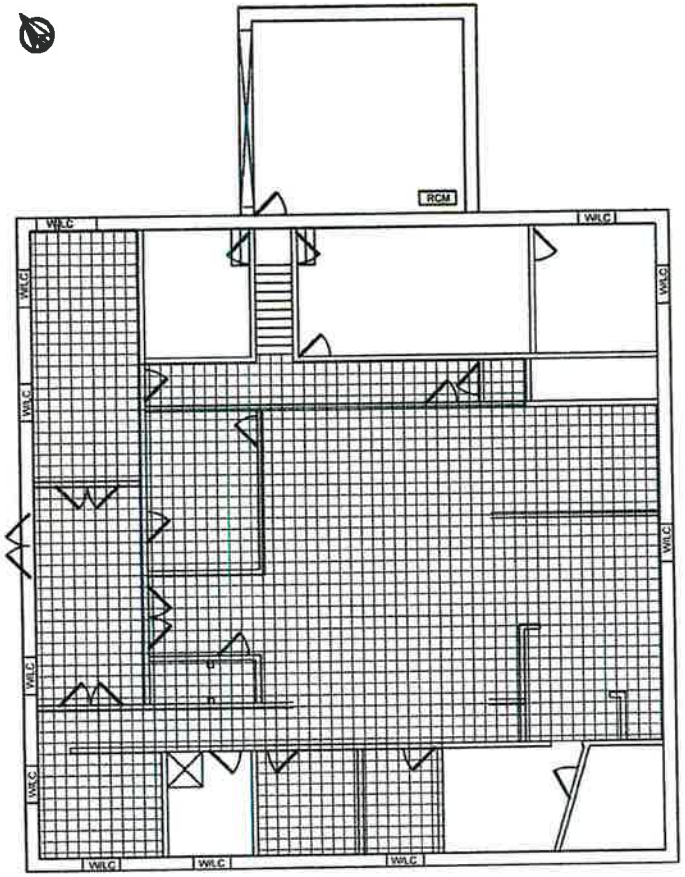
TABLE 6
CONCRETE and MASONRY SAMPLE ANALYTICAL RESULTS
BLOCK 107.02, LOT 3
EAST RUTHERFORD, NEW JERSEY

SAMPLE ID:	NJDEP Residential Soil Remediation Standards	NJDEP Non-Residential Soil Remediation Standards	NJDEP Default Impact to Groundwater Soil Screening Levels	DC-1			DC-2			BC			BB			C1			C2			C3			C4			C5			C6			DC-1			WC-1			B-1		
LAB ID:				AC35821-032			AC35821-033			AC35821-034			AC35821-035			11H0662-10			11H0662-12			11H0662-13			11H0662-14			11H0662-15			11H0662-16			11H0662-17			11H0662-18			11H0662-11		
COLLECT DATE:				2/14/2006			2/14/2006			2/14/2006			2/14/2006			8/23/2011			8/23/2011			8/23/2011			8/23/2011			8/23/2011			8/23/2011			8/23/2011			8/23/2011			8/23/2011		
SAMPLE MATRIX:				Concrete			Concrete			Brick			Brick			Concrete			Concrete			Concrete			Concrete			Concrete			Concrete			Caulk			Caulk			Brick		
UNITS:	mg/Kg	mg/Kg	mg/Kg	mg/Kg			mg/Kg			mg/Kg			mg/Kg			mg/Kg			mg/Kg			mg/Kg			mg/Kg			mg/Kg			mg/Kg			mg/Kg			mg/Kg			mg/Kg		
TestName				Result	Flg	MDL	Result	Flg	MDL	Result	Flg	MDL	Result	Flg	MDL	Result	Flg	MDL	Result	Flg	MDL	Result	Flg	MDL	Result	Flg	MDL	Result	Flg	RL	Result	Flg	MDL	Result	Flg	MDL	Result	Flg	MDL	Result	Flg	MDL
Volatile Organic Compounds																																										
m&p-Xylenes	12,000	170,000	12	NA			NA			NA			NA			NA			NA			NA			NA			0.002	J	0.02	NA			NA			NA			NA		
Methylene chloride	34	97	0.007	NA			NA			NA			NA			NA			NA			NA			NA			0.023	B	0.02	NA			NA			NA			NA		
:TotalVolatileTic	---	---	---	NA			NA			NA			NA			NA			NA			NA			NA			ND		0.01	NA			NA			NA			NA		
Semi-Volatile Organic Compounds																																									
2-Methylnaphthalene	230	2,400	5	NA			NA			NA			NA			NA			NA			NA			NA			ND		0.509	NA			NA			NA			NA		
Acenaphthene	3,400	37,000	74	NA			NA			ND		0.36	ND		0.35	ND		0.29	ND		0.29	ND		0.29	ND		0.28	ND		0.5	ND		0.29	ND		2.9	NA		ND		0.29
Acenaphthylene	---	300,000	---	NA			NA			ND		0.36	ND		0.35	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.5	ND		0.14	ND		1.4	NA		ND		0.14
Anthracene	17,000	30,000	1,500	NA			NA			ND		0.36	ND		0.35	ND		0.124	ND		0.124	ND		0.124	ND		0.124	ND		0.5	ND		0.124	ND		1.24	NA		ND		0.124
Benzo[a]anthracene	0.9	2	0.5	NA			NA			ND		0.36	ND		0.35	ND		0.193	ND		0.193	ND		0.193	ND		0.193	ND		0.5	ND		0.193	ND		1.93	NA		ND		0.193
Benzo[a]pyrene	0.2	0.2	0.2	NA			NA			ND		0.36	ND		0.35	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.5	ND		0.13	ND		1.3	NA		ND		0.13
Benzo[b]fluoranthene	0.9	2	2	NA			NA			ND		0.36	ND		0.35	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.5	ND		0.19	ND		1.9	NA		ND		0.19
Benzo[g,h,i]perylene	360,000	30,000	---	NA			NA			ND		0.36	ND		0.35	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.5	ND		0.15	ND		1.5	NA		ND		0.15
Benzo[k]fluoranthene	9	23	18	NA			NA			ND		0.36	ND		0.35	ND		0.194	ND		0.194	ND		0.194	ND		0.194	ND		0.5	ND		0.194	ND		1.94	NA		ND		0.194
Bis(2-Ethylhexyl)phthalate	35	140	780	NA			NA			NA			NA			NA			NA			NA			NA			0.629		0.509	NA			NA			NA			NA		
Chrysene	62	230	52	NA			NA			ND		0.36	ND		0.35	ND		0.202	ND		0.202	ND		0.202	ND		0.202	ND		0.5	ND		0.202	ND		2.02	NA		ND		0.202
Dibenz[a,h]anthracene	0.2	0.2	0.5	NA			NA			ND		0.36	ND		0.35	ND		0.125	ND		0.125	NO		0.125	ND		0.126	ND		0.5	ND		0.125	ND		1.26	NA		ND		0.125
Fluoranthene	2,300	24,000	840	NA			NA			ND		0.36	ND		0.35	ND		0.29	ND		0.29	ND		0.29	ND		0.29	ND		0.5	ND		0.29	ND		2.9	NA		ND		0.29
Fluorene	2,300	24,000	110	NA			NA			ND		0.36	ND		0.35	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.5	ND		0.14	ND		1.4	NA		ND		0.14
Indeno[1,2,3-cd]pyrene	0.9	2	5	NA			NA			ND		0.36	ND		0.35	ND		0.184	ND		0.184	ND		0.184	ND		0.184	ND		0.5	ND		0.184	ND		1.84	NA		ND		0.184
Naphthalene	6	17	18	NA			NA			ND		0.36	ND		0.35	ND		0.149	ND		0.149	ND		0.149	ND		0.149	ND		0.5	ND		0.149	ND		1.49	NA		ND		0.149
Phenanthrene	---	300,000	---	NA			NA			ND		0.36	ND		0.35	ND		0.184	ND		0.184	ND		0.184	ND		0.184	0.623		0.184	ND		0.184	ND		1.84	NA		ND		0.184
Pyrene	1,700	18,000	560	NA			NA			ND		0.36	ND		0.35	ND		0.179	ND		0.179	ND		0.179	ND		0.179	ND		0.5	ND		0.179	ND		1.79	NA		ND		0.179
:TotalSemiVolatileTic	---	---	---																																							
Metals																																									
Mercury	23	65	0.1	NA			NA			NA			NA			NA			NA			NA			NA			ND		0.102	NA			NA			NA			NA		
Aluminum	78000	---	3900	NA			NA			NA			NA			NA			NA			NA			NA			11900		2.03	NA			NA			NA			NA		
Antimony	31	450	6	NA			NA			NA			NA			NA			NA			NA			NA			0.975		0.509	NA			NA			NA			NA		
Arsenic	19	19	19	NA			NA			NA			NA			NA			NA			NA			NA			5.48		0.509	NA			NA			NA			NA		
Barium	18,000	59,000	1,300	NA			NA			NA			NA			NA			NA			NA			NA			72.8		0.509	NA			NA			NA			NA		
Beryllium	16	140	0.5	NA			NA			NA			NA			NA			NA			NA			NA			ND		0.01	NA			NA			NA			NA		
Cadmium	78	78	1	NA			NA			NA			NA			NA			NA			NA			NA			ND		0.509	NA			NA			NA			NA		
Calcium	---	---	---	NA			NA			NA			NA			NA			NA			NA			NA			64900		2.03	NA			NA			NA			NA		
Chromium	---	---	---	NA			NA			NA			NA			NA			NA			NA			NA			25.7		0.509	NA			NA			NA			NA		
Cobalt	1600	590	59	NA			NA			NA			NA			NA			NA			NA			NA			13.1		0.509	NA			NA			NA			NA		
Copper	3,100	45,000	7,300	NA			NA			NA			NA			NA			NA			NA			NA			62.3		0.509	NA			NA			NA			NA		
Iron	---	---	---	NA			NA			NA			NA			NA			NA			NA			NA			20000		1.02	NA			NA			NA			NA		
Lead	400	800	59	NA			NA			NA			NA			NA			NA			NA			NA			5.88		0.305	NA			NA			NA			NA		
Magnesium	---	---	---	NA			NA			NA			NA			NA			NA			NA			NA			7790		2.03	NA			NA			NA			NA		
Manganese	11000	5890	42	NA			NA			NA			NA			NA			NA			NA			NA			430		1.02	NA			NA			NA			NA		
Nickel	1,600	23,600	91	NA			NA			NA			NA			NA			NA			NA			NA			20.4		0.509	NA			NA			NA			NA		
Potassium	---	---	---	NA			NA			NA			NA			NA			NA			NA			NA			1480		10.2	NA			NA			NA			NA		
Selenium	390	5,700	7	NA			NA			NA			NA			NA			NA			NA			NA			2.67		0.509	NA			NA			NA			NA		
Silver	390	5,700	1	NA			NA			NA			NA			NA			NA			NA			NA			ND		0.509	NA			NA			NA			NA		
Sodium	---	---	---	NA			NA			NA			NA			NA			NA			NA			NA			2260		10.2	NA			NA			NA			NA		
Thallium	5	79	3	NA			NA			NA			NA			NA			NA			NA			NA			ND		0.509	NA			NA			NA			NA		
Vanadium	370	7100	---	NA			NA			NA			NA			NA			NA			NA			NA			39.6		0.509	NA			NA			NA			NA		
Zinc	23,000	110,000	600	NA			NA			NA			NA			NA			NA			NA			NA			97.9		0.509	NA			NA			NA			NA		

TABLE 6
CONCRETE and MASONRY SAMPLE ANALYTICAL RESULTS
BLOCK 107.02, LOT 3
EAST RUTHERFORD, NEW JERSEY

SAMPLE ID:	NJDEP Residential Soil Remediation Standards	NJDEP Non-Residential Soil Remediation Standards	NJDEP Default Impact to Groundwater Soil Screening Levels	DC-1			DC-2			BC			BB			C1			C2			C3			C4			C5			C6			DC-1			WC-1			S-1		
LAB ID:				AC35821-032			AC35821-033			AC35821-034			AC35821-035			11H0862-10			11H0862-12			11H0862-13			11H0862-14			11H0862-15			11H0862-16			11H0862-17			11H0862-18			11H0862-11		
COLLECT DATE:				2/14/2008			2/14/2008			2/14/2008			2/14/2008			8/23/2011			8/23/2011			8/23/2011			8/23/2011			8/23/2011			8/23/2011			8/23/2011			8/23/2011			8/23/2011		
SAMPLE MATRIX:				Concrete			Concrete			Brick			Brick			Concrete			Concrete			Concrete			Concrete			Concrete			Concrete			Caulk			Caulk			Brick		
UNITS:				mg/Kg			mg/Kg			mg/Kg			mg/Kg			mg/Kg			mg/Kg			mg/Kg			mg/Kg			mg/Kg			mg/Kg			mg/Kg			mg/Kg			mg/Kg		
TestName	mg/Kg	mg/Kg	mg/Kg	Result	Flg	MDL	Result	Flg	MDL	Result	Flg	MDL	Result	Flg	MDL	Result	Flg	MDL	Result	Flg	MDL	Result	Flg	MDL	Result	Flg	MDL	Result	Flg	RL	Result	Flg	MDL	Result	Flg	MDL	Result	Flg	MDL	Result	Flg	MDL
PCBS																																										
Aroclor-1016	---	---	---	ND		0.026	ND		0.027	ND		0.027	ND		0.026	ND		0.024	NA			ND		0.024	ND		0.024	ND		0.017	NO		0.024	ND		0.237	ND		0.237	ND		0.024
Aroclor-1221	---	---	---	ND		0.026	ND		0.027	ND		0.027	ND		0.026	ND		0.024	NA			ND		0.024	ND		0.024	ND		0.017	ND		0.024	ND		0.237	ND		0.237	ND		0.024
Aroclor-1232	---	---	---	ND		0.026	ND		0.027	ND		0.027	ND		0.026	ND		0.024	NA			ND		0.024	ND		0.024	ND		0.017	ND		0.024	ND		0.237	ND		0.237	ND		0.024
Aroclor-1242	---	---	---	ND		0.026	ND		0.027	ND		0.027	ND		0.026	ND		0.024	NA			ND		0.024	ND		0.024	ND		0.017	ND		0.024	ND		0.204	ND		0.204	ND		0.024
Aroclor-1248	---	---	---	ND		0.026	ND		0.027	ND		0.027	ND		0.026	ND		0.024	NA			ND		0.024	ND		0.024	ND		0.017	ND		0.024	ND		0.204	ND		0.204	ND		0.024
Aroclor-1254	---	---	---	0.07		0.026	ND		0.027	ND		0.027	ND		0.026	ND		0.024	NA			ND		0.024	0.128		0.024	ND		0.017	ND		0.024	ND		0.204	ND		0.204	ND		0.024
Aroclor-1260	---	---	---	ND		0.026	0.12		0.027	0.036		0.027	ND		0.026	ND		0.024	NA			ND		0.024	0.112		0.024	ND		0.017	ND		0.024	ND		0.204	ND		0.204	ND		0.024
Aroclor-1262	---	---	---	ND		0.026	ND		0.027	ND		0.027	ND		0.026	ND		0.024	NA			ND		0.024	ND		0.024	NA			ND		0.024	ND		0.204	19.7		0.204	ND		0.024
Aroclor-1268	---	---	---	NA			NA			NA			NA			ND		0.024	NA			ND		0.024	ND		0.024	NA			ND		0.024	ND		0.204	ND		0.204	ND		0.024
Total PCBs	0.2	1	0.2	ND		0.026	ND		0.027	ND		0.027	ND		0.026	ND		0.024	NA			ND		0.024	**0.24**		0.024	0.0328		0.017	ND		0.024	ND		0.237	**19.7**		0.237	ND		0.024
Pesticides																																										
Aldrin	0.04	0.2	0.1	NA			NA			NA			NA			NA			NA			NA			NA			ND	10	0.003	NA			NA			NA			NA		
Alpha-BHC	0.1	0.5	0.002	NA			NA			NA			NA			NA			NA			NA			NA			ND	10	0.003	NA			NA			NA			NA		
beta-BHC	0.4	2	0.002	NA			NA			NA			NA			NA			NA			NA			NA			ND	10	0.003	NA			NA			NA			NA		
Chlordane	0.2	1	0.03	NA			NA			NA			NA			NA			NA			NA			NA			ND	10	0.013	NA			NA			NA			NA		
delta-BHC	---	---	---	NA			NA			NA			NA			NA			NA			NA			NA			ND	10	0.003	NA			NA			NA			NA		
Dieldrin	0.04	0.2	0.003	NA			NA			NA			NA			NA			NA			NA			NA			ND	10	0.003	NA			NA			NA			NA		
Endosulfan I	470	6,800	2	NA			NA			NA			NA			NA			NA			NA			NA			ND	10	0.003	NA			NA			NA			NA		
Endosulfan II	470	6,800	2	NA			NA			NA			NA			NA			NA			NA			NA			ND	10	0.003	NA			NA			NA			NA		
Endosulfan Sulfate	470	6,800	1	NA			NA			NA			NA			NA			NA			NA			NA			ND	10	0.003	NA			NA			NA			NA		
Endrin	23	340	0.6	NA			NA			NA			NA			NA			NA			NA			NA			ND	10	0.003	NA			NA			NA			NA		
Endrin Aldehyde	---	---	---	NA			NA			NA			NA			NA			NA			NA			NA			ND	10	0.003	NA			NA			NA			NA		
Endrin Ketone	---	---	---	NA			NA			NA			NA			NA			NA			NA			NA			ND	10	0.003	NA			NA			NA			NA		
Gamma-BHC	0.4	2	0.002	NA			NA			NA			NA			NA			NA			NA			NA			ND	10	0.003	NA			NA			NA			NA		
Heptachlor	0.1	0.7	0.3	NA			NA			NA			NA			NA			NA			NA			NA			ND	10	0.003	NA			NA			NA			NA		
Heptachlor Epoxide	0.07	0.3	0.008	NA			NA			NA			NA			NA			NA			NA			NA			ND	10	0.003	NA			NA			NA			NA		
Methoxychlor	390	5,700	100	NA			NA			NA			NA			NA			NA			NA			NA			ND	10	0.017	NA			NA			NA			NA		
p,p'-DDD	3	13	3	NA			NA			NA			NA			NA			NA			NA			NA			ND	10	0.003	NA			NA			NA			NA		
p,p'-DDE	2	9	12	NA			NA			NA			NA			NA			NA			NA			NA			ND	10	0.003	NA			NA			NA			NA		
p,p'-DDT	2	8	7	NA			NA			NA			NA			NA			NA			NA			NA			ND	10	0.003	NA			NA			NA			NA		
Toxaphene	0.6	3	0.2	NA			NA			NA			NA			NA			NA			NA			NA			ND	10	0.336	NA			NA			NA			NA		
Total Petroleum Hydrocarbons	5,100	5,100	5,100	NA			NA			ND		65	ND		63	NA			NA			137		12.7	177		12.2	488		120	NA			NA			NA			NA		

ND = Non-Detect
Bold and Boxed with Yellow Highlight = Exceedance of NJDEP Residnetial or Non-Residential Soil Remediation Standards
Bold and Boxed with Blue Highlight = Exceedance of NJDEP Impact to Groundwater Soil Remediation Standards
J = Value is an estimated concentration, analyte found below the method detection limit
B = Analyte found in the associated analysis batch blank
NA = Not analyzed



RADIO TRANSMITTER BUILDING

Material	Location	Inspection Results	Estimated Quantity of ACM to be Removed	Legend
9-inch square floor tiles and mastic covered with 12-inch floor tiles	Main Floor – Radio Transmitter Building	ACM	3,000 SF	
Window/Louver caulking	Façades – Radio Transmitter Building	ACM	200 LF	W/LC
Roof seam mastic	Roofs of Tower 1 and 3 Buildings	ACM	70 SF	-
Roof coating materials containing asbestos fibers. (Two 5-gallon buckets)	Garage – Radio Transmitter Building	ACM	2 EA	RCM

ACM ASBESTOS CONTAINING MATERIALS

NOTES:

1. THIS SKETCH IS PROVIDED TO SHOW APPROXIMATE LOCATIONS OF ASBESTOS CONTAINING MATERIALS TO BE REMOVED. THE ACTUAL LAYOUT OF THE BUILDING MAY BE SLIGHTLY DIFFERENT THAN SHOWN. ALSO, THE SKETCH IS NOT TO SCALE, AND THEREFORE, THIS PLAN SHALL NOT BE USED FOR ANY OTHER PURPOSES.
2. MULTIPLE LAYERS OF FLOORING (FLOOR TILES, MASTIC, ETC.) WERE IDENTIFIED IN MOST OF THE AREAS

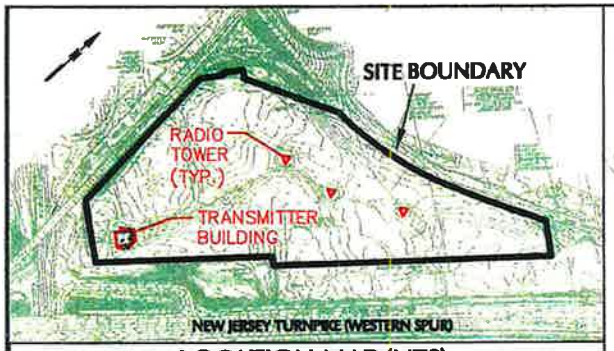


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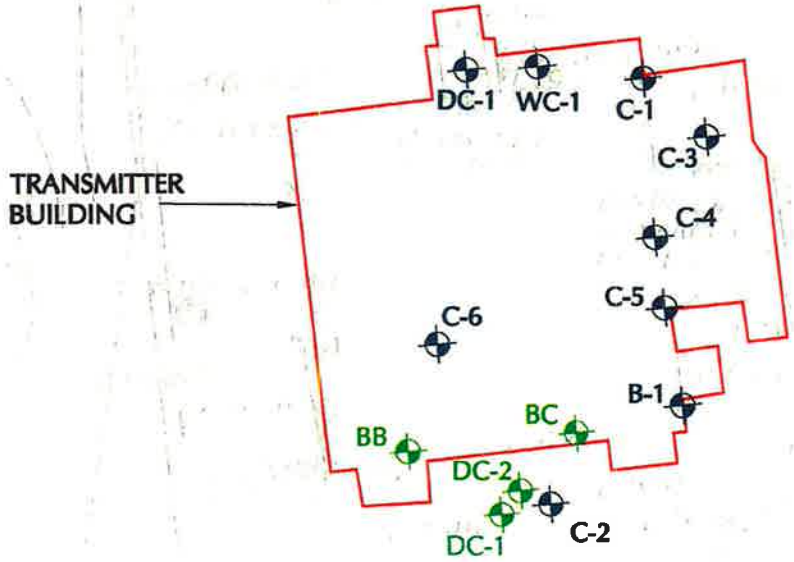
Project
ACM Identification Plan
Amusement Park and Water Park
American Dream Meadowlands
EAST RUTHERFORD NEW JERSEY

Project No.	Date	Scale	Dwg. No.
100234201	10/18/2011	NTS	1

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LOCATION MAP (NTS)



20 0 5 10 20

SCALE IN FEET

NOTES:

Sample C1 was collected from the exterior concrete of the building.

Sample C2 was collected from concrete of a former transformer pad.

Sample C3 was collected from the garage slab.

Sample C4 was collected from a slab area underlying the above ground storage tanks.

Sample C5 was collected from a slab area near a standing diesel generator.

Sample C6 was collected from the electric room slab.

Sample B1 was collected from the exterior brick of the building.

Sample DC-1 was collected from caulk lining the main door.

Sample WC-1 was collected from caulk lining a window adjacent to the main door.

Sample BB was collected from a brick portion of the building.

Sample BC was collected from a brick/concrete portion of the building.

Samples DC-1 and DC-2 were collected from concrete of a former transformer pad.

Base map provided by 2011 Langan Survey.

LEGEND

BB — 2008 Sample Location

C-5 — 2011 Sample Location

Transmitter Building Boundary

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NJ Certificate of Authorization No: 24GA27996400

Project
Concrete Sample Location Plan
Amusement Park and Water Park Project
American Dream Meadowlands
EAST RUTHERFORD NEW JERSEY

Project No.	Date	Scale	Dwg. No.
100234201	10/18/2011	NTS	2

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APPENDIX A

ACM Laboratory Test Results

AMERI SCI

AmeriSci New York
117 EAST 30TH ST.
NEW YORK, NY 10016
TEL: (212) 679-8600 • FAX: (212) 679-3114

PLM Bulk Asbestos Report

Langan Engineering & Environmental S
Attn: Vijay Patel
River Drive Center 1

Elmwood Park, NJ 07407

Date Received 02/15/08
Date Examined 02/18/08

AmeriSci Job # 208022593
P.O. #
Page 1 **of** 8

RE: 9169201; Meadowlands Xanadu-Disney Parcel; East Rutherford - Meadowlands Xanadu - Disney Parcel

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
PL-1A	208022593-01.1	*No*	NAD (by NYS ELAP 198.1) by Aline F. Barron on 02/18/08
	Location: Wall - Office - Plaster -White Layer		
	Analyst Description: White, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
PL-1A	208022593-01.2	*No*	NAD (by NYS ELAP 198.1) by Aline F. Barron on 02/18/08
	Location: Wall - Office - Plaster - Brown Layer		
	Analyst Description: Brown, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Synthetic fibers Trace, Non-fibrous 100 %		
PL-1B	208022593-02.1	*No*	NAD (by NYS ELAP 198.1) by Aline F. Barron on 02/18/08
	Location: Wall - Office - Plaster - White Layer		
	Analyst Description: White, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
PL-1B	208022593-02.2	*No*	NAD (by NYS ELAP 198.1) by Aline F. Barron on 02/18/08
	Location: Wall - Office - Plaster - Brown Layer		
	Analyst Description: Brown, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Synthetic fibers Trace, Non-fibrous 100 %		
PL-1C	208022593-03.1	*No*	NAD (by NYS ELAP 198.1) by Aline F. Barron on 02/18/08
	Location: Ceiling Office - Plaster - White Layer		
	Analyst Description: White, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

9169201; Meadowlands Xanadu-Disney Parcel; East Rutherford - Meadowlands Xanadu - Disney Parcel

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
PL-1C	208022593-03.2	*No*	NAD (by NYS ELAP 198.1) by Aline F. Barron on 02/18/08
	Location: Ceiling Office - Plaster - Brown Layer		
Analyst Description: Brown, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Synthetic fibers Trace, Non-fibrous 100 %			
PL-1D	208022593-04.1	*No*	NAD (by NYS ELAP 198.1) by Aline F. Barron on 02/18/08
	Location: Ceiling Office - Plaster - White Layer		
Analyst Description: White, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
PL-1D	208022593-04.2	*No*	NAD (by NYS ELAP 198.1) by Aline F. Barron on 02/18/08
	Location: Ceiling Office - Plaster - Brown Layer		
Analyst Description: Brown, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Synthetic fibers Trace, Non-fibrous 100 %			
PL-1E	208022593-05.1	*No*	NAD (by NYS ELAP 198.1) by Aline F. Barron on 02/18/08
	Location: Wall - Corridor - Plaster -White Layer		
Analyst Description: White, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
PL-1E	208022593-05.2	*No*	NAD (by NYS ELAP 198.1) by Aline F. Barron on 02/18/08
	Location: Wall - Corridor - Plaster - Brown Layer		
Analyst Description: Brown, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Synthetic fibers Trace, Non-fibrous 100 %			
PL-1F	208022593-06.1	*No*	NAD (by NYS ELAP 198.1) by Aline F. Barron on 02/18/08
	Location: Wall - Storage Room - Plaster - White Layer		
Analyst Description: White, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

9169201; Meadowlands Xanadu-Disney Parcel; East Rutherford - Meadowlands Xanadu - Disney Parcel

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
PL-1F	208022593-06.2	*No*	NAD (by NYS ELAP 198.1) by Aline F. Barron on 02/18/08
	Location: Wall - Storage Room - Plaster -Brown Layer		
	Analyst Description: Brown, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Synthetic fibers Trace, Non-fibrous 100 %		
PL-1G	208022593-07.1	*No*	NAD (by NYS ELAP 198.1) by Aline F. Barron on 02/18/08
	Location: Ceiling Storage Room - Plaster - White Layer		
	Analyst Description: White, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
PL-1G	208022593-07.2	*No*	NAD (by NYS ELAP 198.1) by Aline F. Barron on 02/18/08
	Location: Ceiling Storage Room - Plaster - Brown Layer		
	Analyst Description: Brown, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Synthetic fibers Trace, Non-fibrous 100 %		
PL-1H	208022593-08.1	*No*	NAD (by NYS ELAP 198.1) by Aline F. Barron on 02/18/08
	Location: Wall Bathroom - Plaster - White Layer		
	Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
PL-1H	208022593-08.2	*No*	NAD (by NYS ELAP 198.1) by Aline F. Barron on 02/18/08
	Location: Wall Bathroom - Plaster - Brown Layer		
	Analyst Description: Brown, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Synthetic fibers Trace, Non-fibrous 100 %		
PL-1I	208022593-09.1	*No*	NAD (by NYS ELAP 198.1) by Aline F. Barron on 02/18/08
	Location: Ceiling Bathroom - Plaster - White Layer		
	Analyst Description: White, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

9169201; Meadowlands Xanadu-Disney Parcel; East Rutherford - Meadowlands Xanadu - Disney Parcel

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
PL-II	208022593-09.2	*No*	NAD (by NYS ELAP 198.1) by Aline F. Barron on 02/18/08
	Location: Ceiling Bathroom - Plaster - Brown Layer		
	Analyst Description: Brown, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Synthetic fibers Trace, Non-fibrous 100 %		
SR-1A	208022593-10	*No*	NAD (by NYS ELAP 198.1) by Aline F. Barron on 02/18/08
	Location: Wall - Center Room - Sheetrock		
	Analyst Description: White/Brown, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Cellulose 12 %, Fibrous glass Trace, Non-fibrous 88 %		
SR-1B	208022593-11	*No*	NAD (by NYS ELAP 198.1) by Aline F. Barron on 02/18/08
	Location: Wall - Center Room - Sheetrock		
	Analyst Description: White/Brown, Homogeneous, Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Cellulose 15 %, Fibrous glass Trace, Non-fibrous 85 %		
SR-1C	208022593-12	*No*	NAD (by NYS ELAP 198.1) by Aline F. Barron on 02/18/08
	Location: Wall - Corridor - Sheetrock		
	Analyst Description: White/Brown, Homogeneous, Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Cellulose 10 %, Fibrous glass Trace, Non-fibrous 90 %		
FT-1A	208022593-13L1	*No*	NAD (by NYS ELAP 198.6) by Aline F. Barron on 02/18/08
	Location: Center Room - Top Layer - Tan Mottled 12" x 12" Floor Tile And Tan Mastic		
	Analyst Description: Tan, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 16.3 %		
FT-1A	208022593-13L2	*No*	NAD (by NYS ELAP 198.6) by Aline F. Barron on 02/18/08
	Location: Center Room - Top Layer - Tan Mottled 12" x 12" Floor Tile And Tan Mastic		
	Analyst Description: Yellow, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 32.8 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

9169201; Meadowlands Xanadu-Disney Parcel; East Rutherford - Meadowlands Xanadu - Disney Parcel

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
FT-1B	208022593-14L1	*No*	NAD (by NYS ELAP 198.6) by Aline F. Barron on 02/18/08
Location: Center Room - Top Layer - Tan Mottled 12" x 12" Floor Tile And Tan Mastic			
Analyst Description: Tan, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 4.6 %			
FT-1B	208022593-14L2	*No*	NAD (by NYS ELAP 198.6) by Aline F. Barron on 02/18/08
Location: Center Room - Top Layer - Tan Mottled 12" x 12" Floor Tile And Tan Mastic			
Analyst Description: Yellow, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 29.3 %			
FT-2A	208022593-15L1	*No*	NAD (by NYS ELAP 198.6) by Aline F. Barron on 02/18/08
Location: Center Room - Top Layer - Blue 12" x 12" Mottled Floor Tile And Tan Mastic			
Analyst Description: Blue, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 23.6 %			
FT-2A	208022593-15L2	*No*	NAD (by NYS ELAP 198.6) by Aline F. Barron on 02/18/08
Location: Center Room - Top Layer - Blue 12" x 12" Mottled Floor Tile And Tan Mastic			
Analyst Description: Tan, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 31.6 %			
FT-3A	208022593-16	*No*	NAD (by NYS ELAP 198.6) by Aline F. Barron on 02/18/08
Location: Center Room - Middle Layer - Grey 12" x12" Floor Tile And Tan Mastic "Insufficient Mastic For Preparation"			
Analyst Description: Grey, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 22 %			
FT-3B	208022593-17	*No*	NAD (by NYS ELAP 198.6) by Aline F. Barron on 02/18/08
Location: Center Room - Middle Layer - Grey 12" x12" Floor Tile And Tan Mastic "Insufficient Mastic For Preparation"			
Analyst Description: Grey, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 19.5 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

9169201; Meadowlands Xanadu-Disney Parcel; East Rutherford - Meadowlands Xanadu - Disney Parcel

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
FT-3C	208022593-18	*No*	NAD
	Location: North Corridor - Middle Layer - Grey 12" x12" Floor Tile And Tan Mastic "Insufficient Mastic For Preparation"		(by NYS ELAP 198.6) by Aline F. Barron on 02/18/08
	Analyst Description: Grey, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 4 %		
FT-4A	208022593-19L1	*Yes*	5.7 %
1	**Location:** Center Room - Bottom Layer - Green 9" x 9" Floor Tile & Black Mastic "Insufficient Mastic For Preparation" "Insufficient Mastic For Preparation"		(by NYS ELAP 198.6) by Aline F. Barron on 02/18/08
	Analyst Description: Green, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types: Chrysotile 5.7 %		
	Other Material: Non-fibrous 22.6 %		
FT-4A	208022593-19L2	*Yes*	1.5 %
2	**Location:** Center Room - Bottom Layer - Green 9" x 9" Floor Tile Black Mastic		(by NYS ELAP 198.6) by Aline F. Barron on 02/18/08
	Analyst Description: Black, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types: Chrysotile 1.5 %		
	Other Material: Non-fibrous 10.8 %		
FT-4B	208022593-20L1		NA/PS
1	**Location:** Center Room - Bottom Layer - Green 9" x 9" Floor Tile & Black Mastic		
	Analyst Description: Bulk Material		
	Asbestos Types:		
	Other Material:		
FT-4B	208022593-20L2		NA
	Location: Center Room - Bottom Layer - Green 9" x 9" Floor Tile Black Mastic "Insufficient Mastic For Preparation"		
	Analyst Description: Bulk Material		
	Asbestos Types:		
	Other Material:		
FT-4C	208022593-21		NA/PS
1	**Location:** North Corridor - Bottom Layer - Green 9" x 9" Floor Tile& Black Mastic "Insufficient Mastic For Preparation"		
	Analyst Description: Bulk Material		
	Asbestos Types:		
	Other Material:		

See Reporting notes on last page

PLM Bulk Asbestos Report

9169201; Meadowlands Xanadu-Disney Parcel; East Rutherford - Meadowlands Xanadu - Disney Parcel

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
WG-1A	208022593-22	*No*	NAD (by NYS ELAP 198.1) by Aline F. Barron on 02/18/08
	Location: Exterior - Window Glazing		
	Analyst Description: OffWhite, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
WG-1B	208022593-23	*No*	NAD (by NYS ELAP 198.1) by Aline F. Barron on 02/18/08
	Location: Exterior - Window Glazing		
	Analyst Description: OffWhite, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
WG-1C	208022593-24	*No*	NAD (by NYS ELAP 198.1) by Aline F. Barron on 02/18/08
	Location: Exterior - Window Glazing		
	Analyst Description: OffWhite, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
RM-1A	208022593-25	*No*	NAD (by NYS ELAP 198.1) by Aline F. Barron on 02/18/08
	Location: Garage Roof - Roof Membrane		
	Analyst Description: Black, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Cellulose 65 %, Non-fibrous 35 %		
RM-1B	208022593-26	*No*	NAD (by NYS ELAP 198.1) by Aline F. Barron on 02/18/08
	Location: Main Bldg - Roof Membrane		
	Analyst Description: Black, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Cellulose 70 %, Non-fibrous 30 %		
RM-1A	208022593-27	*No*	NAD (by NYS ELAP 198.1) by Aline F. Barron on 02/18/08
	Location: Garage Roof - Roof Flashing		
	Analyst Description: Black, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Cellulose 60 %, Non-fibrous 40 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

9169201; Meadowlands Xanadu-Disney Parcel; East
Rutherford - Meadowlands Xanadu - Disney Parcel

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
RM-1B	208022593-28	*No*	NAD (by NYS ELAP 198.1) by Aline F. Barron on 02/18/08

Location: Main Bldg - Roof Flashing

Analyst Description: Black, Homogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Cellulose 65 %, Non-fibrous 35 %

Reporting Notes:
Analyzed by: Aline F. Barron

*NAD/NSD =no asbestos detected; NA =not analyzed; NA/PS=not analyzed/positive stop; PLM Bulk Asbestos Analysis by EPA 600/M4-82-020 per 40 CFR 763 (NVLAP Lab Code 200546-0), ELAP PLM Method 198.1 for NY friable samples or 198.6 for NOB samples (NY ELAP Lab ID11480); Note:PLM is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. NAD or Trace results by PLM are inconclusive, TEM is currently the only method that can be used to determine if this material can be considered or treated as non asbestos-containing in NY State (also see EPA Advisory for floor tile,FR 59,146,38970,8/1/94). National Institute of Standards and Technology Accreditation requirements mandate that this report must not be reproduced except in full without the approval of the lab. This PLM report relates ONLY to the items tested. AIHA Lab # 102843.

Reviewed By:_____

END OF REPORT

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

River Drive Center I
Elmwood Park, NJ 07407
Phone: 201-794-6900
Fax: 201-794-7501

CHAIN OF CUSTODY RECORD / ANALYSIS REQUEST

PAGES 1 of 3

-208022593

Project Name:	Meadowlands Xanadu-Disney Parcel	Proj. No.:	9153201
Address:	East Rutherford	Auth. By:	Vijay Patel
Site Location:	Meadowlands Xanadu-Disney Parcel	Phone No:	(201) 794-6900
Sampled By:	Robert Kingsbury	Licence #:	
Sample Type:	BULK	Date Sampled:	2/1/08
		Client Job #:	

ANALYSIS REQUESTED: Asbestos: XX; Bulk: XX

			PLM	PLM-NOB	TEM	RESULTS
PL-1A	Plaster - 2 layers	Wall - office				
PL-1B		Wall - office				
PL-1C		Ceiling - office				
PL-1D		Ceiling - office				
PL-1E		Wall - Corridor				
PL-1F		Wall - Storage room				
PL-1G		Ceiling - Storage room				
PL-1H		Wall - Bathroom				
PL-1I		Ceiling - Bathroom				
SR-1A	Sheetrock	Wall - Center room				
SR-1B		Wall - Center room				
SR-1C		Wall - Corridor				

Total No. of Samples:

Laboratory Instructions:

Turn Around Time: ☐ Rush ☐ 12 hrs ☐ 24 hrs ☐ 48 hrs ☐ 72 hrs ☐ 5 day

Relinquished By: (1)	DATE: 2/1/08	Received By:		Relinquished By:	DATE:
Company: Langan	TIME:	Company:		Company:	TIME:

Laboratory Name & Address: Email to: RKingsbury@langan.com

02/18/08 MON 11:26 [TX/RX NO 8818]

LANGAN
ENVIRONMENTAL & ENGINEERING CONSULTANTS
One Penn Plaza Suite 1
Clinwood Park, NJ 07407
Phone: 201-794-6900
Fax: 201-794-7561

CHAIN OF CUSTODY RECORD / ANALYSIS REQUEST

PAGES 2 of 3

-20 022593

Project Name:	Meadowlands Xanadu-Disney Parcel	Proj. No.:	3193201
Address:	East Rutherford	Auth. By:	Vijay Patel
Site Location:	Meadowlands Xanadu-Disney Parcel	Phone No:	(201) 794-6900
Sampled By:	Robert Kingsbury	Licence #:	
Sample Type:	BULK	Date Sampled:	2/14/08
		Client Job #:	

ANALYSIS REQUESTED: Asbestos: XX; Bulk: XX

Sample Number	Sample Description	Location	PLM	PLM-NOM	TEM	RESULTS
FT-1A	Tan mottled 12"x12" floor tile and tan mastic	Center room - top layer				
FT-1B	" "	" "				
FT-2A	Blue 12"x12" mottled floor tile and tan mastic	" "				
FT-3A	Gray 12"x12" floor tile and tan mastic	Center room - middle layer				
FT-3B	" "	" "				
FT-3C	" "	North Corridor - middle layer				
FT-4A	Green 9"x9" floor tile + black mastic	Center room - bottom layer				
FT-4B	" "	Center room - bottom layer				
FT-4C	" "	North Corridor bottom layer				

Total No. of Samples:

Laboratory Instructions

Turn Around Time: ☐ Rush ☐ 12 hrs ☐ 24 hrs ☐ 48 hrs ☒ 72 hrs ☐ 5 day

(1) Relinquished By:	DATE: 2/15/08	Received By:	(2) Relinquished By:	DATE:	
Company: Langan	TIME:	Company: LSA2	Company:	TIME:	

Laboratory Name & Address:

02/18/08 MON 11:26 [TX/RX NO 8818]

LANGAN
Two Penn Plaza East
Elmwood Park, NJ 07407
Phone: 201-794-6900
Fax: 201-794-7501

CHAIN OF CUSTODY RECORD / ANALYSIS REQUEST

PAGES 3 of 3

-208022593

Project Name: Meadowlands Xanadu-Disney Parcel	Proj. No.: 9169201	ANALYSIS REQUESTED:	Asbestos: XX
Address: East Rutherford	Attn. By: Vijay Patel		Soils: XX
Site Location: Meadowlands Xanadu-Disney Parcel	Phone No: (201) 794-6900		
Sampled By: Robert Kingsbury	Licence #:		
Sample Type: BULK	Date Sampled: 2/14/08		
	Client Job #:		

Sample ID	Description	Location	PLM	PLM-NOB	TEM	RESULTS
WG-1A	window glazing	Exterior				
WG-1B	window glazing					
WG-1C	window glazing					
RM-1A	Roof membrane	Cargo Roof Main Bldg				
RM-1B	Roof membrane					
RM-1A	Roof flashing	Canopy Roof Main Bldg.				
RM-1B	Roof flashing					

Total No. of Samples:

Laboratory Instructions

Turn Around Time: ☐ Rush ☐ 12 hrs ☐ 24 hrs ☐ 48 hrs ☒ 72 hrs ☐ 5 day

(1)	Relinquished By:	DATE: 2/14/08	Received By:		
	Company: Langan	TIME:	Company:		
(2)	Relinquished By:	DATE:			
	Company:	TIME:			

Laboratory Name & Address:

02/18/08 MON 11:26 [TX/RX NO 8818]

Table I
Summary of Bulk Asbestos Analysis Results
100234201; Triple Five American Dream; East Rutherford, New Jersey

AmeriSci Sample #	Client Sample#	HG Area	Sample Weight (gram)	Heat Sensitive Organic %	Acid Soluble Inorganic %	Insoluble Non-Asbestos Inorganic %	** Asbestos % by PLM/DS	** Asbestos % by TEM
01	RM-1-A	RM	—	—	—	—	Chrysotile 5.0	NA
Location:	Roof Mastic Tower 1							
02	RM-1-B	RM	—	—	—	—	NA/PS	NA
Location:	Roof Mastic Tower 3							
03	IP-1-A	IP	—	—	—	—	NAD	NA
Location:	Isolating Pad Tower 1							
04	IP-1-B	IP	—	—	—	—	NAD	NA
Location:	Isolating Pad Tower 2							
05	CBMOR-1-A	CBMOR	—	—	—	—	NAD	NA
Location:	Cinderblock Mortar Tower 1							
06	CBMOR-1-B	CBMOR	—	—	—	—	NAD	NA
Location:	Cinderblock Mortar Tower 2							
07	PBL-1-A	PBL	—	—	—	—	NAD	NA
Location:	Pyro-Block Generator Room							
08	PBL-1-B	PBL	—	—	—	—	NAD	NA
Location:	Pyro-Block Generator Room							
09	WC-1-A	WC	—	—	—	—	Chrysotile 3.0	NA
Location:	Window Caulking Facades							
10	WC-1-B	WC	—	—	—	—	NA/PS	NA
Location:	Window Caulking Facades							
11	WEM-1-A	WEM	0.268	59.7	19.8	20.5	NAD	NAD
Location:	Mastic On Septic Well Exterior							
12	WEM-1-B	WEM	—	—	—	—	NAD	NA
Location:	Mastic On Septic Well Exterior							
13	BMOR-1-A	MBOR	—	—	—	—	NAD	NA
Location:	Brick Mortar Facades							
14	BMOR-1-B	BMOR	—	—	—	—	NAD	NA
Location:	Brick Mortar Facades							
15	WLC-1-A	WLC	0.159	71.7	18.2	10.1	NAD	NAD
Location:	Wall Caulking Facades							
16	WC-1-B	WLC	—	—	—	—	NAD	NA
Location:	Wall Caulking Facades							

See Reporting notes on last page

Client Name: Langan Engineering & Environmental Services

Table I
Summary of Bulk Asbestos Analysis Results
100234201; Triple Five American Dream; East Rutherford, New Jersey

AmeriSci Sample #	Client Sample#	HG Area	Sample Weight (gram)	Heat Sensitive Organic %	Acid Soluble Inorganic %	Insoluble Non-Asbestos Inorganic %	** Asbestos % by PLM/DS	** Asbestos % by TEM
17	WMA-1-A	WMA	0.263	68.4	10.3	21.3	NAD	NAD
Location:	Mastic On Wall South Facade Exterior							
18	WMA-1-B	WMA	—	—	—	—	NAD	NA
Location:	Mastic On Wall South Facade Exterior							
19	WPP-1-A	WPP	—	—	—	—	NAD	NA
Location:	Wall Paper Kitchen							
20	WPP-1-B	WPP	—	—	—	—	NAD	NA
Location:	Wall Paper Kitchen							
21	DC-1-A	DC	0.226	91.6	5.8	2.6	NAD	Chrysotile Trace
Location:	Door Caulking Facade							
22	DC-1-B	DC	—	—	—	—	NAD	NA
Location:	Door Caulking Facade							
23	SDLC-1-A	SDLC	0.242	59.5	16.5	24.0	NAD	NAD
Location:	Shutter Door Lintel Caulking Garage							
24	SDLC-1-B	SDLC	—	—	—	—	NAD	NA
Location:	Shutter Door Lintel Caulking Garage							
25	SDC-1-A	SDC	0.188	72.3	21.3	6.3	NAD	Chrysotile Trace
Location:	Shutter Door Caulking Garage							
26	SDC-1-B	SDC	—	—	—	—	NAD	NA
Location:	Shutter Door Caulking Garage							
27	SHJC-1-A	SHJC	—	—	—	—	NAD	NA
Location:	Sheetrock Joint Compound Interior							
28	SHJC-1-B	SHJC	—	—	—	—	NAD	NA
Location:	Sheetrock Joint Compound Interior							

See Reporting notes on last page

Client Name: Langan Engineering & Environmental Services

Table I
Summary of Bulk Asbestos Analysis Results

100234201; Triple Five American Dream; East Rutherford, New Jersey

AmeriSci Sample #	Client Sample#	HG Area	Sample Weight (gram)	Heat Sensitive Organic %	Acid Soluble Inorganic %	Insoluble Non-Asbestos Inorganic %	** Asbestos % by PLM/DS	** Asbestos % by TEM

Analyzed by: Marik Peysakhov_____; Date Analyzed 8/31/2011

**Quantitative Analysis (Semi/Full); Bulk Asbestos Analysis - PLM by EPA 600/M4-82-020 per 40 CFR or ELAP 198.1 for New York friable samples or ELAP 198.6 for New York NOB samples; TEM (Semi/Full) by EPA 600/R-93/116 (not covered by NVLAP Bulk accreditation) or ELAP 198.4; for New York samples; NAD = no asbestos detected during a quantitative analysis; NA = not analyzed; Trace = <1%; Quantitation for beginning weights of <0.1 grams should be considered as qualitative only; Qualitative Analysis: Asbestos analysis results of "Present" or "NVA = No Visible Asbestos" represents results for Qualitative PLM or TEM Analysis only (no accreditation coverage available from any regulatory agency for qualitative analyses); AIHA Lab # 102843, NVLAP Lab Code 200546-0, NYSDOH ELAP Lab ID#11480.

Warning Note: PLM limitation, only TEM will resolve fibers <0.25 micrometers in diameter. TEM bulk analysis is representative of the fine grained matrix material and may not be representative of non-uniformly dispersed debris for which PLM evaluation is recommended (i.e. soils and other heterogenous materials).

Reviewed By:_____

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

River Drive Center I
Elmwood Park, NJ 07407
Phone: 201-794-6900
Fax: 201-794-7501

CHAIN OF CUSTODY RECO ANALYSIS REQUEST

Project Name:	Triple Five American Dream		
Address:	East Rutherford, New Jersey	Auth. By:	Vijay Patel
		Phone No:	(201) 794-6900
Langan Job No.:	100234201	Sampling Date:	8/23/2011
Sampled By:	MIROSLAW BARAN	License #:	114570/03-03533

Sample ID Number	Description of Sample	Sample Location	Analysis Requested for Asbestos: PLM	PLM-NOB	TEM	Analysis Requested for Lead: AAS	TCLP	Analysis Requested for PCB: EPA Method 8082	Results
RM-1-A	ROOF MASTIC	TOWER 1	X		X				
RM-1-B	— " —	TOWER 3	X						
IP-1-A	ISOLATING PAD	TOWER 1	X						
IP-1-B	— " —	TOWER 2	X						
CBMOR-1-A	CINDER BLOCK MORTAR	TOWER 1	X						
CBMOR-1-B	— " —	TOWER 2	X						
PBL-1-A	PYRO-BLOCK	GENERATOR ROOM	X						
PBL-1-B	— " —	— " —	X						
WC-1-A	WINDOW CAULKING	FACADES	X		X				
WC-1-B	— " —	— " —	X						

Turnaround Request:	6 hours	12 hours	24 hours	48 hours	72 hours	5 days
				X		

Total No. of Samples: 10

Laboratory Instructions: **Stop analysis @ 1st positive (>1% by weight) for each homogenous sample group.** ***Please e-mail results to mbaran@langan.com and spatel@langan.com.***

Relinquished By:	MIROSLAW BARAN	Date: 8/23/2011	Time:	Received by:	Date:	Time:
Company: LANGAN				Company:		

Laboratory Name: AMERISCI, NEW YORK

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES
River Drive Center I
Elmwood Park, NJ 07407
Phone: 201-794-6900
Fax: 201-794-7501

CHAIN OF CUSTODY RECORD / ANALYSIS REQUEST

Project Name:	Triple Five American Dream		
Address:	East Rutherford, New Jersey	Auth. By:	Vijay Patel
		Phone No:	(201) 794-6900
Langan Job No.:	100234201	Sampling Date:	8/23/2011
Sampled By:	MIROSLAW BARAN	License #:	114570/03-03533

Sample ID Number	Description of Sample	Sample Location	Analysis Requested for Asbestos: PLM	PLM-NOB	TEM	Analysis Requested for Lead: AAS	TCLP	Analysis Requested for PCB: EPA Method 8082	Results
WEM-1-A	MASTIC ON SEPTIC WELL	EXTERIOR	X		X				
WEM-1-B	— " —	— " —	X						
BMOR-1-A	BRICK MORTAR	FACADES	X						
BMOR-1-B	— " —	— " —	X						
WLC-1-A	WALL CAULKING	— " —	X		X				
WLC-1-B	— " —	— " —	X						
WMA-1-A	MASTIC ON WALL	SOUTH FACADE EXTERIOR	X		X				
WMA-1-B	— " —	— " —	X						
WPP-1-A	WALL PAPER	KITCHEN	X						
WPP-1-B	— " —	— " —	X						

Total No. of Samples: 10

Turnaround Request:

6 hours	12 hours	24 hours	48 hours	72 hours	5 days
			X		

Laboratory Instructions: **Stop analysis @ 1st positive (>1% by weight) for each homogenous sample group.** ***Please e-mail results to mbaran@langan.com and spatel@langan.com.***

Relinquished By:	MIROSLAW BARAN	Date: 8/23/2011	Time:	Received by:	Date:	Time:
Company: LANGAN				Company:		

Laboratory Name: AMERISCI, NEW YORK

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES
River Drive Center I
Elmwood Park, NJ 07407
Phone: 201-794-6900
Fax: 201-794-7501

CHAIN OF CUSTODY REC(ANALYSIS REQUEST

Project Name:	Triple Five American Dream		
Address:	East Rutherford, New Jersey	Auth. By:	Vijay Patel
		Phone No:	(201) 794-6900
Langan Job No.:	100234201	Sampling Date:	8/23/2011
Sampled By:	MIROSLAW BARAN	License #:	114570/03-03533

Sample ID Number	Description of Sample	Sample Location	Analysis Requested for Asbestos: PLM	PLM-NOB	TEM	Analysis Requested for Lead: AAS	TCLP	Analysis Requested for PCB: EPA Method 8082	Results
DC-1-A	DOOR CAULKING	FACIADE	X		X				
DC-1-B	—11—	—11—	X						
SDLC-1-A	SHUTTER DOOR LINTEL CAULKING	GARAGE	X		X				
SDLC-1-B	—11—	—11—	X						
SDC-1-A	SHUTTER DOOR CAULKING	—11—	X		X				
SDC-1-B	—11—	—11—	X						
SHJC-1-A	SHEETROCK JOINT COMPOUND	INTERIOR	X						
SHJC-1-B	—11—	—11—	X						

Total No. of Samples: 8

Turnaround Request:	6 hours	12 hours	24 hours	48 hours	72 hours	5 days
				X		

Laboratory Instructions: **Stop analysis @ 1st positive (>1% by weight) for each homogenous sample group.** ***Please e-mail results to mbaran@langan.com and spatel@langan.com.***

Relinquished By:	MIROSLAW BARAN	Date: 8/23/2011	Time:	Received by:	Date:	Time:
Company: LANGAN				Company:		

Laboratory Name: AMERISCI, NEW YORK

State of New Jersey
DEPARTMENT OF COMMUNITY AFFAIRS

JON S. CORZINE
Governor

SUSAN BASS LEVIN
Commissioner

March 21, 2007

Langan Engineering and Environmental Services, Inc
River Dr
Center 1
Elmwood Park NJ 07407

Dear Vijay Patel:

This is to certify that the Department of Community Affairs has Reauthorized your firm to act as an ASBESTOS SAFETY CONTROL MONITOR.

Your Asbestos Safety Control Monitor number is 00099

EFFECTIVE DATE: April 1, 2007

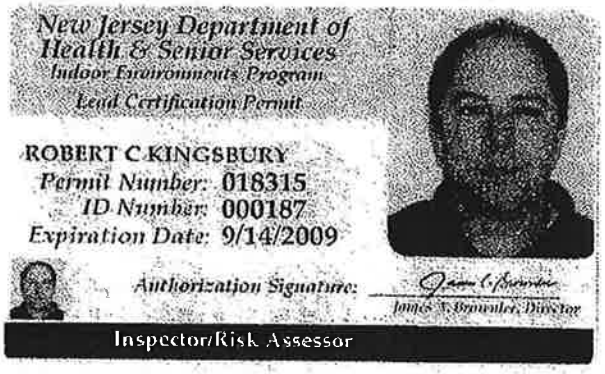
EXPIRATION DATE: March 31, 2008

Quarterly Fee statements must be sent to this Department no later than 30 days after the close of the quarter. If no payments are received during a quarter you must submit a zero statement to this Department.

Applications can be obtained at the following web address, www.state.nj.us/njbiz/f_list.shtml. **Please be aware that if you do not apply for reauthorization prior to your expiration date you will have to apply for an authorization.**

Sincerely,

Paul Lamberti
Asbestos Safety Unit


New Jersey Department of
Health & Senior Services
Indoor Environments Program
Lead Certification Permit
ROBERT C KINGSBURY
Permit Number: 018315
ID Number: 000187
Expiration Date: 9/14/2009
Authorization Signature:
James A. Brunsdale, Director
Inspector/Risk Assessor


New Jersey Department of
Health & Senior Services
Indoor Environments Program
Lead Certification Permit
ROBERT C KINGSBURY
Permit Number: 018126
ID Number: 000187
Expiration Date: 5/18/2009
Authorization Signature:
James A. Brunsdale, Director
Planner/Project Designer

19262

National Asbestos & Environmental Training Institute

CERTIFICATE OF COMPLETION

AHERA/EPA Accredited Per 40 CFR Part 763
Asbestos Accreditation under TSCA Title II

This is to certify that

Robert C. Kingsbury

Successfully completed the course entitled

1/2-Day New York State/EPA/AHERA Asbestos Building Inspector Annual Refresher on February 21, 2008

Examination Passed on February 21, 2008 *Expiration Date on February 21, 2009*

Doris L. Adler
President, NAETI

Per 10NYCRR Part 73.2 (L) (1); DOH 2832 Certificate of Completion of Asbestos Safety Training is the only official record of training for N.Y.S. students.

Language: English ABIH 1/2 CM POINT

3321 Doris Avenue, Building B, Ocean, NJ 07712 Phone (732) 531-5571 Fax (732) 531-5956 www.naeti.com

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UTHO, IN U.S.A.

19271

National Asbestos & Environmental Training Institute

CERTIFICATE OF COMPLETION

AHERA/EPA Accredited Per 40 CFR Part 763
Asbestos Accreditation under TSCA Title II

This is to certify that

Robert C. Kingsbury

Successfully completed the course entitled

1/2-Day New York State/EPA/AHERA Asbestos Management Planner Annual Refresher on February 21, 2008

Examination Passed on February 21, 2008 *Expiration Date on February 21, 2009*

Doris L. Adler
President, NAETI

Per 10 NYCRR Part 73.2 (L) (1), DOH-2832 Certificate of Completion of Asbestos Safety Training is the only official record of training for N.Y.S. students.

Language: English

ABIH 1/2 CM POINT

3321 Doris Avenue, Building B, Ocean, NJ 07712 Phone (732) 531-5571 Fax (732) 531-5956 www.naeti.com

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LITHO. IN U.S.A.

STATE OF NEW YORK - DEPARTMENT OF LABOR

ASBESTOS **CERTIFICATE**



VIJAY B PATEL
CLASS(EXPIRED)
C ATEC(05/12) D NSP(05/12)
E MGPL(05/12) H PM (05/12)
I PC (05/12)

CERT# 98-12523

MUST BE CARRIED ON ASBESTOS PROJECTS

NYC DEP Asbestos Control Program
Asbestos Certificate



BARAN,
MIROSLAW M
INVESTIGATOR
114570
EXPIRES: 6/21/2013
DOB:6/21/1972 M 5' 09"

Must be carried on all asbestos projects

STATE OF NEW YORK - DEPARTMENT OF LABOR
ASBESTOS CERTIFICATE



MIROSLAW M BARAN
CLASS(EXPIRES)
C/ATEC(06/12) D/INSP(06/12)
H PM/(06/12)

CERT# 03-03533
DMV# 521159326
MUST BE CARRIED ON ASBESTOS PROJECTS

United States Department of Commerce
National Institute of Standards and Technology

NVLAP®

Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 200546-0

AmeriSci New York
New York, NY

is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:

BULK ASBESTOS FIBER ANALYSIS

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated 18 June 2005).

2007-07-01 through 2008-06-30
Effective dates

Sally S. Bruce
For the National Institute of Standards and Technology

NVLAP-01C (REV. 2006-09-13)

National Voluntary Laboratory Accreditation Program

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

AmeriSci New York
DBA: AmeriSci New York
117 E. 30th Street
New York, NY 10016
Mr. Paul Mucha
Phone: 212-679-8600 Fax: 212-679-2711
E-Mail: pmucha@amerisci.com
URL: http://www.amerisci.com

BULK ASBESTOS FIBER ANALYSIS (PLM) **NVLAP LAB CODE 200546-0**

NVLAP Code	*Designation / Description*
18/A01	EPA-600/M4-82-020: Interim Method for the Determination of Asbestos in Bulk Insulation Samples

2007-07-01 through 2008-06-30
Effective dates

Sally S. Bruce
For the National Institute of Standards and Technology

NVLAP® National Voluntary Laboratory Accreditation Program

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

AmeriSci New York
DBA: AmeriSci New York
117 E. 30th Street
New York, NY 10016
Mr. Paul Mucha
Phone: 212-679-8600 Fax: 212-679-2711
E-Mail: pmucha@amerisci.com
URL: http://www.amerisci.com

BULK ASBESTOS FIBER ANALYSIS (PLM) **NVLAP LAB CODE 200546-0**

NVLAP Code	*Designation / Description*
18/A01	EPA-600/M4-82-020: Interim Method for the Determination of Asbestos in Bulk Insulation Samples

2011-07-01 through 2012-06-30
Effective dates

Sally S. Bruce
For the National Institute of Standards and Technology

United States Department of Commerce
National Institute of Standards and Technology

NVLAP®

Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 200546-0

AmeriSci New York
New York, NY

is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:

BULK ASBESTOS FIBER ANALYSIS

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).

2011-07-01 through 2012-06-30
Effective dates

Sally S. Bruce
For the National Institute of Standards and Technology

NVLAP-01C (REV. 2009-01-28)

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2012
Issued April 01, 2011

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MR. PAUL MUCHA
AMERICA SCIENCE TEAM NEW YORK INC
117 EAST 30TH ST
NEW YORK, NY 10016

NY Lab Id No: 11480
EPA Lab Code: NY01378

is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE
All approved subcategories and/or analytes are listed below:

Miscellaneous

Asbestos in Friable Material	EPA 600/M4/82/020
	Item 198.1 of Manual
Asbestos in Non-Friable Material-PLM	Item 198.6 of Manual (NOB by PLM)
Asbestos in Non-Friable Material-TEM	ITEM 198.4 OF MANUAL

Serial No.: 44322

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.

APPENDIX C

Concrete and Masonry Sample Laboratory Data Packages

Note: 2008 Samples DC-1, DC-2, BB, and BC and 2011 Samples B-1, C-1 through C-6, DC-1, and WC-1 pertain to this HAZMAT report. The remaining samples in the laboratory data packages were part of Langan's Site Investigation Report.

Hampton-Clarke, Inc.
veritech laboratories

NELAP Accredited

175 Route 46 West, Unit D
Fairfield, NJ 07004
(973) 244-9770
Federal ID: 222679402

Format: NJDEP-R

Project: Disney-Xanadu

PO Number: 1860001

Client: Langan Engineering & Environmental
River Drive Center 1
Elmwood Park, NJ 07407

Attn: K.McPartland

Samples submitted on: 2/15/2008

AC35821-001	AC35821-031
AC35821-002	AC35821-032
AC35821-003	AC35821-033
AC35821-004	AC35821-034
AC35821-005	AC35821-035
AC35821-006	AC35821-036
AC35821-007	AC35821-037
AC35821-008	
AC35821-009	
AC35821-010	
AC35821-011	
AC35821-012	
AC35821-013	
AC35821-014	
AC35821-015	
AC35821-016	
AC35821-017	
AC35821-018	
AC35821-019	
AC35821-020	
AC35821-021	
AC35821-022	
AC35821-023	
AC35821-024	
AC35821-025	
AC35821-026	
AC35821-027	
AC35821-028	
AC35821-029	
AC35821-030	

Date: 3/18/2008

HCI Project: 8021511

This report is a true report of results obtained from our tests of this material. In lieu of a formal contract document, the total aggregate liability of Veritech to all parties shall not exceed Veritech's total fee for analytical services rendered.

Jeri Rossi - Quality Assurance Director

Or

Stanley Gilewicz - Laboratory Director

HC·V
HAMPTONCLARKE·VERITECH

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Verite[illegible] ivision of Hampton-Clarke — CHAIN C[illegible]USTODY RECORD

175 US Hwy 46 West, Fairfield, New Jersey 07004 Ph: 800-426-9992 fax:973-439-1458

Project#(Lab Use Only): 8021511 — Page 1 of 4

Customer Information

1a) Customer: Langan Eng & Envir. Services
Address: River Drive Center One, Elmwood Park, NJ 07407
1b) ~~Email/Cell/Fax~~/Ph: 201-961-4670 Fax: 201-961-3600
1c) Send Invoice To: Keith McPartland
1d) Send Report To: Keith McPartland

Project Information

2a) Project: Disney - Xanadu
2b) Project Manager: Bob Koto
2c) Location (City/State): East Rutherford, NJ
2d) Quote#/PO# (If Applicable): 1860001

3) Reporting Requirements (please circle)

Turnaround Time	Report type	Electronic Deliv
24-Hour(100%)	Data Sum	~~Hazsite/Csv~~
48-Hour(75%)	Waste	Equis
72-Hour(50%)	~~Red-NJ~~/NY/PA	~~Excel-NJDEP~~
1-Week(25%)	CLP	Excel-Nytagm
10 Days(10%)	Full/Cat-B	Excel-PAActII
~~Standard~~	Cat-A	PDF
Other:	Other:	Other:

Expedited TAT Not always available (Please check with lab)!

7) Analysis Request

FOR LAB USE ONLY — Batch# AC35821

Matrix Codes: DW-Drinking Water; GW-Ground Water; WW-Waste Water; S-Soil; SL-Sludge; O-Oil; A-Air; Ot-Other

Check if Contingent===> <===Check if Contingent

Lab Sample#	4) Customer Sample ID	5) Matrix	6) Sample Date	6) Sample Time	Sample Type: Composite(C)	Sample Type: Grab(G)	PCBs	PAHs	TPH	PP+40	BN	Sb	As	Ba	Cu	Pb	Zn	8) # Of Bottles: None	MeOH	Encore	NaOH	HCl	H2SO4	HNO3	Other:	9) Methanol Bottle Numbers (If applicable) / Comments
-001	E-1F	S	2/14/08	10:20		X	X	X	X	WM								1								
-002	E-1N			10:25		X	X	X	X	WM								1								HOLD
-003	C-1F			11:01		X			X	X								1	1							51312
-004	C-1N			11:07		X			X	X	(A)							1	1							HOLD 51311
-005	C-2F			12:41		X			X	X								1	1							51293
-006	C-2N			12:59		X			X	X		(A)				(A)		1	1							HOLD 51290
-007	C-3F			13:52		X			X	X								1	1							51302
-008	C-3N			13:58		X			X	X								1	1							HOLD 51284
-009	C-4F			14:43		X			X	X								1	1							51301
-010	C-4N			14:45		X			X	X								1	1							HOLD 51299

10) Relinquished By:	Accepted By	Date	Time
Teague Al	[signature]	2/15/08	12:25
[signature]	C. Arena	2/15/08	13:55

Comments, Notes, Special Requirements, HAZARDS

All MDLs below NJDEP Soil Cleanup Criteria
Samples marked as "HOLD" please Extract + Hold
Per Keith McPartland run the "Fill" Vo samples on a 4wk TAT 2/18
(A) Activated per Keith McPartland on a Standard TAT pe MD 2/15/18 2/15/18

11) Sampler: T. Al Date: 2/14/08

Cooler Tmp: 3.7 / 3.8

Please note NUMBERED items. If not completed your analytical work may be delayed.
A fee of $5/sample will be assessed for storage should sample not be activated for any analysis

Veritech/Division of Hampton-Clarke — **CHAIN OF CUSTODY RECORD** — Project#(Lab Use Only) — Page 2 of 4

175 US Hwy 46 West, Fairfield, New Jersey 07004 Ph: 800-426-9992 fax:973-439-1458

Customer Information

1a) Customer: Langan Eng + Envir. Services
Address: River Drive Center One
Elmwood Park, NJ 07407
1b) ~~Email/Cell/Fax~~Ph: 201-794-6900 Fax: 201-794-0366
1c) Send Invoice To: Keith McPartland
1d) Send Report To: Keith McPartland

Project Information

2a) Project: Disney - Xanadu
2b) Project Manager: Bob Kato
2c) Location (City/State): East Rutherford, NJ
2d) Quote#/PO# (If Applicable): 1BG0001

3) Reporting Requirements(please circle)

Turnaround Time	Report type	Electronic Deliv
24-Hour(100%)	Data Sum	~~Hazsite/Csv~~
48-Hour(75%)	Waste	Equis
72-Hour(50%)	~~Res-NJ/NY~~/PA	~~Excel-NJCL~~
1-Week(25%)	CLP	Excel-Nytagm
10 Days(10%)	Full/Cat-B	Excel-PAActII
~~Standard~~	Cat-A	PDF
Other:	Other:	Other:

Expedited TAT Not always available (Please check with lab)!

7) Analysis Request

FOR LAB USE ONLY — Batch# AC35821

Check if Contingent===> <===Check if Contingent

Matrix Codes: DW-Drinking Water; GW-Ground Water; WW-Waste Water; S-Soil; SL-Sludge; O-Oil; A-Air; Ot-Other

Lab Sample#	4) Customer Sample ID	5) Matrix	6) Sample Date	6) Sample Time	Sample Type: Composite(C)	Sample Type: Grab(G)	TPH	PP+40	BN	Sb	As	Ba	Cu	Pb	Zn	PCB	8) # Of Bottles: None	MeOH	Encore	NaOH	HCl	H2SO4	HNO3	Other:	9) Methanol Bottle Numbers (If applicable) / Comments
-011	C-5F	S	2/14/08	16:00		X	X	X									1	1							51296
-012	C-5N (A)			16:05		X	X	X		(A)	(A)			(A)		(A)	1	1							HOLD 51286
-013	C-6F			16:24		X	X	X									1	1							51287
-014	C-6N (A)			16:30		X	X	X	(A)	(A)				(A)	(A)	(A)	1	1							HOLD 51294
-015	E-1F			15:40		X	X	X									1	1							51292
-016	E-1N (A)			15:43		X	X	X	(A)	(A)		(A)	(A)	(A)	(A)	(A)	1	1							HOLD 51289
-017	E-2F			15:08		X	X	X									1	1							51297
-018	E-2N (A)			15:00		X	X	X	(A)							(A)	1	1							HOLD 51291
-019	F-3F			14:10		X	X	X									1	1							51300
-020	F-3N	↓	↓	14:15		X	X	X									1	1							HOLD 51288

10) Relinquished By:	Accepted By	Date	Time
T. Alcorn	[signature]	2/15/08	12:25
[signature]	C. Arena	2/15/08	13:55

Comments, Notes, Special Requirements, HAZARDS

All MDLs below NJDEP Soil Cleanup Criteria

Samples marked as "HOLD" please Extract + Hold Per Keith McPartland run the "Fill" VOA samples on a 1wk TAT 2/19/8

(A) Activated Per Keith McPartland on a Standard TAT

11) Sampler: T. Alcorn Date: 2/14/08

Please note NUMBERED items. If not completed your analytical work may be delayed.
A fee of $5/sample will be assessed for storage should sample not be activated for any analysis

Cooler Temp: 3.7 / 3.8

Verite Division of Hampton-Clarke — CHAIN OF CUSTODY RECORD

175 US Hwy 46 West, Fairfield, New Jersey 07004 Ph: 800-426-9992 fax:973-439-1458

Project#(Lab Use Only)

Page 1 of 4

Customer Information

1a) Customer: Langan Eng + Envir Services
Address: River Drive Center One
Elmwood Park, NJ 07407
1b) ~~Email/Cell/Fax~~Ph: 201-794-6900 Fax: 201-794-0366
1c) Send Invoice To: Keith McPartland
1d) Send Report To: Keith McPartland

Project Information

2a) Project: Disney - Xanadu
2b) Project Manager: Bob Kato
2c) Location (City/State): East Rutherford, NJ
2d) Quote#/PO# (If Applicable): 1660001

3) Reporting Requirements(please circle)

Turnaround Time	Report type	Electronic Deliv
24-Hour(100%)	Data Sum	~~Hazsite/Csv~~
48-Hour(75%)	Waste	Equis
72-Hour(50%)	~~Red-NJ/NY/PA~~	~~EXCELNYSG~~
1-Week(25%)	CLP	Excel-Nytagm
10 Days(10%)	Full/Cat-B	Excel-PAActII
~~Standard~~	Cat-A	PDF
Other:_____	Other:_____	Other:_____

Expedited TAT Not always available (Please check with lab)!

7) Analysis Request

FOR LAB USE ONLY — Batch# AC35821

Check if Contingent===> <===Check if Contingent

Matrix Codes: DW-Drinking Water; GW-Ground Water; WW-Waste Water; S-Soil; SL-Sludge; O-Oil; A-Air; Ot-Other

Lab Sample#	4) Customer Sample ID	5) Matrix	6) Sample Date	6) Sample Time	Sample Type: Composite(C)	Sample Type: Grab(G)	TPH	PP+40	PCBs	8) # Of Bottles: None	MeOH	Encore	NaOH	HCl	H_2SO_4	HNO_3	Other:	9) Methanol Bottle Numbers (If applicable) / Comments
-021	F-4F	S	2/14/08	13:16		X	X	X		1	1							51306
-022	F-4N			13:20		X	X	X		1	1							HOLD 51285
-023	F-5F			12:15		X	X	X		1	1							51310
-024	F-5N			12:08		X	X	X		1	1							HOLD 51295
-025	F-6F			11:25		X	X	X		1	1							51283
-026	F-6N			11:42		X	X	X		1	1							HOLD 51304
-027	D-1			11:00		X			X	1								
-028	D-2			11:02		X			X	1								
-029	D-3			11:04		X			X	1								
-030	D-4	↓	↓	11:06		X			X	1								

10) Relinquished By:	Accepted By	Date	Time
Teague Ali	[signature]	2/15/08	12:25
[signature]	C Rivera	2/15/08	13:55

Comments, Notes, Special Requirements, HAZARDS

All MDLs below NJDEP Soil Clean-up Criteria
Samples Marked as "HOLD" please extract + Hold.
Per Keith McPartland run the "Full" VO samples on a 1wk TAT 2/15/08

Cooler Tmp: 3.7 / 3.8

11) Sampler: T. Ali Date: 2/14/08

Please note NUMBERED items. If not completed your analytical work may be delayed.
A fee of $5/sample will be assessed for storage should sample not be activated for any analysis

Veritech/Division of Hampton-Clarke — **CHAIN OF CUSTODY RECORD** — Project#(Lab Use Only) — Page 4 of 4

175 US Hwy 46 West, Fairfield, New Jersey 07004 Ph: 800-426-9992 fax:973-439-1458

Customer Information

1a) Customer: Langan Eng + Envir. Services
Address: River Drive Center One, Elmwood Park, NJ 07407
1b) ~~Email/Cell/Fax~~/Ph: 201-794-6900 Fax: 201-794-0366
1c) Send Invoice To: Keith McPartland
1d) Send Report To: Keith McPartland

Project Information

2a) Project: Disney - Xanadu
2b) Project Manager: Bob Koto
2c) Location (City/State): East Rutherford, NJ
2d) Quote#/PO# (If Applicable): 1860001

3) Reporting Requirements(please circle)

Turnaround Time	Report type	Electronic Deliv
24-Hour(100%)	Data Sum	~~HazSite/Gov~~
48-Hour(75%)	Waste	Equis
72-Hour(50%)	~~Red-Nd/NY/PA~~	~~Excel-NJCC~~
1-Week(25%)	CLP	Excel-Nytagm
10 Days(10%)	Full/Cat-B	Excel-PAActII
~~Standard~~	Cat-A	PDF
Other:_____	Other:_____	Other:_____

Expedited TAT Not always available (Please check with lab)!

7) Analysis Request

FOR LAB USE ONLY — Batch# AC35821

Check if Contingent===> <===Check if Contingent

Matrix Codes: DW-Drinking Water, GW-Ground Water, WW-Waste Water, S-Soil, SL-Sludge, O-Oil, A-Air, Ot-Other

Lab Sample#	4) Customer Sample ID	5) Matrix	6) Sample Date	6) Sample Time	Sample Type: Composite(C)	Sample Type: Grab(G)	PCBs	PAHs	TPH	BNA-25	CN	Pest/PCBs	Phenol	PP Metals	TPH	VO	8) # Of Bottles: None	MeOH	Encore	NaOH	HCl	H_2SO_4	HNO_3	Other:	9) Methanol Bottle Numbers (If applicable) / Comments
-031	D-5	S	2/14/08	11:08		X	X										1								
-032	DC-1	Ot		11:10		X	X										1								
-033	DC-2	Ot		11:12		X	X										1								
-034	BC	↓		14:00		X	X	X	X								1								
-035	BB	↓		14:05		X	X	X	X								1								
-036	FB	Ot		14:35		X				X	X	X	X	X	X	X	4			1	5	1	1		
-037	TB	↓	↓	—		-										X		1							51309

10) Relinquished By:	Accepted By	Date	Time
Teague Ali	[signature]	2/15/08	12:25
[signature]	C Arena	2/15/08	13:55

Comments, Notes, Special Requirements, HAZARDS

All MDLs below NJDEP Soil Clean-up Criteria

Cooler Tmp: 3.7 / 3.8

11) Sampler: T. Ali Date: 2/14/08

Please note NUMBERED items. If not completed your analytical work may be delayed.
A fee of $[illegible] per sample will be assessed for storage should sample not be activated for any analysis

Methanol Bottle Report

Lab#:	Bottle Number	Client Sample ID	Date Shipped	Empty Bottle Wght	Returned Bottle Wght	Wght Difference
AC35821-003	51312	C-1F	02/13/08	35.36	40.87	5.51
AC35821-005	51293	C-2F	02/13/08	35.36	41.52	6.16
AC35821-006	51311	C-2N	02/13/08	35.8	39.89	4.09
AC35821-007	51302	C-3F	02/13/08	35.42	43.16	7.74
AC35821-008	51290	C-3N	02/13/08	35.39	43.22	7.83
AC35821-009	51301	C-4F	02/13/08	35.39	43.79	8.40
AC35821-010	51284	C-4N	02/13/08	36.02	43.51	7.49
AC35821-011	51296	C-5F	02/13/08	35.99	40.95	4.96
AC35821-012	51299	C-5N	02/13/08	35.31	39.83	4.52
AC35821-013	51287	C-6F	02/13/08	35.25	39.84	4.59
AC35821-014	51286	C-6N	02/13/08	36.01	40.12	4.11
AC35821-015	51292	F-1F	02/13/08	35.36	41.42	6.06
AC35821-016	51294	F-1N	02/13/08	35.89	40.47	4.58
AC35821-017	51297	F-2F	02/13/08	35.81	40.05	4.24
AC35821-018	51289	F-2N	02/13/08	35.85	40.12	4.27
AC35821-019	51300	F-3F	02/13/08	35.52	40.69	5.17
AC35821-020	51291	F-3N	02/13/08	35.48	40.75	5.27
AC35821-021	51306	F-4F	02/13/08	35.48	40.7	5.22
AC35821-022	51288	F-4N	02/13/08	35.69	40.38	4.69
AC35821-023	51310	F-5F	02/13/08	35.2	40.34	5.14
AC35821-024	51285	F-5N	02/13/08	35.43	41.4	5.97
AC35821-025	51283	F-6F	02/13/08	36.07	40.8	4.73
AC35821-026	51295	F-6N	02/13/08	35.41	39.54	4.13
AC35821-037	51309	TB	02/13/08	35.94	36.37	0.43

CONDITION UPON RECEIPT

Batch Number AC35821

Entered By: children

Date Entered 2/15/2008 2:37:00 PM

1	Yes	Is there a corresponding COC included with the samples?
2	Yes	Are the samples in a container such as a cooler or ice chest?
3	Yes	Are the COC seals intact?
4	Yes	Please specify the Temperature inside the container 3.7,3.8
5	Yes	Are the samples refrigerated (where required)/have they arrived on ice?
6	Yes	Are the samples within the holding times for the parameters listed on the COC? IF no, list parameters and samples:
7	Yes	Are all of the sample bottles intact? If no, specify sample numbers broken/leaking
8	Yes	Are all of the sample labels or numbers legible? If no specify:
9	Yes	Do the contents match the COC? If no, specify
10	Yes	Is there enough sample sent for the analyses listed on the COC? If no, specify:
11	Yes	Are samples preserved correctly?
12	Yes	Are all soils preserved in methanol accompanied by dry soil?
13	NA	Other comments ...Specify
14	NA	Corrective actions (Specify item number and corrective action taken).

PRESERVATION DOCUMENT

Batch Number AC35821

Entered By: children

Date Entered 2/15/2008 2:38:00 PM

Lab#:	Container Siz	Container Typ	Parameter	Preservative	PH
AC35821-001	NA	NA	NA	NA	NA
AC35821-002	NA	NA	NA	NA	NA
AC35821-003	NA	NA	NA	NA	NA
AC35821-004	NA	NA	NA	NA	NA
AC35821-005	NA	NA	NA	NA	NA
AC35821-006	NA	NA	NA	NA	NA
AC35821-007	NA	NA	NA	NA	NA
AC35821-008	NA	NA	NA	NA	NA
AC35821-009	NA	NA	NA	NA	NA
AC35821-010	NA	NA	NA	NA	NA
AC35821-011	NA	NA	NA	NA	NA
AC35821-012	NA	NA	NA	NA	NA
AC35821-013	NA	NA	NA	NA	NA
AC35821-014	NA	NA	NA	NA	NA
AC35821-015	NA	NA	NA	NA	NA
AC35821-016	NA	NA	NA	NA	NA
AC35821-017	NA	NA	NA	NA	NA
AC35821-018	NA	NA	NA	NA	NA
AC35821-019	NA	NA	NA	NA	NA
AC35821-020	NA	NA	NA	NA	NA
AC35821-021	NA	NA	NA	NA	NA
AC35821-022	NA	NA	NA	NA	NA
AC35821-023	NA	NA	NA	NA	NA
AC35821-024	NA	NA	NA	NA	NA
AC35821-025	NA	NA	NA	NA	NA
AC35821-026	NA	NA	NA	NA	NA
AC35821-027	NA	NA	NA	NA	NA
AC35821-028	NA	NA	NA	NA	NA
AC35821-029	NA	NA	NA	NA	NA
AC35821-030	NA	NA	NA	NA	NA
AC35821-031	NA	NA	NA	NA	NA
AC35821-032	NA	NA	NA	NA	NA
AC35821-033	NA	NA	NA	NA	NA
AC35821-034	NA	NA	NA	NA	NA
AC35821-035	NA	NA	NA	NA	NA
AC35821-036	40ML	G	VO+10	HCL	1
AC35821-036	500ML	G	PHENOL	H2SO4	1
AC35821-036	500ML	G	CN	NaOH	14
AC35821-036	1L	P	METALS	HNO3	1
AC35821-036	1L	G	PEST/PCB	NONE	7
AC35821-036	1L	G	TPH	HCL	1
AC35821-037	NA	NA	NA	NA	NA

Internal Chain of Custody

Lab#:	DateTime:	Loc or User	Bot Nu	A/M	Analysis
5821-001	02/19/08 05:28	SW	1	A	TPH/MIXED
A 5821-001	02/19/08 06:40	R12	1	A	NONE
AC35821-001	02/19/08 07:33	PA	1	A	MIXING
AC35821-001	02/19/08 07:44	KW	1	A	MIXED/P/P
A 5821-001	02/19/08 10:41	ER	1	A	% solids
A 5821-001	02/19/08 10:44	R12	1	A	NONE
A 5821-001	02/19/08 21:17	MEGH	1	A	BNA-S
AC35821-001	02/19/08 21:17	R12	1	A	NONE
AC35821-002	02/19/08 07:44	KW	1	A	MIXED/P/P
A 5821-002	02/19/08 11:59	R12	1	A	NONE
A 5821-002	02/19/08 21:17	MEGH	1	A	BNA-S
AC35821-002	02/19/08 21:17	R12	1	A	NONE
AC35821-002	02/20/08 20:06	MD	1	A	TPH
A 5821-002	02/20/08 20:07	R12	1	A	NONE
A 5821-003	02/19/08 08:27	SG	1	M	VOA
A 5821-003	02/19/08 09:30	R3	1	M	NONE
AC35821-003	02/20/08 08:45	SG	1	M	VOA
AC35821-003	02/20/08 09:48	R3	1	M	NONE
A 5821-003	02/19/08 05:28	SW	2	A	TPH/MIXED
A 5821-003	02/19/08 06:40	R12	2	A	NONE
AC35821-003	02/19/08 07:33	PA	2	A	MIXING
AC35821-003	02/19/08 07:45	KW	2	A	P/P
A 5821-003	02/19/08 10:41	ER	2	A	% solids
A 5821-003	02/19/08 10:44	R12	2	A	NONE
A 5821-003	02/19/08 21:17	R12	2	A	NONE
AC35821-003	02/19/08 21:17	MEGH	2	A	BNA-S
AC35821-003	02/21/08 11:19	HS	2	A	CN-S
A 5821-003	02/21/08 16:16	R12	2	A	NONE
A 5821-003	02/26/08 07:51	BCT	2	A	phenol
AC35821-003	02/26/08 15:16	R12	2	A	NONE
AC35821-003	02/27/08 08:14	R12	2	A	NONE
A 5821-003	02/27/08 11:30	SRB	2	A	tdsi-hg
A 5821-003	02/27/08 15:04	R12	2	A	NONE
A 5821-004	02/19/08 07:44	KW	2	A	MIXED/P/P
A 5821-004	02/19/08 11:59	R12	2	A	NONE
21-004	02/19/08 21:17	MEGH	2	A	BNA-S
821-004	02/19/08 21:17	R12	2	A	NONE
A 5821-004	02/20/08 20:06	MD	2	A	TPH
AC35821-004	02/20/08 20:07	R12	2	A	NONE
AC35821-004	03/04/08 09:12	SDL	2	A	MIXING
A 5821-004	03/04/08 10:00	ER	2	A	% SOLIDS
A 5821-004	03/04/08 11:28	R12	2	A	NONE
A 5821-005	02/19/08 08:27	SG	1	M	VOA
AC35821-005	02/19/08 09:30	R3	1	M	NONE
AC35821-005	02/19/08 05:28	SW	2	A	TPH/MIXED
A 5821-005	02/19/08 06:40	R12	2	A	NONE
A 5821-005	02/19/08 07:33	PA	2	A	MIXING
AC35821-005	02/19/08 07:45	KW	2	A	P/P
AC35821-005	02/19/08 10:41	ER	2	A	% solids
A 5821-005	02/19/08 10:44	R12	2	A	NONE
A 5821-005	02/19/08 21:17	MEGH	2	A	BNA-S
A 5821-005	02/19/08 21:17	R12	2	A	NONE
AC35821-005	02/21/08 11:19	HS	2	A	CN-S
AC35821-005	02/21/08 16:16	R12	2	A	NONE
A 5821-005	02/26/08 07:51	BCT	2	A	phenol
A 5821-005	02/26/08 15:16	R12	2	A	NONE
AC35821-005	02/27/08 11:30	SRB	2	A	tdsi-hg
AC35821-005	02/27/08 15:04	R12	2	A	NONE
A 5821-006	02/19/08 07:44	KW	2	A	MIXED/P/P
A 5821-006	02/19/08 11:59	R12	2	A	NONE
A 5821-006	02/19/08 21:17	MEGH	2	A	BNA-S
AC35821-006	02/19/08 21:17	R12	2	A	NONE
AC35821-006	02/20/08 20:06	MD	2	A	TPH
A 5821-006	02/20/08 20:07	R12	2	A	NONE
A 5821-006	03/04/08 09:12	SDL	2	A	MIXING
AC35821-006	03/04/08 10:00	ER	2	A	% SOLIDS
AC35821-006	03/04/08 10:05	SRB	2	A	tdsi
A 5821-006	03/04/08 11:53	R12	2	A	NONE
A 5821-007	02/19/08 08:27	SG	1	M	VOA
A 5821-007	02/19/08 09:30	R3	1	M	NONE
AC35821-007	02/19/08 05:28	SW	2	A	TPH/MIXED
21-007	02/19/08 06:40	R12	2	A	NONE
21-007	02/19/08 07:33	PA	2	A	MIXING
A 5821-007	02/19/08 07:44	KW	2	A	MIXED/P/P
AC35821-007	02/19/08 10:41	ER	2	A	% solids
AC35821-007	02/19/08 10:44	R12	2	A	NONE

Lab#:	DateTime:	Loc or User	Bot Nu	A/M	Analysis
AC35821-007	02/19/08 21:17	MEGH	2	A	BNA-S
AC35821-007	02/19/08 21:17	R12	2	A	NONE
AC35821-007	02/21/08 11:19	HS	2	A	CN-S
AC35821-007	02/21/08 16:16	R12	2	A	NONE
AC35821-007	02/27/08 11:30	SRB	2	A	tdsi-hg
AC35821-007	02/27/08 15:04	R12	2	A	NONE
AC35821-007	02/28/08 07:32	BCT	2	A	phenol
AC35821-007	02/28/08 14:53	R12	2	A	NONE
AC35821-008	02/19/08 07:44	KW	2	A	MIXED/P/P
AC35821-008	02/19/08 11:59	R12	2	A	NONE
AC35821-008	02/19/08 21:17	MEGH	2	A	BNA-S
AC35821-008	02/19/08 21:17	R12	2	A	NONE
AC35821-008	02/20/08 20:06	MD	2	A	TPH
AC35821-008	02/20/08 20:07	R12	2	A	NONE
AC35821-009	02/19/08 08:27	SG	1	M	VOA
AC35821-009	02/19/08 09:30	R3	1	M	NONE
AC35821-009	02/19/08 05:28	SW	2	A	TPH/MIXED
AC35821-009	02/19/08 06:40	R12	2	A	NONE
AC35821-009	02/19/08 07:33	PA	2	A	MIXING
AC35821-009	02/19/08 07:44	KW	2	A	MIXED/P/P
AC35821-009	02/19/08 10:41	ER	2	A	% solids
AC35821-009	02/19/08 10:44	R12	2	A	NONE
AC35821-009	02/19/08 21:17	MEGH	2	A	BNA-S
AC35821-009	02/19/08 21:17	R12	2	A	NONE
AC35821-009	02/21/08 11:19	HS	2	A	CN-S
AC35821-009	02/21/08 16:16	R12	2	A	NONE
AC35821-009	02/27/08 11:30	SRB	2	A	tdsi-hg
AC35821-009	02/27/08 15:04	R12	2	A	NONE
AC35821-009	02/28/08 07:32	BCT	2	A	phenol
AC35821-009	02/28/08 14:53	R12	2	A	NONE
AC35821-010	02/19/08 07:44	KW	2	A	MIXED/P/P
AC35821-010	02/19/08 11:59	R12	2	A	NONE
AC35821-010	02/19/08 21:17	MEGH	2	A	BNA-S
AC35821-010	02/19/08 21:17	R12	2	A	NONE
AC35821-010	02/20/08 20:06	MD	2	A	TPH
AC35821-010	02/20/08 20:07	R12	2	A	NONE
AC35821-011	02/19/08 08:27	SG	1	M	VOA
AC35821-011	02/19/08 09:30	R3	1	M	NONE
AC35821-011	02/19/08 05:28	SW	2	A	TPH/MIXED
AC35821-011	02/19/08 06:40	R12	2	A	NONE
AC35821-011	02/19/08 07:33	PA	2	A	MIXING
AC35821-011	02/19/08 07:45	KW	2	A	P/P
AC35821-011	02/19/08 10:41	ER	2	A	% solids
AC35821-011	02/19/08 10:44	R12	2	A	NONE
AC35821-011	02/19/08 21:17	MEGH	2	A	BNA-S
AC35821-011	02/19/08 21:17	R12	2	A	NONE
AC35821-011	02/22/08 11:28	HS	2	A	CN-S
AC35821-011	02/22/08 15:38	R12	2	A	NONE
AC35821-011	02/27/08 11:30	SRB	2	A	tdsi-hg
AC35821-011	02/27/08 15:04	R12	2	A	NONE
AC35821-011	02/28/08 07:32	BCT	2	A	phenol
AC35821-011	02/28/08 14:53	R12	2	A	NONE
AC35821-012	02/19/08 07:44	KW	2	A	MIXED/P/P
AC35821-012	02/19/08 11:59	R12	2	A	NONE
AC35821-012	02/19/08 21:17	MEGH	2	A	BNA-S
AC35821-012	02/19/08 21:17	R12	2	A	NONE
AC35821-012	02/20/08 20:06	MD	2	A	TPH
AC35821-012	02/20/08 20:07	R12	2	A	NONE
AC35821-012	03/04/08 09:12	SDL	2	A	MIXING
AC35821-012	03/04/08 10:00	ER	2	A	% SOLIDS
AC35821-012	03/04/08 10:05	SRB	2	A	tdsi
AC35821-012	03/04/08 11:53	R12	2	A	NONE
AC35821-013	02/19/08 08:27	SG	1	M	VOA
AC35821-013	02/19/08 09:30	R3	1	M	NONE
AC35821-013	02/20/08 08:45	SG	1	M	VOA
AC35821-013	02/20/08 09:48	R3	1	M	NONE
AC35821-013	02/19/08 05:28	SW	2	A	TPH/MIXED
AC35821-013	02/19/08 06:40	R12	2	A	NONE
AC35821-013	02/19/08 07:33	PA	2	A	MIXING
AC35821-013	02/19/08 07:45	KW	2	A	P/P
AC35821-013	02/19/08 10:41	ER	2	A	% solids
AC35821-013	02/19/08 10:44	R12	2	A	NONE
AC35821-013	02/19/08 21:17	MEGH	2	A	BNA-S
AC35821-013	02/19/08 21:17	R12	2	A	NONE
AC35821-013	02/22/08 11:28	HS	2	A	CN-S
AC35821-013	02/22/08 15:38	R12	2	A	NONE

Internal Chain of Custody

Lab#:	DateTime:	Loc or User	Bot Nu	A/M	Analysis
A 5821-013	02/27/08 11:30	SRB	2	A	tdsi-hg
A 5821-013	02/27/08 15:04	R12	2	A	NONE
AC35821-013	02/28/08 07:32	BCT	2	A	phenol
AC35821-013	02/28/08 14:53	R12	2	A	NONE
A 5821-014	02/19/08 07:44	KW	2	A	MIXED/P/P
A 5821-014	02/19/08 11:59	R12	2	A	NONE
A 5821-014	02/19/08 21:17	MEGH	2	A	BNA-S
AC35821-014	02/19/08 21:17	R12	2	A	NONE
AC35821-014	02/20/08 20:06	MD	2	A	TPH
A 5821-014	02/20/08 20:07	R12	2	A	NONE
A 5821-014	03/04/08 10:00	ER	2	A	% SOLIDS
AC35821-014	03/04/08 10:05	SRB	2	A	tdsi
AC35821-014	03/04/08 11:53	R12	2	A	NONE
A 5821-015	02/19/08 08:27	SG	1	M	VOA
A 5821-015	02/19/08 09:30	R3	1	M	NONE
A 5821-015	02/20/08 08:45	SG	1	M	VOA
AC35821-015	02/20/08 09:48	R3	1	M	NONE
AC35821-015	02/19/08 05:28	SW	2	A	TPH/MIXED
A 5821-015	02/19/08 06:40	R12	2	A	NONE
A 5821-015	02/19/08 07:33	PA	2	A	MIXING
AC35821-015	02/19/08 07:45	KW	2	A	P/P
AC35821-015	02/19/08 10:41	ER	2	A	% solids
A 5821-015	02/19/08 10:44	R12	2	A	NONE
A 5821-015	02/19/08 21:17	MEGH	2	A	BNA-S
A 5821-015	02/19/08 21:17	R12	2	A	NONE
AC35821-015	02/22/08 11:28	HS	2	A	CN-S
AC35821-015	02/22/08 15:38	R12	2	A	NONE
A 5821-015	02/27/08 11:30	SRB	2	A	tdsi-hg
A 5821-015	02/27/08 15:04	R12	2	A	NONE
AC35821-015	02/28/08 07:32	BCT	2	A	phenol
AC35821-015	02/28/08 14:53	R12	2	A	NONE
A 5821-016	02/19/08 07:44	KW	2	A	MIXED/P/P
A 5821-016	02/19/08 11:59	R12	2	A	NONE
A 5821-016	02/19/08 21:17	MEGH	2	A	BNA-S
AC35821-016	02/19/08 21:17	R12	2	A	NONE
AC35821-016	02/20/08 20:06	MD	2	A	TPH
A 5821-016	02/20/08 20:07	R12	2	A	NONE
A 5821-016	03/04/08 09:12	SDL	2	A	MIXING
AC35821-016	03/04/08 10:00	ER	2	A	% SOLIDS
AC35821-016	03/04/08 10:05	SRB	2	A	tdsi
A 5821-016	03/04/08 11:53	R12	2	A	NONE
A 5821-017	02/19/08 08:27	SG	1	M	VOA
A 5821-017	02/19/08 09:30	R3	1	M	NONE
AC35821-017	02/19/08 05:28	SW	2	A	TPH/MIXED
AC35821-017	02/19/08 06:40	R12	2	A	NONE
A 5821-017	02/19/08 07:33	PA	2	A	MIXING
A 5821-017	02/19/08 10:41	ER	2	A	% solids
AC35821-017	02/19/08 10:44	R12	2	A	NONE
AC35821-017	02/19/08 21:12	MD	2	A	PEST/PCB/MIXED
A 5821-017	02/19/08 21:13	R12	2	A	NONE
A 5821-017	02/19/08 21:17	MEGH	2	A	BNA-S
A 5821-017	02/19/08 21:17	R12	2	A	NONE
AC35821-017	02/22/08 11:28	HS	2	A	CN-S
AC35821-017	02/22/08 15:38	R12	2	A	NONE
A 5821-017	02/27/08 11:30	SRB	2	A	tdsi-hg
A 5821-017	02/27/08 15:04	R12	2	A	NONE
AC35821-017	02/28/08 07:32	BCT	2	A	phenol
AC35821-017	02/28/08 14:53	R12	2	A	NONE
A 5821-018	02/19/08 21:12	MD	2	A	PEST/PCB
A 5821-018	02/19/08 21:13	R12	2	A	NONE
A 5821-018	02/19/08 21:17	MEGH	2	A	BNA-S
AC35821-018	02/19/08 21:17	R12	2	A	NONE
AC35821-018	02/20/08 20:06	MD	2	A	TPH
A 5821-018	02/20/08 20:07	R12	2	A	NONE
A 5821-018	03/04/08 09:12	SDL	2	A	MIXING
AC35821-018	03/04/08 10:00	ER	2	A	% SOLIDS
AC35821-018	03/04/08 11:28	R12	2	A	NONE
A 5821-019	02/19/08 08:27	SG	1	M	VOA
A 5821-019	02/19/08 09:30	R3	1	M	NONE
A 5821-019	02/19/08 05:28	SW	2	A	TPH/MIXED
AC35821-019	02/19/08 06:40	R12	2	A	NONE
AC35821-019	02/19/08 07:33	PA	2	A	MIXING
A 5821-019	02/19/08 10:41	ER	2	A	% solids
A 5821-019	02/19/08 10:44	R12	2	A	NONE
AC35821-019	02/19/08 21:12	MD	2	A	PEST/PCB
AC35821-019	02/19/08 21:13	R12	2	A	NONE

Lab#:	DateTime:	Loc or User	Bot Nu	A/M	Analysis
AC35821-019	02/22/08 06:03	CJC	2	A	BN
AC35821-019	02/22/08 06:06	R12	2	A	NONE
AC35821-019	02/22/08 11:28	HS	2	A	CN-S
AC35821-019	02/22/08 15:38	R12	2	A	NONE
AC35821-019	02/27/08 11:30	SRB	2	A	tdsi-hg
AC35821-019	02/27/08 15:04	R12	2	A	NONE
AC35821-019	02/28/08 07:32	BCT	2	A	phenol
AC35821-019	02/28/08 14:53	R12	2	A	NONE
AC35821-020	02/19/08 21:12	MD	2	A	PEST/PCB/MIXED
AC35821-020	02/19/08 21:13	R12	2	A	NONE
AC35821-020	02/20/08 20:06	MD	2	A	TPH
AC35821-020	02/20/08 20:07	R12	2	A	NONE
AC35821-020	02/22/08 06:03	CJC	2	A	BN
AC35821-020	02/22/08 06:06	R12	2	A	NONE
AC35821-021	02/19/08 08:27	SG	1	M	VOA
AC35821-021	02/19/08 09:30	R3	1	M	NONE
AC35821-021	02/19/08 05:28	SW	2	A	TPH/MIXED
AC35821-021	02/19/08 06:40	R12	2	A	NONE
AC35821-021	02/19/08 07:33	PA	2	A	MIXING
AC35821-021	02/19/08 10:41	ER	2	A	% solids
AC35821-021	02/19/08 10:44	R12	2	A	NONE
AC35821-021	02/20/08 07:57	KW	2	A	P/P
AC35821-021	02/20/08 12:05	R12	2	A	NONE
AC35821-021	02/22/08 06:03	CJC	2	A	BN
AC35821-021	02/22/08 06:06	R12	2	A	NONE
AC35821-021	02/24/08 10:55	HS	2	A	cn-s
AC35821-021	02/24/08 18:10	R12	2	A	NONE
AC35821-021	02/27/08 11:30	SRB	2	A	tdsi-hg
AC35821-021	02/27/08 15:04	R12	2	A	NONE
AC35821-021	02/28/08 07:32	BCT	2	A	phenol
AC35821-021	02/28/08 14:53	R12	2	A	NONE
AC35821-022	02/20/08 07:57	KW	2	A	P/P
AC35821-022	02/20/08 12:05	R12	2	A	NONE
AC35821-022	02/20/08 20:06	MD	2	A	TPH
AC35821-022	02/20/08 20:07	R12	2	A	NONE
AC35821-022	02/22/08 06:03	CJC	2	A	BN
AC35821-022	02/22/08 06:06	R12	2	A	NONE
AC35821-023	02/19/08 08:27	SG	1	M	VOA
AC35821-023	02/19/08 09:30	R3	1	M	NONE
AC35821-023	02/19/08 05:28	SW	2	A	TPH/MIXED
AC35821-023	02/19/08 06:40	R12	2	A	NONE
AC35821-023	02/19/08 07:33	PA	2	A	MIXING
AC35821-023	02/19/08 10:41	ER	2	A	% solids
AC35821-023	02/19/08 10:44	R12	2	A	NONE
AC35821-023	02/20/08 07:57	KW	2	A	P/P
AC35821-023	02/20/08 12:05	R12	2	A	NONE
AC35821-023	02/22/08 06:03	CJC	2	A	BN
AC35821-023	02/22/08 06:06	R12	2	A	NONE
AC35821-023	02/24/08 10:55	HS	2	A	cn-s
AC35821-023	02/24/08 18:10	R12	2	A	NONE
AC35821-023	02/27/08 11:30	SRB	2	A	tdsi-hg
AC35821-023	02/27/08 15:04	R12	2	A	NONE
AC35821-023	02/28/08 07:32	BCT	2	A	phenol
AC35821-023	02/28/08 14:53	R12	2	A	NONE
AC35821-024	02/20/08 07:57	KW	2	A	P/P
AC35821-024	02/20/08 12:05	R12	2	A	NONE
AC35821-024	02/20/08 20:06	MD	2	A	TPH
AC35821-024	02/20/08 20:07	R12	2	A	NONE
AC35821-024	02/22/08 06:03	CJC	2	A	BN
AC35821-024	02/22/08 06:06	R12	2	A	NONE
AC35821-024	02/22/08 07:46	KW	2	A	P/P
AC35821-024	02/22/08 09:16	R12	2	A	NONE
AC35821-025	02/20/08 08:49	SG	1	M	VOA
AC35821-025	02/20/08 09:48	R3	1	M	NONE
AC35821-025	02/19/08 05:28	SW	2	A	TPH/MIXED
AC35821-025	02/19/08 06:40	R12	2	A	NONE
AC35821-025	02/19/08 07:33	PA	2	A	MIXING
AC35821-025	02/19/08 10:41	ER	2	A	% solids
AC35821-025	02/19/08 10:44	R12	2	A	NONE
AC35821-025	02/20/08 07:57	KW	2	A	P/P
AC35821-025	02/20/08 12:05	R12	2	A	NONE
AC35821-025	02/22/08 06:03	CJC	2	A	BN
AC35821-025	02/22/08 06:06	R12	2	A	NONE
AC35821-025	02/24/08 10:55	HS	2	A	cn-s
AC35821-025	02/24/08 18:10	R12	2	A	NONE
AC35821-025	02/27/08 11:30	SRB	2	A	tdsi-hg

Internal Chain of Custody

Lab#:	DateTime:	Loc or User	Bot Nu	A/M	Analysis
5821-025	02/27/08 15:04	R12	2	A	NONE
A 5821-025	02/28/08 07:32	BCT	2	A	phenol
AC35821-025	02/28/08 14:53	R12	2	A	NONE
AC35821-026	02/20/08 07:57	KW	2	A	P/P
A 5821-026	02/20/08 12:05	R12	2	A	NONE
A 5821-026	02/20/08 20:06	MD	2	A	TPH
A 5821-026	02/20/08 20:07	R12	2	A	NONE
AC35821-026	02/22/08 06:03	CJC	2	A	BN
AC35821-026	02/22/08 06:06	R12	2	A	NONE
A 5821-027	02/19/08 07:33	PA	1	A	MIXING
A 5821-027	02/19/08 10:41	ER	1	A	% solids
AC35821-027	02/19/08 10:44	R12	1	A	NONE
AC35821-027	02/20/08 07:57	KW	1	A	P/P
A 5821-027	02/20/08 12:05	R12	1	A	NONE
A 5821-028	02/19/08 07:33	PA	1	A	MIXING
A 5821-028	02/19/08 10:41	ER	1	A	% solids
AC35821-028	02/19/08 10:44	R12	1	A	NONE
AC35821-028	02/20/08 07:57	KW	1	A	P/P
A 5821-028	02/20/08 12:05	R12	1	A	NONE
A 5821-029	02/19/08 07:33	PA	1	A	MIXING
AC35821-029	02/19/08 10:41	ER	1	A	% solids
AC35821-029	02/19/08 10:44	R12	1	A	NONE
A 5821-029	02/20/08 07:57	KW	1	A	P/P
A 5821-029	02/20/08 12:05	R12	1	A	NONE
A 5821-030	02/19/08 07:33	PA	1	A	MIXING
AC35821-030	02/19/08 10:41	ER	1	A	% solids
AC35821-030	02/19/08 10:44	R12	1	A	NONE
A 5821-030	02/20/08 07:57	KW	1	A	P/P
A 5821-030	02/20/08 12:05	R12	1	A	NONE
AC35821-031	02/19/08 07:33	PA	1	A	MIXING
AC35821-031	02/19/08 10:41	ER	1	A	% solids
A 5821-031	02/19/08 10:44	R12	1	A	NONE
A 5821-031	02/20/08 07:57	KW	1	A	P/P
A 5821-031	02/20/08 12:05	R12	1	A	NONE
AC35821-032	02/19/08 07:33	PA	1	A	MIXING
5821-032	02/19/08 12:05	JOSE	1	A	crushing
5821-032	02/19/08 12:22	R12	1	A	NONE
A 5821-032	02/19/08 16:13	ER	1	A	% solids
AC35821-032	02/19/08 16:15	R12	1	A	NONE
AC35821-032	02/20/08 07:57	KW	1	A	P/P
A 5821-032	02/20/08 12:05	R12	1	A	NONE
A 5821-033	02/19/08 07:33	PA	1	A	MIXING
A 5821-033	02/19/08 12:05	JOSE	1	A	crushing
AC35821-033	02/19/08 12:21	R12	1	A	NONE
AC35821-033	02/19/08 16:13	ER	1	A	% solids
A 5821-033	02/19/08 16:15	R12	1	A	NONE
A 5821-033	02/20/08 07:57	KW	1	A	P/P
AC35821-033	02/20/08 12:05	R12	1	A	NONE
AC35821-034	02/19/08 05:28	SW	1	A	TPH/MIXED
A 5821-034	02/19/08 06:40	R12	1	A	NONE
A 5821-034	02/19/08 07:33	PA	1	A	MIXING
A 5821-034	02/19/08 12:05	JOSE	1	A	crushing
AC35821-034	02/19/08 12:22	R12	1	A	NONE
AC35821-034	02/19/08 16:13	ER	1	A	% solids
A 5821-034	02/19/08 16:15	R12	1	A	NONE
A 5821-034	02/20/08 07:57	KW	1	A	P/P
AC35821-034	02/20/08 12:05	R12	1	A	NONE
AC35821-034	02/22/08 06:09	CJC	1	A	BN
A 5821-034	02/22/08 06:10	R12	1	A	NONE
A 5821-035	02/19/08 05:28	SW	1	A	TPH/MIXED
A 5821-035	02/19/08 06:40	R12	1	A	NONE
AC35821-035	02/19/08 07:33	PA	1	A	MIXING
AC35821-035	02/19/08 12:05	JOSE	1	A	crushing
A 5821-035	02/19/08 12:22	R12	1	A	NONE
A 5821-035	02/19/08 16:13	ER	1	A	% solids
AC35821-035	02/19/08 16:15	R12	1	A	NONE
AC35821-035	02/20/08 07:57	KW	1	A	P/P
A 5821-035	02/20/08 12:05	R12	1	A	NONE
A 5821-035	02/22/08 06:09	CJC	1	A	BN
A 5821-035	02/22/08 06:10	R12	1	A	NONE
AC35821-036	02/15/08 17:48	WP	1	A	VOA
5821-036	02/19/08 07:23	WP	3	M	VOA
5821-036	02/20/08 06:39	MSL	6	A	TPH
A 5821-036	02/20/08 05:35	CJC	8	A	BNA-A
AC35821-036	02/19/08 21:12	MD	9	A	PEST/PCB
AC35821-036	02/27/08 11:30	SRB	10	A	tdsi-hg

Lab#:	DateTime:	Loc or User	Bot Nu	A/M	Analysis
AC35821-036	02/27/08 15:04	R12	10	A	NONE
AC35821-036	02/21/08 09:33	BCT	11	A	PHENOL
AC35821-036	02/21/08 15:00	R12	11	A	NONE
AC35821-036	02/26/08 09:38	HS	12	A	CN-W
AC35821-036	02/26/08 17:12	R12	12	A	NONE
AC35821-037	02/19/08 08:27	SG	1	M	VOA
AC35821-037	02/19/08 09:30	R3	1	M	NONE

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Project #: 8021511

Lab#: AC35821-001 Sample ID: E-1F

TestGroupName % Solids SM2540G
Preparation Method: SM 2540G
Analytical Method: SM 2540G

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
% Solids	02/19/08	erica	02/19/08	erica

TestGroupName PAH Compounds 8270
Preparation Method: EPA3510/3550
Analytical Method: EPA 8270C

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Acenaphthene	02/19/08	MEGHA	02/20/08	AHD
Acenaphthylene	02/19/08	MEGHA	02/20/08	AHD
Anthracene	02/19/08	MEGHA	02/20/08	AHD
Benzo[a]anthracene	02/19/08	MEGHA	02/20/08	AHD
Benzo[a]pyrene	02/19/08	MEGHA	02/20/08	AHD
Benzo[b]fluoranthene	02/19/08	MEGHA	02/20/08	AHD
Benzo[g,h,i]perylene	02/19/08	MEGHA	02/20/08	AHD
Benzo[k]fluoranthene	02/19/08	MEGHA	02/20/08	AHD
Chrysene	02/19/08	MEGHA	02/20/08	AHD
Dibenzo[a,h]anthracene	02/19/08	MEGHA	02/20/08	AHD
Fluoranthene	02/19/08	MEGHA	02/20/08	AHD
Fluorene	02/19/08	MEGHA	02/20/08	AHD
Indeno[1,2,3-cd]pyrene	02/19/08	MEGHA	02/20/08	AHD
Naphthalene	02/19/08	MEGHA	02/20/08	AHD
Phenanthrene	02/19/08	MEGHA	02/20/08	AHD
Pyrene	02/19/08	MEGHA	02/20/08	AHD

TestGroupName PCB 8082
Preparation Method: EPA3510/3550
Analytical Method: EPA 8082

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Aroclor-1016	02/19/08	kenneth	02/19/08	KD
Aroclor-1221	02/19/08	kenneth	02/19/08	KD
Aroclor-1232	02/19/08	kenneth	02/19/08	KD
Aroclor-1242	02/19/08	kenneth	02/19/08	KD
Aroclor-1248	02/19/08	kenneth	02/19/08	KD
Aroclor-1254	02/19/08	kenneth	02/19/08	KD
Aroclor-1260	02/19/08	kenneth	02/19/08	KD
Aroclor-1262	02/19/08	kenneth	02/19/08	KD

TestGroupName TPH (NJ OQA-QAM-025-Rev6)
Preparation Method: NJ 025-Rev6
Analytical Method: NJ 025-Rev6

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Total Petroleum Hydrocarbons	02/19/08	sexture	02/20/08	PSL

Lab#: AC35821-002 Sample ID: E-1N

TestGroupName 8015/QAM-025 Extract & Hold
Preparation Method: 8015/QAM-025
Analytical Method: 8015/QAM-025

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Extract and Hold	02/20/08	Mausami	NA	

TestGroupName Base Neutrals (Extract and Hold) 8270
Preparation Method: EPA3510/3550
Analytical Method: EPA 8270C

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Extract and Hold	02/19/08	MEGHA	NA	

TestGroupName PCB (Extract and Hold) 8082
Preparation Method: EPA3510/3550
Analytical Method: EPA 8082

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Extract and Hold	02/19/08	kenneth	NA	

Lab#: AC35821-003 Sample ID: C-1F

TestGroupName % Solids SM2540G
Preparation Method: SM 2540G
Analytical Method: SM 2540G

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
% Solids	02/19/08	erica	02/19/08	erica

TestGroupName Cyanide (Soil/Waste)
Preparation Method: EPA 9014
Analytical Method: EPA 9014

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Cyanide	02/21/08	hs	02/21/08	hs

TestGroupName Mercury (Soil/Waste) 7471A
Preparation Method: EPA 7471A
Analytical Method: EPA 7471A

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Mercury	02/27/08	srb	02/28/08	JS

TestGroupName Organochlorine Pesticides 8081
Preparation Method: EPA3510/3550
Analytical Method: EPA 8081A

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Aldrin	02/19/08	kenneth	02/21/08	KD
Alpha-BHC	02/19/08	kenneth	02/21/08	KD
beta-BHC	02/19/08	kenneth	02/21/08	KD
Chlordane	02/19/08	kenneth	02/21/08	KD
delta-BHC	02/19/08	kenneth	02/21/08	KD
Dieldrin	02/19/08	kenneth	02/21/08	KD
Endosulfan I	02/19/08	kenneth	02/21/08	KD
Endosulfan II	02/19/08	kenneth	02/21/08	KD
Endosulfan Sulfate	02/19/08	kenneth	02/21/08	KD
Endrin	02/19/08	kenneth	02/21/08	KD
Endrin Aldehyde	02/19/08	kenneth	02/21/08	KD
Endrin Ketone	02/19/08	kenneth	02/21/08	KD
Gamma-BHC	02/19/08	kenneth	02/21/08	KD
Heptachlor	02/19/08	kenneth	02/21/08	KD
Heptachlor Epoxide	02/19/08	kenneth	02/21/08	KD
Methoxychlor	02/19/08	kenneth	02/21/08	KD
p,p'-DDD	02/19/08	kenneth	02/21/08	KD
p,p'-DDE	02/19/08	kenneth	02/21/08	KD
p,p'-DDT	02/19/08	kenneth	02/21/08	KD
Toxaphene	02/19/08	kenneth	02/21/08	KD

TestGroupName PCB 8082
Preparation Method: EPA3510/3550
Analytical Method: EPA 8082

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Aroclor-1016	02/19/08	kenneth	02/19/08	KD
Aroclor-1221	02/19/08	kenneth	02/19/08	KD
Aroclor-1232	02/19/08	kenneth	02/19/08	KD
Aroclor-1242	02/19/08	kenneth	02/19/08	KD
Aroclor-1248	02/19/08	kenneth	02/19/08	KD
Aroclor-1254	02/19/08	kenneth	02/19/08	KD
Aroclor-1260	02/19/08	kenneth	02/19/08	KD
Aroclor-1262	02/19/08	kenneth	02/19/08	KD

TestGroupName Phenols (Soil/Waste) 9065
Preparation Method: EPA 9065
Analytical Method: EPA 9065

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Total Phenolics	02/26/08	bcl	02/26/08	bcl

TestGroupName PP Metals 6010
Preparation Method: 3005&10/3050
Analytical Method: EPA 6010B

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Antimony	02/27/08	srb	02/28/08	SB
Arsenic	02/27/08	srb	02/28/08	SB
Barium	02/27/08	srb	02/28/08	SB

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Project #: 8021511

Lab#: AC35821-003 Sample ID: C-1F

Beryllium	02/27/08	srb	02/28/08	SB
Cadmium	02/27/08	srb	02/28/08	SB
Chromium	02/27/08	srb	02/28/08	SB
Copper	02/27/08	srb	02/28/08	SB
Lead	02/27/08	srb	02/28/08	SB
Nickel	02/27/08	srb	02/28/08	SB
Selenium	02/27/08	srb	02/28/08	SB
Silver	02/27/08	srb	02/28/08	SB
Thallium	02/27/08	srb	02/28/08	SB
Zinc	02/27/08	srb	02/29/08	SB

TestGroupName Semivolatile Organics + 25 (8270)
Preparation Method: EPA3510/3550
Analytical Method: EPA 8270C

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
1,2,4-Trichlorobenzene	02/19/08	MEGHA	02/20/08	AHD
1,2-Diphenylhydrazine	02/19/08	MEGHA	02/20/08	AHD
2,4,5-Trichlorophenol	02/19/08	MEGHA	02/20/08	AHD
2,4,6-Trichlorophenol	02/19/08	MEGHA	02/20/08	AHD
2,4-Dichlorophenol	02/19/08	MEGHA	02/20/08	AHD
2,4-Dimethylphenol	02/19/08	MEGHA	02/20/08	AHD
2,4-Dinitrophenol	02/19/08	MEGHA	02/20/08	AHD
2,4-Dinitrotoluene	02/19/08	MEGHA	02/20/08	AHD
2,6-Dinitrotoluene	02/19/08	MEGHA	02/20/08	AHD
2-Chloronaphthalene	02/19/08	MEGHA	02/20/08	AHD
2-Chlorophenol	02/19/08	MEGHA	02/20/08	AHD
2-Methylnaphthalene	02/19/08	MEGHA	02/20/08	AHD
2-Methylphenol	02/19/08	MEGHA	02/20/08	AHD
2-Nitroaniline	02/19/08	MEGHA	02/20/08	AHD
2-Nitrophenol	02/19/08	MEGHA	02/20/08	AHD
3&4-Methylphenol	02/19/08	MEGHA	02/20/08	AHD
3,3'-Dichlorobenzidine	02/19/08	MEGHA	02/20/08	AHD
3-Nitroaniline	02/19/08	MEGHA	02/20/08	AHD
4,6-Dinitro-2-methylphenol	02/19/08	MEGHA	02/20/08	AHD
4-Bromophenyl-phenylether	02/19/08	MEGHA	02/20/08	AHD
4-Chloro-3-methylphenol	02/19/08	MEGHA	02/20/08	AHD
4-Chloroaniline	02/19/08	MEGHA	02/20/08	AHD
4-Chlorophenyl-phenylether	02/19/08	MEGHA	02/20/08	AHD
4-Nitroaniline	02/19/08	MEGHA	02/20/08	AHD
4-Nitrophenol	02/19/08	MEGHA	02/20/08	AHD
Acenaphthene	02/19/08	MEGHA	02/20/08	AHD
Acenaphthylene	02/19/08	MEGHA	02/20/08	AHD
Anthracene	02/19/08	MEGHA	02/20/08	AHD
Benzidine	02/19/08	MEGHA	02/20/08	AHD
Benzo[a]anthracene	02/19/08	MEGHA	02/20/08	AHD
Benzo[a]pyrene	02/19/08	MEGHA	02/20/08	AHD
Benzo[b]fluoranthene	02/19/08	MEGHA	02/20/08	AHD
Benzo[g,h,i]perylene	02/19/08	MEGHA	02/20/08	AHD
Benzo[k]fluoranthene	02/19/08	MEGHA	02/20/08	AHD
Bis(2-Chloroethoxy)methane	02/19/08	MEGHA	02/20/08	AHD
Bis(2-Chloroethyl)ether	02/19/08	MEGHA	02/20/08	AHD
Bis(2-Chloroisopropyl)ether	02/19/08	MEGHA	02/20/08	AHD
Bis(2-Ethylhexyl)phthalate	02/19/08	MEGHA	02/20/08	AHD
Butylbenzylphthalate	02/19/08	MEGHA	02/20/08	AHD
Carbazole	02/19/08	MEGHA	02/20/08	AHD
Chrysene	02/19/08	MEGHA	02/20/08	AHD
Dibenzo[a,h]anthracene	02/19/08	MEGHA	02/20/08	AHD
Dibenzofuran	02/19/08	MEGHA	02/20/08	AHD
Diethylphthalate	02/19/08	MEGHA	02/20/08	AHD
Dimethylphthalate	02/19/08	MEGHA	02/20/08	AHD
Di-n-butylphthalate	02/19/08	MEGHA	02/20/08	AHD
Di-n-octylphthalate	02/19/08	MEGHA	02/20/08	AHD
Fluoranthene	02/19/08	MEGHA	02/20/08	AHD
Fluorene	02/19/08	MEGHA	02/20/08	AHD
Hexachlorobenzene	02/19/08	MEGHA	02/20/08	AHD
Hexachlorobutadiene	02/19/08	MEGHA	02/20/08	AHD
Hexachlorocyclopentadiene	02/19/08	MEGHA	02/20/08	AHD
Hexachloroethane	02/19/08	MEGHA	02/20/08	AHD
Indeno[1,2,3-cd]pyrene	02/19/08	MEGHA	02/20/08	AHD
Isophorone	02/19/08	MEGHA	02/20/08	AHD
Naphthalene	02/19/08	MEGHA	02/20/08	AHD
Nitrobenzene	02/19/08	MEGHA	02/20/08	AHD
N-Nitrosodimethylamine	02/19/08	MEGHA	02/20/08	AHD
N-Nitroso-di-n-propylamine	02/19/08	MEGHA	02/20/08	AHD
N-Nitrosodiphenylamine	02/19/08	MEGHA	02/20/08	AHD
Pentachlorophenol	02/19/08	MEGHA	02/20/08	AHD

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Phenanthrene	02/19/08	MEGHA	02/20/08	AHD
Phenol	02/19/08	MEGHA	02/20/08	AHD
Pyrene	02/19/08	MEGHA	02/20/08	AHD

TestGroupName TPH (NJ OQA-QAM-025-Rev6)
Preparation Method: NJ 025-Rev6
Analytical Method: NJ 025-Rev6

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Total Petroleum Hydrocarbons	02/19/08	sexlure	02/20/08	PSL

TestGroupName Volatile Organics + 15 (8260)
Preparation Method: EPA5030/5035
Analytical Method: EPA 8260B

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
1,1,1-Trichloroethane	02/20/08	WP	02/20/08	WP
1,1,2,2-Tetrachloroethane	02/20/08	WP	02/20/08	WP
1,1,2-Trichloroethane	02/20/08	WP	02/20/08	WP
1,1-Dichloroethane	02/20/08	WP	02/20/08	WP
1,1-Dichloroethene	02/20/08	WP	02/20/08	WP
1,2-Dichlorobenzene	02/20/08	WP	02/20/08	WP
1,2-Dichloroethane	02/20/08	WP	02/20/08	WP
1,2-Dichloropropane	02/20/08	WP	02/20/08	WP
1,3-Dichlorobenzene	02/20/08	WP	02/20/08	WP
1,4-Dichlorobenzene	02/20/08	WP	02/20/08	WP
2-Butanone	02/20/08	WP	02/20/08	WP
2-Chloroethylvinylether	02/20/08	WP	02/20/08	WP
2-Hexanone	02/20/08	WP	02/20/08	WP
4-Methyl-2-Pentanone	02/20/08	WP	02/20/08	WP
Acetone	02/20/08	WP	02/20/08	WP
Acrolein	02/20/08	WP	02/20/08	WP
Acrylonitrile	02/20/08	WP	02/20/08	WP
Benzene	02/20/08	WP	02/20/08	WP
Bromodichloromethane	02/20/08	WP	02/20/08	WP
Bromoform	02/20/08	WP	02/20/08	WP
Bromomethane	02/20/08	WP	02/20/08	WP
Carbon disulfide	02/20/08	WP	02/20/08	WP
Carbon tetrachloride	02/20/08	WP	02/20/08	WP
Chlorobenzene	02/20/08	WP	02/20/08	WP
Chloroethane	02/20/08	WP	02/20/08	WP
Chloroform	02/20/08	WP	02/20/08	WP
Chloromethane	02/20/08	WP	02/20/08	WP
cis-1,2-Dichloroethene	02/20/08	WP	02/20/08	WP
cis-1,3-Dichloropropene	02/20/08	WP	02/20/08	WP
Dibromochloromethane	02/20/08	WP	02/20/08	WP
Ethylbenzene	02/20/08	WP	02/20/08	WP
m&p-Xylenes	02/20/08	WP	02/20/08	WP
Methylene chloride	02/20/08	WP	02/20/08	WP
o-Xylene	02/20/08	WP	02/20/08	WP
Styrene	02/20/08	WP	02/20/08	WP
Tetrachloroethene	02/20/08	WP	02/20/08	WP
Toluene	02/20/08	WP	02/20/08	WP
trans-1,2-Dichloroethene	02/20/08	WP	02/20/08	WP
trans-1,3-dichloropropene	02/20/08	WP	02/20/08	WP
Trichloroethene	02/20/08	WP	02/20/08	WP
Vinyl chloride	02/20/08	WP	02/20/08	WP

Lab#: AC35821-004 Sample ID: C-1N

TestGroupName % Solids SM2540G
Preparation Method: SM 2540G
Analytical Method: SM 2540G

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
% Solids	03/04/08	erica	03/04/08	erica

TestGroupName 8015/QAM-025 Extract & Hold
Preparation Method: 8015/QAM-025
Analytical Method: 8015/QAM-025

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Extract and Hold	02/20/08	Mausami	NA	

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Lab#: AC35821-004 Sample ID: C-1N

TestGroupName Base Neutrals (no search) 8270
Preparation Method: EPA3510/3550
Analytical Method: EPA 8270C

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
1,2,4-Trichlorobenzene	02/19/08	megha	02/20/08	AHD
1,2-Diphenylhydrazine	02/19/08	megha	02/20/08	AHD
2,4-Dinitrotoluene	02/19/08	megha	02/20/08	AHD
2,6-Dinitrotoluene	02/19/08	megha	02/20/08	AHD
2-Chloronaphthalene	02/19/08	megha	02/20/08	AHD
2-Methylnaphthalene	02/19/08	megha	02/20/08	AHD
2-Nitroaniline	02/19/08	megha	02/20/08	AHD
3,3'-Dichlorobenzidine	02/19/08	megha	02/20/08	AHD
3-Nitroaniline	02/19/08	megha	02/20/08	AHD
4-Bromophenyl-phenylether	02/19/08	megha	02/20/08	AHD
4-Chloroaniline	02/19/08	megha	02/20/08	AHD
4-Chlorophenyl-phenylether	02/19/08	megha	02/20/08	AHD
4-Nitroaniline	02/19/08	megha	02/20/08	AHD
Acenaphthene	02/19/08	megha	02/20/08	AHD
Acenaphthylene	02/19/08	megha	02/20/08	AHD
Anthracene	02/19/08	megha	02/20/08	AHD
Benzidine	02/19/08	megha	02/20/08	AHD
Benzo[a]anthracene	02/19/08	megha	02/20/08	AHD
Benzo[a]pyrene	02/19/08	megha	02/20/08	AHD
Benzo[b]fluoranthene	02/19/08	megha	02/20/08	AHD
Benzo[g,h,i]perylene	02/19/08	megha	02/20/08	AHD
Benzo[k]fluoranthene	02/19/08	megha	02/20/08	AHD
Bis(2-Chloroethoxy)methane	02/19/08	megha	02/20/08	AHD
Bis(2-Chloroethyl)ether	02/19/08	megha	02/20/08	AHD
Bis(2-Chloroisopropyl)ether	02/19/08	megha	02/20/08	AHD
Bis(2-Ethylhexyl)phthalate	02/19/08	megha	02/20/08	AHD
Butylbenzylphthalate	02/19/08	megha	02/20/08	AHD
Carbazole	02/19/08	megha	02/20/08	AHD
Chrysene	02/19/08	megha	02/20/08	AHD
Dibenzo[a,h]anthracene	02/19/08	megha	02/20/08	AHD
Dibenzofuran	02/19/08	megha	02/20/08	AHD
Diethylphthalate	02/19/08	megha	02/20/08	AHD
Dimethylphthalate	02/19/08	megha	02/20/08	AHD
Di-n-butylphthalate	02/19/08	megha	02/20/08	AHD
Di-n-octylphthalate	02/19/08	megha	02/20/08	AHD
Fluoranthene	02/19/08	megha	02/20/08	AHD
Fluorene	02/19/08	megha	02/20/08	AHD
Hexachlorobenzene	02/19/08	megha	02/20/08	AHD
Hexachlorobutadiene	02/19/08	megha	02/20/08	AHD
Hexachlorocyclopentadiene	02/19/08	megha	02/20/08	AHD
Hexachloroethane	02/19/08	megha	02/20/08	AHD
Indeno[1,2,3-cd]pyrene	02/19/08	megha	02/20/08	AHD
Isophorone	02/19/08	megha	02/20/08	AHD
Naphthalene	02/19/08	megha	02/20/08	AHD
Nitrobenzene	02/19/08	megha	02/20/08	AHD
N-Nitrosodimethylamine	02/19/08	megha	02/20/08	AHD
N-Nitroso-di-n-propylamine	02/19/08	megha	02/20/08	AHD
N-Nitrosodiphenylamine	02/19/08	megha	02/20/08	AHD
Phenanthrene	02/19/08	megha	02/20/08	AHD
Pyrene	02/19/08	megha	02/20/08	AHD

TestGroupName PCB (Extract and Hold) 8082
Preparation Method: EPA3510/3550
Analytical Method: EPA 8082

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Extract and Hold	02/19/08	kenneth	NA	

TestGroupName Pesticides (Extract and Hold) 608/8081
Preparation Method: 608/3550
Analytical Method: EPA 608/8081

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Extract and Hold	02/19/08	kenneth	NA	

Lab#: AC35821-005 Sample ID: C-2F

TestGroupName % Solids SM2540G
Preparation Method: SM 2540G
Analytical Method: SM 2540G

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
% Solids	02/19/08	erica	02/19/08	erica

Lab#: AC35821-005 Sample ID: C-2F

TestGroupName Cyanide (Soil/Waste)
Preparation Method: EPA 9014
Analytical Method: EPA 9014

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Cyanide	02/21/08	hs	02/21/08	hs

TestGroupName Mercury (Soil/Waste) 7471A
Preparation Method: EPA 7471A
Analytical Method: EPA 7471A

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Mercury	02/27/08	srb	02/28/08	JS

TestGroupName Organochlorine Pesticides 8081
Preparation Method: EPA3510/3550
Analytical Method: EPA 8081A

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Aldrin	02/19/08	kenneth	02/20/08	KD
Alpha-BHC	02/19/08	kenneth	02/20/08	KD
beta-BHC	02/19/08	kenneth	02/20/08	KD
Chlordane	02/19/08	kenneth	02/20/08	KD
delta-BHC	02/19/08	kenneth	02/20/08	KD
Dieldrin	02/19/08	kenneth	02/20/08	KD
Endosulfan I	02/19/08	kenneth	02/20/08	KD
Endosulfan II	02/19/08	kenneth	02/20/08	KD
Endosulfan Sulfate	02/19/08	kenneth	02/20/08	KD
Endrin	02/19/08	kenneth	02/20/08	KD
Endrin Aldehyde	02/19/08	kenneth	02/20/08	KD
Endrin Ketone	02/19/08	kenneth	02/20/08	KD
Gamma-BHC	02/19/08	kenneth	02/20/08	KD
Heptachlor	02/19/08	kenneth	02/20/08	KD
Heptachlor Epoxide	02/19/08	kenneth	02/20/08	KD
Methoxychlor	02/19/08	kenneth	02/20/08	KD
p,p'-DDD	02/19/08	kenneth	02/20/08	KD
p,p'-DDE	02/19/08	kenneth	02/20/08	KD
p,p'-DDT	02/19/08	kenneth	02/20/08	KD
Toxaphene	02/19/08	kenneth	02/20/08	KD

TestGroupName PCB 8082
Preparation Method: EPA3510/3550
Analytical Method: EPA 8082

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Aroclor-1016	02/19/08	kenneth	02/19/08	KD
Aroclor-1221	02/19/08	kenneth	02/19/08	KD
Aroclor-1232	02/19/08	kenneth	02/19/08	KD
Aroclor-1242	02/19/08	kenneth	02/19/08	KD
Aroclor-1248	02/19/08	kenneth	02/19/08	KD
Aroclor-1254	02/19/08	kenneth	02/19/08	KD
Aroclor-1260	02/19/08	kenneth	02/19/08	KD
Aroclor-1262	02/19/08	kenneth	02/19/08	KD

TestGroupName Phenols (Soil/Waste) 9065
Preparation Method: EPA 9065
Analytical Method: EPA 9065

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Total Phenolics	02/26/08	bct	02/26/08	bct

TestGroupName PP Metals 6010
Preparation Method: 3005&10/3050
Analytical Method: EPA 6010B

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Antimony	02/27/08	srb	02/28/08	SB
Arsenic	02/27/08	srb	02/28/08	SB
Barium	02/27/08	srb	02/28/08	SB
Beryllium	02/27/08	srb	02/28/08	SB
Cadmium	02/27/08	srb	02/28/08	SB
Chromium	02/27/08	srb	02/28/08	SB
Copper	02/27/08	srb	02/28/08	SB
Lead	02/27/08	srb	02/28/08	SB
Nickel	02/27/08	srb	02/28/08	SB

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Selenium	02/27/08	srb	02/28/08	SB
Silver	02/27/08	srb	02/28/08	SB
Thallium	02/27/08	srb	02/28/08	SB
Zinc	02/27/08	srb	02/29/08	SB

TestGroupName Semivolatile Organics + 25 (8270)
Preparation Method: EPA3510/3550
Analytical Method: EPA 8270C

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
1,2,4-Trichlorobenzene	02/19/08	MEGHA	02/20/08	AHD
1,2-Diphenylhydrazine	02/19/08	MEGHA	02/20/08	AHD
2,4,5-Trichlorophenol	02/19/08	MEGHA	02/20/08	AHD
2,4,6-Trichlorophenol	02/19/08	MEGHA	02/20/08	AHD
2,4-Dichlorophenol	02/19/08	MEGHA	02/20/08	AHD
2,4-Dimethylphenol	02/19/08	MEGHA	02/20/08	AHD
2,4-Dinitrophenol	02/19/08	MEGHA	02/20/08	AHD
2,4-Dinitrotoluene	02/19/08	MEGHA	02/20/08	AHD
2,6-Dinitrotoluene	02/19/08	MEGHA	02/20/08	AHD
2-Chloronaphthalene	02/19/08	MEGHA	02/20/08	AHD
2-Chlorophenol	02/19/08	MEGHA	02/20/08	AHD
2-Methylnaphthalene	02/19/08	MEGHA	02/20/08	AHD
2-Methylphenol	02/19/08	MEGHA	02/20/08	AHD
2-Nitroaniline	02/19/08	MEGHA	02/20/08	AHD
2-Nitrophenol	02/19/08	MEGHA	02/20/08	AHD
3&4-Methylphenol	02/19/08	MEGHA	02/20/08	AHD
3,3'-Dichlorobenzidine	02/19/08	MEGHA	02/20/08	AHD
3-Nitroaniline	02/19/08	MEGHA	02/20/08	AHD
4,6-Dinitro-2-methylphenol	02/19/08	MEGHA	02/20/08	AHD
4-Bromophenyl-phenylether	02/19/08	MEGHA	02/20/08	AHD
4-Chloro-3-methylphenol	02/19/08	MEGHA	02/20/08	AHD
4-Chloroaniline	02/19/08	MEGHA	02/20/08	AHD
4-Chlorophenyl-phenylether	02/19/08	MEGHA	02/20/08	AHD
4-Nitroaniline	02/19/08	MEGHA	02/20/08	AHD
4-Nitrophenol	02/19/08	MEGHA	02/20/08	AHD
Acenaphthene	02/19/08	MEGHA	02/20/08	AHD
Acenaphthylene	02/19/08	MEGHA	02/20/08	AHD
Anthracene	02/19/08	MEGHA	02/20/08	AHD
Benzidine	02/19/08	MEGHA	02/20/08	AHD
Benzo[a]anthracene	02/19/08	MEGHA	02/20/08	AHD
Benzo[a]pyrene	02/19/08	MEGHA	02/20/08	AHD
Benzo[b]fluoranthene	02/19/08	MEGHA	02/20/08	AHD
Benzo[g,h,i]perylene	02/19/08	MEGHA	02/20/08	AHD
Benzo[k]fluoranthene	02/19/08	MEGHA	02/20/08	AHD
Bis(2-Chloroethoxy)methane	02/19/08	MEGHA	02/20/08	AHD
Bis(2-Chloroethyl)ether	02/19/08	MEGHA	02/20/08	AHD
Bis(2-Chloroisopropyl)ether	02/19/08	MEGHA	02/20/08	AHD
Bis(2-Ethylhexyl)phthalate	02/19/08	MEGHA	02/20/08	AHD
Butylbenzylphthalate	02/19/08	MEGHA	02/20/08	AHD
Carbazole	02/19/08	MEGHA	02/20/08	AHD
Chrysene	02/19/08	MEGHA	02/20/08	AHD
Dibenzo[a,h]anthracene	02/19/08	MEGHA	02/20/08	AHD
Dibenzofuran	02/19/08	MEGHA	02/20/08	AHD
Diethylphthalate	02/19/08	MEGHA	02/20/08	AHD
Dimethylphthalate	02/19/08	MEGHA	02/20/08	AHD
Di-n-butylphthalate	02/19/08	MEGHA	02/20/08	AHD
Di-n-octylphthalate	02/19/08	MEGHA	02/20/08	AHD
Fluoranthene	02/19/08	MEGHA	02/20/08	AHD
Fluorene	02/19/08	MEGHA	02/20/08	AHD
Hexachlorobenzene	02/19/08	MEGHA	02/20/08	AHD
Hexachlorobutadiene	02/19/08	MEGHA	02/20/08	AHD
Hexachlorocyclopentadiene	02/19/08	MEGHA	02/20/08	AHD
Hexachloroethane	02/19/08	MEGHA	02/20/08	AHD
Indeno[1,2,3-cd]pyrene	02/19/08	MEGHA	02/20/08	AHD
Isophorone	02/19/08	MEGHA	02/20/08	AHD
Naphthalene	02/19/08	MEGHA	02/20/08	AHD
Nitrobenzene	02/19/08	MEGHA	02/20/08	AHD
N-Nitrosodimethylamine	02/19/08	MEGHA	02/20/08	AHD
N-Nitroso-di-n-propylamine	02/19/08	MEGHA	02/20/08	AHD
N-Nitrosodiphenylamine	02/19/08	MEGHA	02/20/08	AHD
Pentachlorophenol	02/19/08	MEGHA	02/20/08	AHD
Phenanthrene	02/19/08	MEGHA	02/20/08	AHD
Phenol	02/19/08	MEGHA	02/20/08	AHD
Pyrene	02/19/08	MEGHA	02/20/08	AHD

Lab#: AC35821-005 Sample ID: C-2F

TestGroupName TPH (NJ OQA-QAM-025-Rev6)
Preparation Method: NJ 025-Rev6
Analytical Method: NJ 025-Rev6

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Total Petroleum Hydrocarbons	02/19/08	sexture	02/20/08	PSL

TestGroupName Volatile Organics + 15 (8260)
Preparation Method: EPA5030/5035
Analytical Method: EPA 8260B

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
1,1,1-Trichloroethane	02/19/08	WP	02/19/08	WP
1,1,2,2-Tetrachloroethane	02/19/08	WP	02/19/08	WP
1,1,2-Trichloroethane	02/19/08	WP	02/19/08	WP
1,1-Dichloroethane	02/19/08	WP	02/19/08	WP
1,1-Dichloroethene	02/19/08	WP	02/19/08	WP
1,2-Dichlorobenzene	02/19/08	WP	02/19/08	WP
1,2-Dichloroethane	02/19/08	WP	02/19/08	WP
1,2-Dichloropropane	02/19/08	WP	02/19/08	WP
1,3-Dichlorobenzene	02/19/08	WP	02/19/08	WP
1,4-Dichlorobenzene	02/19/08	WP	02/19/08	WP
2-Butanone	02/19/08	WP	02/19/08	WP
2-Chloroethylvinylether	02/19/08	WP	02/19/08	WP
2-Hexanone	02/19/08	WP	02/19/08	WP
4-Methyl-2-Pentanone	02/19/08	WP	02/19/08	WP
Acetone	02/19/08	WP	02/19/08	WP
Acrolein	02/19/08	WP	02/19/08	WP
Acrylonitrile	02/19/08	WP	02/19/08	WP
Benzene	02/19/08	WP	02/19/08	WP
Bromodichloromethane	02/19/08	WP	02/19/08	WP
Bromoform	02/19/08	WP	02/19/08	WP
Bromomethane	02/19/08	WP	02/19/08	WP
Carbon disulfide	02/19/08	WP	02/19/08	WP
Carbon tetrachloride	02/19/08	WP	02/19/08	WP
Chlorobenzene	02/19/08	WP	02/19/08	WP
Chloroethane	02/19/08	WP	02/19/08	WP
Chloroform	02/19/08	WP	02/19/08	WP
Chloromethane	02/19/08	WP	02/19/08	WP
cis-1,2-Dichloroethene	02/19/08	WP	02/19/08	WP
cis-1,3-Dichloropropene	02/19/08	WP	02/19/08	WP
Dibromochloromethane	02/19/08	WP	02/19/08	WP
Ethylbenzene	02/19/08	WP	02/19/08	WP
m&p-Xylenes	02/19/08	WP	02/19/08	WP
Methylene chloride	02/19/08	WP	02/19/08	WP
o-Xylene	02/19/08	WP	02/19/08	WP
Styrene	02/19/08	WP	02/19/08	WP
Tetrachloroethene	02/19/08	WP	02/19/08	WP
Toluene	02/19/08	WP	02/19/08	WP
trans-1,2-Dichloroethene	02/19/08	WP	02/19/08	WP
trans-1,3-dichloropropene	02/19/08	WP	02/19/08	WP
Trichloroethene	02/19/08	WP	02/19/08	WP
Vinyl chloride	02/19/08	WP	02/19/08	WP

Lab#: AC35821-006 Sample ID: C-2N

TestGroupName % Solids SM2540G
Preparation Method: SM 2540G
Analytical Method: SM 2540G

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
% Solids	03/04/08	erica	03/04/08	erica

TestGroupName 8015/QAM-025 Extract & Hold
Preparation Method: 8015/QAM-025
Analytical Method: 8015/QAM-025

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Extract and Hold	02/20/08	Mausami	NA	

TestGroupName Base Neutrals (Extract and Hold) 8270
Preparation Method: EPA3510/3550
Analytical Method: EPA 8270C

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Extract and Hold	02/19/08	MEGHA	NA	

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Lab#: AC35821-006 Sample ID: C-2N

TestGroupName Metals Pair 6010
Preparation Method: 3005&10/3050
Analytical Method: EPA 6010B

Analyte	Prep Date	By	Analysis Date	By
				DM

TestGroupName PCB (Extract and Hold) 8082
Preparation Method: EPA3510/3550
Analytical Method: EPA 8082

Analyte	Prep Date	By	Analysis Date	By
Antimony	03/04/08	srb	03/04/08	DM
Lead	03/04/08	srb	03/04/08	

TestGroupName Pesticides (Extract and Hold) 608/8081
Preparation Method: 608/3550
Analytical Method: EPA 608/8081

Analyte	Prep Date	By	Analysis Date	By
Extract and Hold	02/19/08	kenneth	NA	

Lab#: AC35821-007 Sample ID: C-3F

TestGroupName % Solids SM2540G
Preparation Method: SM 2540G
Analytical Method: SM 2540G

Analyte	Prep Date	By	Analysis Date	By
Extract and Hold	02/19/08	kenneth	NA	

TestGroupName Cyanide (Soil/Waste)
Preparation Method: EPA 9014
Analytical Method: EPA 9014

Analyte	Prep Date	By	Analysis Date	By
Cyanide	02/21/08	erica	02/19/08	erica
% Solids	02/19/08			

TestGroupName Mercury (Soil/Waste) 7471A
Preparation Method: EPA 7471A
Analytical Method: EPA 7471A

Analyte	Prep Date	By	Analysis Date	By
Mercury	02/27/08	srb	02/28/08	JS
		ns	02/21/08	ns

TestGroupName Organochlorine Pesticides 8081
Preparation Method: EPA3510/3550
Analytical Method: EPA 8081A

Analyte	Prep Date	By	Analysis Date	By
Aldrin			02/20/08	KD
			02/20/08	KD
			02/20/08	KD
			02/20/08	KD
			02/20/08	KD
			02/20/08	KD
			02/20/08	KD
			02/20/08	KD
	02/19/08	kenneth	02/20/08	KD
Alpha-BHC	02/19/08	kenneth	02/20/08	KD
beta-BHC	02/19/08	kenneth	02/20/08	KD
Chlordane	02/19/08	kenneth	02/20/08	KD
delta-BHC	02/19/08	kenneth	02/20/08	KD
Dieldrin	02/19/08	kenneth	02/20/08	KD
Endosulfan I	02/19/08	kenneth	02/20/08	KD
Endosulfan II	02/19/08	kenneth	02/20/08	KD
Endosulfan Sulfate	02/19/08	kenneth	02/20/08	KD
Endrin	02/19/08	kenneth	02/20/08	KD
Endrin Aldehyde	02/19/08	kenneth	02/20/08	KD
Endrin Ketone	02/19/08	kenneth	02/20/08	KD
Toxaphene	02/19/08	kenneth		
Gamma-BHC	02/19/08	kenneth		
Heptachlor	02/19/08	kenneth		
Heptachlor Epoxide	02/19/08	kenneth		
Methoxychlor	02/19/08	kenneth		
p,p'-DDD	02/19/08	kenneth		
p,p'-DDE	02/19/08	kenneth		
p,p'-DDT	02/19/08	kenneth		

TestGroupName PCB 8082
Preparation Method: EPA3510/3550
Analytical Method: EPA 8082

Analyte	Prep Date	By	Analysis Date	By
Aroclor-1016	02/19/08	kenneth	02/19/08	KD
Aroclor-1221	02/19/08	kenneth	02/19/08	KD
Aroclor-1232	02/19/08	kenneth	02/19/08	KD
				KD
				KD
				KD
				KD
Aroclor-1242	02/19/08	kenneth	02/19/08	
Aroclor-1248	02/19/08	kenneth	02/19/08	
Aroclor-1254	02/19/08	kenneth	02/19/08	
Aroclor-1260	02/19/08	kenneth	02/19/08	
Total	02/28/08			
Aroclor-1262	02/19/08	kenneth	02/19/08	

TestGroupName Phenols (Soil/Waste) 9065
Preparation Method: EPA 9065
Analytical Method: EPA 9065

Analyte	Prep Date	By	Analysis Date	By
Phenolics		BCT	02/26/08	BCT

TestGroupName PP Metals 6010
Preparation Method: 3005&10/3050
Analytical Method: EPA 6010B

Analyte	Prep Date	By	Analysis Date	By
Antimony	02/27/08	srb	02/28/08	SB
Arsenic	02/27/08	srb	02/28/08	SB
Barium	02/27/08	srb	02/28/08	SB
Beryllium	02/27/08	srb	02/28/08	SB
Cadmium	02/27/08	srb	02/28/08	SB
Chromium	02/27/08	srb	02/28/08	SB
Copper	02/27/08	srb	02/28/08	SB
Lead	02/27/08	srb	02/28/08	SB
Nickel	02/27/08	srb	02/28/08	SB
Selenium	02/27/08	srb	02/28/08	SB
Silver	02/27/08	srb	02/28/08	SB
Thallium	02/27/08	srb	02/28/08	SB
Zinc	02/27/08	srb	02/29/08	SB

TestGroupName Semivolatile Organics + 25 (8270)
Preparation Method: EPA3510/3550
Analytical Method: EPA 8270C

Analyte	Prep Date	By	Analysis Date	By
1,2,4-Trichlorobenzene	02/19/08			AHD
	02/19/08			AHD
	02/19/08			AHD
	02/19/08			AHD
	02/19/08			AHD
	02/19/08			AHD
	02/19/08			AHD
	02/19/08	MEGHA	02/20/08	AHD
1,2-Diphenylhydrazine	02/19/08	MEGHA	02/20/08	AHD
2,4,5-Trichlorophenol	02/19/08	MEGHA	02/20/08	AHD
2,4,6-Trichlorophenol	02/19/08	MEGHA	02/20/08	AHD
2,4-Dichlorophenol	02/19/08	MEGHA	02/20/08	AHD
2,4-Dimethylphenol	02/19/08	MEGHA	02/20/08	AHD
2,4-Dinitrophenol	02/19/08	MEGHA	02/20/08	AHD
2,4-Dinitrotoluene	02/19/08	MEGHA	02/20/08	AHD
2,6-Dinitrotoluene	02/19/08	MEGHA	02/20/08	AHD
2-Chloronaphthalene	02/19/08	MEGHA	02/20/08	AHD
2-Chlorophenol	02/19/08	MEGHA	02/20/08	AHD
2-Methylnaphthalene	02/19/08	MEGHA	02/20/08	AHD
2-Methylphenol	02/19/08	MEGHA	02/20/08	AHD
2-Nitroaniline	02/19/08	MEGHA	02/20/08	AHD
2-Nitrophenol	02/19/08	MEGHA	02/20/08	AHD
3&4-Methylphenol	02/19/08	MEGHA	02/20/08	AHD
3,3'-Dichlorobenzidine	02/19/08	MEGHA	02/20/08	AHD
3-Nitroaniline	02/19/08	MEGHA	02/20/08	AHD
4,6-Dinitro-2-methylphenol	02/19/08	MEGHA	02/20/08	AHD
4-Bromophenyl-phenylether	02/19/08	MEGHA	02/20/08	AHD
4-Chloro-3-methylphenol	02/19/08	MEGHA	02/20/08	AHD
4-Chloroaniline	02/19/08	MEGHA	02/20/08	AHD
4-Chlorophenyl-phenylether	02/19/08	MEGHA	02/20/08	AHD
4-Nitroaniline	02/19/08	MEGHA	02/20/08	AHD
4-Nitrophenol	02/19/08	MEGHA	02/20/08	AHD
Acenaphthene	02/19/08	MEGHA	02/20/08	AHD
Acenaphthylene	02/19/08	MEGHA	02/20/08	AHD
Anthracene	02/19/08	MEGHA	02/20/08	AHD
Benzidine	02/19/08	MEGHA	02/20/08	AHD
Benzo(a)anthracene	02/19/08	MEGHA	02/20/08	AHD

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Bis(2-Ethylhexyl)phthalate	02/19/08	MEGHA	02/20/08	AHD
Butylbenzylphthalate	02/19/08	MEGHA	02/20/08	AHD
Carbazole	02/19/08	MEGHA	02/20/08	AHD
Chrysene	02/19/08	MEGHA	02/20/08	AHD
Dibenzo[a,h]anthracene	02/19/08	MEGHA	02/20/08	AHD
Dibenzofuran	02/19/08	MEGHA	02/20/08	AHD
Diethylphthalate	02/19/08	MEGHA	02/20/08	AHD
Dimethylphthalate	02/19/08	MEGHA	02/20/08	AHD
Di-n-butylphthalate	02/19/08	MEGHA	02/20/08	AHD
Di-n-octylphthalate	02/19/08	MEGHA	02/20/08	AHD
Fluoranthene	02/19/08	MEGHA	02/20/08	AHD
Fluorene	02/19/08	MEGHA	02/20/08	AHD
Hexachlorobenzene	02/19/08	MEGHA	02/20/08	AHD
Hexachlorobutadiene	02/19/08	MEGHA	02/20/08	AHD
Hexachlorocyclopentadiene	02/19/08	MEGHA	02/20/08	AHD
Hexachloroethane	02/19/08	MEGHA	02/20/08	AHD
Indeno[1,2,3-cd]pyrene	02/19/08	MEGHA	02/20/08	AHD
Isophorone	02/19/08	MEGHA	02/20/08	AHD
Naphthalene	02/19/08	MEGHA	02/20/08	AHD
Nitrobenzene	02/19/08	MEGHA	02/20/08	AHD
N-Nitrosodimethylamine	02/19/08	MEGHA	02/20/08	AHD
N-Nitroso-di-n-propylamine	02/19/08	MEGHA	02/20/08	AHD
N-Nitrosodiphenylamine	02/19/08	MEGHA	02/20/08	AHD
Pentachlorophenol	02/19/08	MEGHA	02/20/08	AHD
Phenanthrene	02/19/08	MEGHA	02/20/08	AHD
Phenol	02/19/08	MEGHA	02/20/08	AHD
Pyrene	02/19/08	MEGHA	02/20/08	AHD

TestGroupName TPH (NJ OQA-QAM-025-Rev6)
Preparation Method: NJ 025-Rev6
Analytical Method: NJ 025-Rev6

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Total Petroleum Hydrocarbons	02/19/08	sexture	02/20/08	PSL

TestGroupName Volatile Organics + 15 (8260)
Preparation Method: EPA5030/5035
Analytical Method: EPA 8260B

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
1,1,1-Trichloroethane	02/19/08	WP	02/19/08	WP
1,1,2,2-Tetrachloroethane	02/19/08	WP	02/19/08	WP
1,1,2-Trichloroethane	02/19/08	WP	02/19/08	WP
1,1-Dichloroethane	02/19/08	WP	02/19/08	WP
1,1-Dichloroethene	02/19/08	WP	02/19/08	WP
1,2-Dichlorobenzene	02/19/08	WP	02/19/08	WP
1,2-Dichloroethane	02/19/08	WP	02/19/08	WP
1,2-Dichloropropane	02/19/08	WP	02/19/08	WP
1,3-Dichlorobenzene	02/19/08	WP	02/19/08	WP
1,4-Dichlorobenzene	02/19/08	WP	02/19/08	WP
2-Butanone	02/19/08	WP	02/19/08	WP
2-Chloroethylvinylether	02/19/08	WP	02/19/08	WP
2-Hexanone	02/19/08	WP	02/19/08	WP
4-Methyl-2-Pentanone	02/19/08	WP	02/19/08	WP
Acetone	02/19/08	WP	02/19/08	WP
Acrolein	02/19/08	WP	02/19/08	WP
Acrylonitrile	02/19/08	WP	02/19/08	WP
Benzene	02/19/08	WP	02/19/08	WP
Bromodichloromethane	02/19/08	WP	02/19/08	WP
Bromoform	02/19/08	WP	02/19/08	WP
Bromomethane	02/19/08	WP	02/19/08	WP
Carbon disulfide	02/19/08	WP	02/19/08	WP
Carbon tetrachloride	02/19/08	WP	02/19/08	WP
Chlorobenzene	02/19/08	WP	02/19/08	WP
Chloroethane	02/19/08	WP	02/19/08	WP
Chloroform	02/19/08	WP	02/19/08	WP
Chloromethane	02/19/08	WP	02/19/08	WP
cis-1,2-Dichloroethene	02/19/08	WP	02/19/08	WP
cis-1,3-Dichloropropene	02/19/08	WP	02/19/08	WP
Dibromochloromethane	02/19/08	WP	02/19/08	WP
Ethylbenzene	02/19/08	WP	02/19/08	WP
m&p-Xylenes	02/19/08	WP	02/19/08	WP
Methylene chloride	02/19/08	WP	02/19/08	WP
o-Xylene	02/19/08	WP	02/19/08	WP
Styrene	02/19/08	WP	02/19/08	WP
Tetrachloroethene	02/19/08	WP	02/19/08	WP
Toluene	02/19/08	WP	02/19/08	WP

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trans-1,2-Dichloroethene	02/19/08	WP	02/19/08	WP
trans-1,3-dichloropropene	02/19/08	WP	02/19/08	WP
Trichloroethene	02/19/08	WP	02/19/08	WP
Vinyl chloride	02/19/08	WP	02/19/08	WP

Lab#: AC35821-008 Sample ID: C-3N

TestGroupName 8015/QAM-025 Extract & Hold
Preparation Method: 8015/QAM-025
Analytical Method: 8015/QAM-025

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Extract and Hold	02/20/08	Mausami	NA	

TestGroupName Base Neutrals (Extract and Hold) 8270
Preparation Method: EPA3510/3550
Analytical Method: EPA 8270C

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Extract and Hold	02/19/08	MEGHA	NA	

TestGroupName PCB (Extract and Hold) 8082
Preparation Method: EPA3510/3550
Analytical Method: EPA 8082

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Extract and Hold	02/19/08	kenneth	NA	

TestGroupName Pesticides (Extract and Hold) 608/8081
Preparation Method: 608/3550
Analytical Method: EPA 608/8081

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Extract and Hold	02/19/08	kenneth	NA	

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TestGroupName % Solids SM2540G
Preparation Method: SM 2540G
Analytical Method: SM 2540G

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
% Solids	02/19/08	erica	02/19/08	erica

TestGroupName Cyanide (Soil/Waste)
Preparation Method: EPA 9014
Analytical Method: EPA 9014

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Cyanide	02/21/08	hs	02/21/08	hs

TestGroupName Mercury (Soil/Waste) 7471A
Preparation Method: EPA 7471A
Analytical Method: EPA 7471A

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Mercury	02/27/08	srb	02/26/08	JS

TestGroupName Organochlorine Pesticides 8081
Preparation Method: EPA3510/3550
Analytical Method: EPA 8081A

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Aldrin	02/19/08	kenneth	02/20/08	KD
Alpha-BHC	02/19/08	kenneth	02/20/08	KD
beta-BHC	02/19/08	kenneth	02/20/08	KD
Chlordane	02/19/08	kenneth	02/20/08	KD
delta-BHC	02/19/08	kenneth	02/20/08	KD
Dieldrin	02/19/08	kenneth	02/20/08	KD
Endosulfan I	02/19/08	kenneth	02/20/08	KD
Endosulfan II	02/19/08	kenneth	02/20/08	KD
Endosulfan Sulfate	02/19/08	kenneth	02/20/08	KD
Endrin	02/19/08	kenneth	02/20/08	KD
Endrin Aldehyde	02/19/08	kenneth	02/20/08	KD
Endrin Ketone	02/19/08	kenneth	02/20/08	KD
Gamma-BHC	02/19/08	kenneth	02/20/08	KD
Heptachlor	02/19/08	kenneth	02/20/08	KD

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Heptachlor Epoxide	02/19/08	kenneth	02/20/08	KD
Methoxychlor	02/19/08	kenneth	02/20/08	KD
p,p'-DDD	02/19/08	kenneth	02/20/08	KD
p,p'-DDE	02/19/08	kenneth	02/20/08	KD
p,p'-DDT	02/19/08	kenneth	02/20/08	KD
Toxaphene	02/19/08	kenneth	02/20/08	KD

TestGroupName PCB 8082
Preparation Method: EPA3510/3550
Analytical Method: EPA 8082

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Aroclor-1016	02/19/08	kenneth	02/19/08	KD
Aroclor-1221	02/19/08	kenneth	02/19/08	KD
Aroclor-1232	02/19/08	kenneth	02/19/08	KD
Aroclor-1242	02/19/08	kenneth	02/19/08	KD
Aroclor-1248	02/19/08	kenneth	02/19/08	KD
Aroclor-1254	02/19/08	kenneth	02/19/08	KD
Aroclor-1260	02/19/08	kenneth	02/19/08	KD
Aroclor-1262	02/19/08	kenneth	02/19/08	KD

TestGroupName Phenols (Soil/Waste) 9065
Preparation Method: EPA 9065
Analytical Method: EPA 9065

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Total Phenolics	02/28/08	BCT	02/28/08	BCT

TestGroupName PP Metals 6010
Preparation Method: 3005&10/3050
Analytical Method: EPA 6010B

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Antimony	02/27/08	srb	02/28/08	SB
Arsenic	02/27/08	srb	02/28/08	SB
Barium	02/27/08	srb	02/28/08	SB
Beryllium	02/27/08	srb	02/28/08	SB
Cadmium	02/27/08	srb	02/28/08	SB
Chromium	02/27/08	srb	02/28/08	SB
Copper	02/27/08	srb	02/28/08	SB
Lead	02/27/08	srb	02/28/08	SB
Nickel	02/27/08	srb	02/28/08	SB
Selenium	02/27/08	srb	02/28/08	SB
Silver	02/27/08	srb	02/28/08	SB
Thallium	02/27/08	srb	02/28/08	SB
Zinc	02/27/08	srb	02/29/08	SB

TestGroupName Semivolatile Organics + 25 (8270)
Preparation Method: EPA3510/3550
Analytical Method: EPA 8270C

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
1,2,4-Trichlorobenzene	02/19/08	MEGHA	02/20/08	AHD
1,2-Diphenylhydrazine	02/19/08	MEGHA	02/20/08	AHD
2,4,5-Trichlorophenol	02/19/08	MEGHA	02/20/08	AHD
2,4,6-Trichlorophenol	02/19/08	MEGHA	02/20/08	AHD
2,4-Dichlorophenol	02/19/08	MEGHA	02/20/08	AHD
2,4-Dimethylphenol	02/19/08	MEGHA	02/20/08	AHD
2,4-Dinitrophenol	02/19/08	MEGHA	02/20/08	AHD
2,4-Dinitrotoluene	02/19/08	MEGHA	02/20/08	AHD
2,6-Dinitrotoluene	02/19/08	MEGHA	02/20/08	AHD
2-Chloronaphthalene	02/19/08	MEGHA	02/20/08	AHD
2-Chlorophenol	02/19/08	MEGHA	02/20/08	AHD
2-Methylnaphthalene	02/19/08	MEGHA	02/20/08	AHD
2-Methylphenol	02/19/08	MEGHA	02/20/08	AHD
2-Nitroaniline	02/19/08	MEGHA	02/20/08	AHD
2-Nitrophenol	02/19/08	MEGHA	02/20/08	AHD
3&4-Methylphenol	02/19/08	MEGHA	02/20/08	AHD
3,3'-Dichlorobenzidine	02/19/08	MEGHA	02/20/08	AHD
3-Nitroaniline	02/19/08	MEGHA	02/20/08	AHD
4,6-Dinitro-2-methylphenol	02/19/08	MEGHA	02/20/08	AHD
4-Bromophenyl-phenylether	02/19/08	MEGHA	02/20/08	AHD
4-Chloro-3-methylphenol	02/19/08	MEGHA	02/20/08	AHD
4-Chloroaniline	02/19/08	MEGHA	02/20/08	AHD
4-Chlorophenyl-phenylether	02/19/08	MEGHA	02/20/08	AHD
4-Nitroaniline	02/19/08	MEGHA	02/20/08	AHD
4-Nitrophenol	02/19/08	MEGHA	02/20/08	AHD

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Acenaphthene	02/19/08	MEGHA	02/20/08	AHD
Acenaphthylene	02/19/08	MEGHA	02/20/08	AHD
Anthracene	02/19/08	MEGHA	02/20/08	AHD
Benzidine	02/19/08	MEGHA	02/20/08	AHD
Benzo[a]anthracene	02/19/08	MEGHA	02/20/08	AHD
Benzo[a]pyrene	02/19/08	MEGHA	02/20/08	AHD
Benzo[b]fluoranthene	02/19/08	MEGHA	02/20/08	AHD
Benzo[g,h,i]perylene	02/19/08	MEGHA	02/20/08	AHD
Benzo[k]fluoranthene	02/19/08	MEGHA	02/20/08	AHD
Bis(2-Chloroethoxy)methane	02/19/08	MEGHA	02/20/08	AHD
Bis(2-Chloroethyl)ether	02/19/08	MEGHA	02/20/08	AHD
Bis(2-Chloroisopropyl)ether	02/19/08	MEGHA	02/20/08	AHD
Bis(2-Ethylhexyl)phthalate	02/19/08	MEGHA	02/20/08	AHD
Butylbenzylphthalate	02/19/08	MEGHA	02/20/08	AHD
Carbazole	02/19/08	MEGHA	02/20/08	AHD
Chrysene	02/19/08	MEGHA	02/20/08	AHD
Dibenzo[a,h]anthracene	02/19/08	MEGHA	02/20/08	AHD
Dibenzofuran	02/19/08	MEGHA	02/20/08	AHD
Diethylphthalate	02/19/08	MEGHA	02/20/08	AHD
Dimethylphthalate	02/19/08	MEGHA	02/20/08	AHD
Di-n-butylphthalate	02/19/08	MEGHA	02/20/08	AHD
Di-n-octylphthalate	02/19/08	MEGHA	02/20/08	AHD
Fluoranthene	02/19/08	MEGHA	02/20/08	AHD
Fluorene	02/19/08	MEGHA	02/20/08	AHD
Hexachlorobenzene	02/19/08	MEGHA	02/20/08	AHD
Hexachlorobutadiene	02/19/08	MEGHA	02/20/08	AHD
Hexachlorocyclopentadiene	02/19/08	MEGHA	02/20/08	AHD
Hexachloroethane	02/19/08	MEGHA	02/20/08	AHD
Indeno[1,2,3-cd]pyrene	02/19/08	MEGHA	02/20/08	AHD
Isophorone	02/19/08	MEGHA	02/20/08	AHD
Naphthalene	02/19/08	MEGHA	02/20/08	AHD
Nitrobenzene	02/19/08	MEGHA	02/20/08	AHD
N-Nitrosodimethylamine	02/19/08	MEGHA	02/20/08	AHD
N-Nitroso-di-n-propylamine	02/19/08	MEGHA	02/20/08	AHD
N-Nitrosodiphenylamine	02/19/08	MEGHA	02/20/08	AHD
Pentachlorophenol	02/19/08	MEGHA	02/20/08	AHD
Phenanthrene	02/19/08	MEGHA	02/20/08	AHD
Phenol	02/19/08	MEGHA	02/20/08	AHD
Pyrene	02/19/08	MEGHA	02/20/08	AHD

TestGroupName TPH (NJ OQA-QAM-025-Rev6)
Preparation Method: NJ 025-Rev6
Analytical Method: NJ 025-Rev6

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Total Petroleum Hydrocarbons	02/19/08	sexture	02/20/08	PSL

TestGroupName Volatile Organics + 15 (8260)
Preparation Method: EPA5030/5035
Analytical Method: EPA 8260B

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
1,1,1-Trichloroethane	02/19/08	WP	02/19/08	WP
1,1,2,2-Tetrachloroethane	02/19/08	WP	02/19/08	WP
1,1,2-Trichloroethane	02/19/08	WP	02/19/08	WP
1,1-Dichloroethane	02/19/08	WP	02/19/08	WP
1,1-Dichloroethene	02/19/08	WP	02/19/08	WP
1,2-Dichlorobenzene	02/19/08	WP	02/19/08	WP
1,2-Dichloroethane	02/19/08	WP	02/19/08	WP
1,2-Dichloropropane	02/19/08	WP	02/19/08	WP
1,3-Dichlorobenzene	02/19/08	WP	02/19/08	WP
1,4-Dichlorobenzene	02/19/08	WP	02/19/08	WP
2-Butanone	02/19/08	WP	02/19/08	WP
2-Chloroethylvinylether	02/19/08	WP	02/19/08	WP
2-Hexanone	02/19/08	WP	02/19/08	WP
4-Methyl-2-Pentanone	02/19/08	WP	02/19/08	WP
Acetone	02/19/08	WP	02/19/08	WP
Acrolein	02/19/08	WP	02/19/08	WP
Acrylonitrile	02/19/08	WP	02/19/08	WP
Benzene	02/19/08	WP	02/19/08	WP
Bromodichloromethane	02/19/08	WP	02/19/08	WP
Bromoform	02/19/08	WP	02/19/08	WP
Bromomethane	02/19/08	WP	02/19/08	WP
Carbon disulfide	02/19/08	WP	02/19/08	WP
Carbon tetrachloride	02/19/08	WP	02/19/08	WP
Chlorobenzene	02/19/08	WP	02/19/08	WP
Chloroethane	02/19/08	WP	02/19/08	WP

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Chloroform	02/19/08	WP	02/19/08	WP
Chloromethane	02/19/08	WP	02/19/08	WP
cis-1,2-Dichloroethene	02/19/08	WP	02/19/08	WP
cis-1,3-Dichloropropene	02/19/08	WP	02/19/08	WP
Dibromochloromethane	02/19/08	WP	02/19/08	WP
Ethylbenzene	02/19/08	WP	02/19/08	WP
m&p-Xylenes	02/19/08	WP	02/19/08	WP
Methylene chloride	02/19/08	WP	02/19/08	WP
o-Xylene	02/19/08	WP	02/19/08	WP
Styrene	02/19/08	WP	02/19/08	WP
Tetrachloroethene	02/19/08	WP	02/19/08	WP
Toluene	02/19/08	WP	02/19/08	WP
trans-1,2-Dichloroethene	02/19/08	WP	02/19/08	WP
trans-1,3-dichloropropene	02/19/08	WP	02/19/08	WP
Trichloroethene	02/19/08	WP	02/19/08	WP
Vinyl chloride	02/19/08	WP	02/19/08	WP

Lab#: AC35821-010 Sample ID: C-4N

TestGroupName 8015/QAM-025 Extract & Hold
Preparation Method: 8015/QAM-025
Analytical Method: 8015/QAM-025

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Extract and Hold	02/20/08	Mausami	NA	

TestGroupName Base Neutrals (Extract and Hold) 8270
Preparation Method: EPA3510/3550
Analytical Method: EPA 8270C

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Extract and Hold	02/19/08	MEGHA	NA	

TestGroupName PCB (Extract and Hold) 8082
Preparation Method: EPA3510/3550
Analytical Method: EPA 8082

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Extract and Hold	02/19/08	kenneth	NA	

TestGroupName Pesticides (Extract and Hold) 608/8081
Preparation Method: 608/3550
Analytical Method: EPA 608/8081

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Extract and Hold	02/19/08	kenneth	NA	

Lab#: AC35821-011 Sample ID: C-5F

TestGroupName % Solids SM2540G
Preparation Method: SM 2540G
Analytical Method: SM 2540G

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
% Solids	02/19/08	erica	02/19/08	erica

TestGroupName Cyanide (Soil/Waste)
Preparation Method: EPA 9014
Analytical Method: EPA 9014

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Cyanide	02/22/08	hs	02/22/08	hs

TestGroupName Mercury (Soil/Waste) 7471A
Preparation Method: EPA 7471A
Analytical Method: EPA 7471A

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Mercury	02/27/08	srb	02/28/08	JS

TestGroupName Organochlorine Pesticides 8081
Preparation Method: EPA3510/3550
Analytical Method: EPA 8081A

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Aldrin	02/19/08	kenneth	02/20/08	KD
Alpha-BHC	02/19/08	kenneth	02/20/08	KD

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beta-BHC	02/19/08	kenneth	02/20/08	KD
Chlordane	02/19/08	kenneth	02/20/08	KD
delta-BHC	02/19/08	kenneth	02/20/08	KD
Dieldrin	02/19/08	kenneth	02/20/08	KD
Endosulfan I	02/19/08	kenneth	02/20/08	KD
Endosulfan II	02/19/08	kenneth	02/20/08	KD
Endosulfan Sulfate	02/19/08	kenneth	02/20/08	KD
Endrin	02/19/08	kenneth	02/20/08	KD
Endrin Aldehyde	02/19/08	kenneth	02/20/08	KD
Endrin Ketone	02/19/08	kenneth	02/20/08	KD
Gamma-BHC	02/19/08	kenneth	02/20/08	KD
Heptachlor	02/19/08	kenneth	02/20/08	KD
Heptachlor Epoxide	02/19/08	kenneth	02/20/08	KD
Methoxychlor	02/19/08	kenneth	02/20/08	KD
p,p'-DDD	02/19/08	kenneth	02/20/08	KD
p,p'-DDE	02/19/08	kenneth	02/20/08	KD
p,p'-DDT	02/19/08	kenneth	02/20/08	KD
Toxaphene	02/19/08	kenneth	02/20/08	KD

TestGroupName PCB 8082
Preparation Method: EPA3510/3550
Analytical Method: EPA 8082

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Aroclor-1016	02/19/08	kenneth	02/20/08	KD
Aroclor-1221	02/19/08	kenneth	02/20/08	KD
Aroclor-1232	02/19/08	kenneth	02/20/08	KD
Aroclor-1242	02/19/08	kenneth	02/20/08	KD
Aroclor-1248	02/19/08	kenneth	02/20/08	KD
Aroclor-1254	02/19/08	kenneth	02/20/08	KD
Aroclor-1260	02/19/08	kenneth	02/20/08	KD
Aroclor-1262	02/19/08	kenneth	02/20/08	KD

TestGroupName Phenols (Soil/Waste) 9065
Preparation Method: EPA 9065
Analytical Method: EPA 9065

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Total Phenolics	02/28/08	BCT	02/28/08	BCT

TestGroupName PP Metals 6010
Preparation Method: 3005&10/3050
Analytical Method: EPA 6010B

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Antimony	02/27/08	srb	02/28/08	SB
Arsenic	02/27/08	srb	02/28/08	SB
Barium	02/27/08	srb	02/28/08	SB
Beryllium	02/27/08	srb	02/28/08	SB
Cadmium	02/27/08	srb	02/28/08	SB
Chromium	02/27/08	srb	02/28/08	SB
Copper	02/27/08	srb	02/28/08	SB
Lead	02/27/08	srb	02/28/08	SB
Nickel	02/27/08	srb	02/28/08	SB
Selenium	02/27/08	srb	02/28/08	SB
Silver	02/27/08	srb	02/28/08	SB
Thallium	02/27/08	srb	02/28/08	SB
Zinc	02/27/08	srb	02/29/08	SB

TestGroupName Semivolatile Organics + 25 (8270)
Preparation Method: EPA3510/3550
Analytical Method: EPA 8270C

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
1,2,4-Trichlorobenzene	02/19/08	MEGHA	02/21/08	AHD
1,2-Diphenylhydrazine	02/19/08	MEGHA	02/21/08	AHD
2,4,5-Trichlorophenol	02/19/08	MEGHA	02/21/08	AHD
2,4,6-Trichlorophenol	02/19/08	MEGHA	02/21/08	AHD
2,4-Dichlorophenol	02/19/08	MEGHA	02/21/08	AHD
2,4-Dimethylphenol	02/19/08	MEGHA	02/21/08	AHD
2,4-Dinitrophenol	02/19/08	MEGHA	02/21/08	AHD
2,4-Dinitrotoluene	02/19/08	MEGHA	02/21/08	AHD
2,6-Dinitrotoluene	02/19/08	MEGHA	02/21/08	AHD
2-Chloronaphthalene	02/19/08	MEGHA	02/21/08	AHD
2-Chlorophenol	02/19/08	MEGHA	02/21/08	AHD
2-Methylnaphthalene	02/19/08	MEGHA	02/21/08	AHD
2-Methylphenol	02/19/08	MEGHA	02/21/08	AHD

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2-Nitroaniline	02/19/08	MEGHA	02/21/08	AHD
2-Nitrophenol	02/19/08	MEGHA	02/21/08	AHD
3&4-Methylphenol	02/19/08	MEGHA	02/21/08	AHD
3,3'-Dichlorobenzidine	02/19/08	MEGHA	02/21/08	AHD
3-Nitroaniline	02/19/08	MEGHA	02/21/08	AHD
4,6-Dinitro-2-methylphenol	02/19/08	MEGHA	02/21/08	AHD
4-Bromophenyl-phenylether	02/19/08	MEGHA	02/21/08	AHD
4-Chloro-3-methylphenol	02/19/08	MEGHA	02/21/08	AHD
4-Chloroaniline	02/19/08	MEGHA	02/21/08	AHD
4-Chlorophenyl-phenylether	02/19/08	MEGHA	02/21/08	AHD
4-Nitroaniline	02/19/08	MEGHA	02/21/08	AHD
4-Nitrophenol	02/19/08	MEGHA	02/21/08	AHD
Acenaphthene	02/19/08	MEGHA	02/21/08	AHD
Acenaphthylene	02/19/08	MEGHA	02/21/08	AHD
Anthracene	02/19/08	MEGHA	02/21/08	AHD
Benzidine	02/19/08	MEGHA	02/21/08	AHD
Benzo[a]anthracene	02/19/08	MEGHA	02/21/08	AHD
Benzo[a]pyrene	02/19/08	MEGHA	02/21/08	AHD
Benzo[b]fluoranthene	02/19/08	MEGHA	02/21/08	AHD
Benzo[g,h,i]perylene	02/19/08	MEGHA	02/21/08	AHD
Benzo[k]fluoranthene	02/19/08	MEGHA	02/21/08	AHD
Bis(2-Chloroethoxy)methane	02/19/08	MEGHA	02/21/08	AHD
Bis(2-Chloroethyl)ether	02/19/08	MEGHA	02/21/08	AHD
Bis(2-Chloroisopropyl)ether	02/19/08	MEGHA	02/21/08	AHD
Bis(2-Ethylhexyl)phthalate	02/19/08	MEGHA	02/21/08	AHD
Butylbenzylphthalate	02/19/08	MEGHA	02/21/08	AHD
Carbazole	02/19/08	MEGHA	02/21/08	AHD
Chrysene	02/19/08	MEGHA	02/21/08	AHD
Dibenzo[a,h]anthracene	02/19/08	MEGHA	02/21/08	AHD
Dibenzofuran	02/19/08	MEGHA	02/21/08	AHD
Diethylphthalate	02/19/08	MEGHA	02/21/08	AHD
Dimethylphthalate	02/19/08	MEGHA	02/21/08	AHD
Di-n-butylphthalate	02/19/08	MEGHA	02/21/08	AHD
Di-n-octylphthalate	02/19/08	MEGHA	02/21/08	AHD
Fluoranthene	02/19/08	MEGHA	02/21/08	AHD
Fluorene	02/19/08	MEGHA	02/21/08	AHD
Hexachlorobenzene	02/19/08	MEGHA	02/21/08	AHD
Hexachlorobutadiene	02/19/08	MEGHA	02/21/08	AHD
Hexachlorocyclopentadiene	02/19/08	MEGHA	02/21/08	AHD
Hexachloroethane	02/19/08	MEGHA	02/21/08	AHD
Indeno[1,2,3-cd]pyrene	02/19/08	MEGHA	02/21/08	AHD
Isophorone	02/19/08	MEGHA	02/21/08	AHD
Naphthalene	02/19/08	MEGHA	02/21/08	AHD
Nitrobenzene	02/19/08	MEGHA	02/21/08	AHD
N-Nitrosodimethylamine	02/19/08	MEGHA	02/21/08	AHD
N-Nitroso-di-n-propylamine	02/19/08	MEGHA	02/21/08	AHD
N-Nitrosodiphenylamine	02/19/08	MEGHA	02/21/08	AHD
Pentachlorophenol	02/19/08	MEGHA	02/21/08	AHD
Phenanthrene	02/19/08	MEGHA	02/21/08	AHD
Phenol	02/19/08	MEGHA	02/21/08	AHD
Pyrene	02/19/08	MEGHA	02/21/08	AHD

TestGroupName TPH (NJ OQA-QAM-025-Rev6)
Preparation Method: NJ 025-Rev6
Analytical Method: NJ 025-Rev6

Analyte	Prep Date	By	Analysis Date	By
Total Petroleum Hydrocarbons	02/19/08	sexture	02/20/08	PSL

TestGroupName Volatile Organics + 15 (8260)
Preparation Method: EPA5030/5035
Analytical Method: EPA 8260B

Analyte	Prep Date	By	Analysis Date	By
1,1,1-Trichloroethane	02/19/08	WP	02/19/08	WP
1,1,2,2-Tetrachloroethane	02/19/08	WP	02/19/08	WP
1,1,2-Trichloroethane	02/19/08	WP	02/19/08	WP
1,1-Dichloroethane	02/19/08	WP	02/19/08	WP
1,1-Dichloroethene	02/19/08	WP	02/19/08	WP
1,2-Dichlorobenzene	02/19/08	WP	02/19/08	WP
1,2-Dichloroethane	02/19/08	WP	02/19/08	WP
1,2-Dichloropropane	02/19/08	WP	02/19/08	WP
1,3-Dichlorobenzene	02/19/08	WP	02/19/08	WP
1,4-Dichlorobenzene	02/19/08	WP	02/19/08	WP
2-Butanone	02/19/08	WP	02/19/08	WP
2-Chloroethylvinylether	02/19/08	WP	02/19/08	WP
2-Hexanone	02/19/08	WP	02/19/08	WP

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4-Methyl-2-Pentanone	02/19/08	WP	02/19/08	WP
Acetone	02/19/08	WP	02/19/08	WP
Acrolein	02/19/08	WP	02/19/08	WP
Acrylonitrile	02/19/08	WP	02/19/08	WP
Benzene	02/19/08	WP	02/19/08	WP
Bromodichloromethane	02/19/08	WP	02/19/08	WP
Bromoform	02/19/08	WP	02/19/08	WP
Bromomethane	02/19/08	WP	02/19/08	WP
Carbon disulfide	02/19/08	WP	02/19/08	WP
Carbon tetrachloride	02/19/08	WP	02/19/08	WP
Chlorobenzene	02/19/08	WP	02/19/08	WP
Chloroethane	02/19/08	WP	02/19/08	WP
Chloroform	02/19/08	WP	02/19/08	WP
Chloromethane	02/19/08	WP	02/19/08	WP
cis-1,2-Dichloroethene	02/19/08	WP	02/19/08	WP
cis-1,3-Dichloropropene	02/19/08	WP	02/19/08	WP
Dibromochloromethane	02/19/08	WP	02/19/08	WP
Ethylbenzene	02/19/08	WP	02/19/08	WP
m&p-Xylenes	02/19/08	WP	02/19/08	WP
Methylene chloride	02/19/08	WP	02/19/08	WP
o-Xylene	02/19/08	WP	02/19/08	WP
Styrene	02/19/08	WP	02/19/08	WP
Tetrachloroethene	02/19/08	WP	02/19/08	WP
Toluene	02/19/08	WP	02/19/08	WP
trans-1,2-Dichloroethene	02/19/08	WP	02/19/08	WP
trans-1,3-dichloropropene	02/19/08	WP	02/19/08	WP
Trichloroethene	02/19/08	WP	02/19/08	WP
Vinyl chloride	02/19/08	WP	02/19/08	WP

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TestGroupName % Solids SM2540G
Preparation Method: SM 2540G
Analytical Method: SM 2540G

Analyte	Prep Date	By	Analysis Date	By
% Solids	03/04/08	erica	03/04/08	erica

TestGroupName 8015/QAM-025 Extract & Hold
Preparation Method: 8015/QAM-025
Analytical Method: 8015/QAM-025

Analyte	Prep Date	By	Analysis Date	By
Extract and Hold	02/20/08	Mausami	NA	

TestGroupName Base Neutrals (Extract and Hold) 8270
Preparation Method: EPA3510/3550
Analytical Method: EPA 8270C

Analyte	Prep Date	By	Analysis Date	By
Extract and Hold	02/19/08	MEGHA	NA	

TestGroupName Metals-Three 6010
Preparation Method: 3005&10/3050
Analytical Method: EPA 6010B

Analyte	Prep Date	By	Analysis Date	By
Antimony	03/04/08	srb	03/04/08	DM
Arsenic	03/04/08	srb	03/04/08	DM
Lead	03/04/08	srb	03/04/08	DM

TestGroupName PCB 8082
Preparation Method: EPA3510/3550
Analytical Method: EPA 8082

Analyte	Prep Date	By	Analysis Date	By
Aroclor-1016	02/19/08	kw	02/19/08	KD
Aroclor-1221	02/19/08	kw	02/19/08	KD
Aroclor-1232	02/19/08	kw	02/19/08	KD
Aroclor-1242	02/19/08	kw	02/19/08	KD
Aroclor-1248	02/19/08	kw	02/19/08	KD
Aroclor-1254	02/19/08	kw	02/19/08	KD
Aroclor-1260	02/19/08	kw	02/19/08	KD
Aroclor-1262	02/19/08	kw	02/19/08	KD

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TestGroupName Pesticides (Extract and Hold) 608/8081
Preparation Method: 608/3550
Analytical Method: EPA 608/8081

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Extract and Hold	02/19/08	kenneth	NA	

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TestGroupName % Solids SM2540G
Preparation Method: SM 2540G
Analytical Method: SM 2540G

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
% Solids	02/19/08	erica	02/19/08	erica

TestGroupName Cyanide (Soil/Waste)
Preparation Method: EPA 9014
Analytical Method: EPA 9014

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Cyanide	02/22/08	hs	02/22/08	hs

TestGroupName Mercury (Soil/Waste) 7471A
Preparation Method: EPA 7471A
Analytical Method: EPA 7471A

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Mercury	02/27/08	srb	02/28/08	JS

TestGroupName Organochlorine Pesticides 8081
Preparation Method: EPA3510/3550
Analytical Method: EPA 8081A

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Aldrin	02/19/08	kenneth	02/20/08	KD
Alpha-BHC	02/19/08	kenneth	02/20/08	KD
beta-BHC	02/19/08	kenneth	02/20/08	KD
Chlordane	02/19/08	kenneth	02/20/08	KD
delta-BHC	02/19/08	kenneth	02/20/08	KD
Dieldrin	02/19/08	kenneth	02/20/08	KD
Endosulfan I	02/19/08	kenneth	02/20/08	KD
Endosulfan II	02/19/08	kenneth	02/20/08	KD
Endosulfan Sulfate	02/19/08	kenneth	02/20/08	KD
Endrin	02/19/08	kenneth	02/20/08	KD
Endrin Aldehyde	02/19/08	kenneth	02/20/08	KD
Endrin Ketone	02/19/08	kenneth	02/20/08	KD
Gamma-BHC	02/19/08	kenneth	02/20/08	KD
Heptachlor	02/19/08	kenneth	02/20/08	KD
Heptachlor Epoxide	02/19/08	kenneth	02/20/08	KD
Methoxychlor	02/19/08	kenneth	02/20/08	KD
p,p'-DDD	02/19/08	kenneth	02/20/08	KD
p,p'-DDE	02/19/08	kenneth	02/20/08	KD
p,p'-DDT	02/19/08	kenneth	02/20/08	KD
Toxaphene	02/19/08	kenneth	02/20/08	KD

TestGroupName PCB 8082
Preparation Method: EPA3510/3550
Analytical Method: EPA 8082

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Aroclor-1016	02/19/08	kenneth	02/19/08	KD
Aroclor-1221	02/19/08	kenneth	02/19/08	KD
Aroclor-1232	02/19/08	kenneth	02/19/08	KD
Aroclor-1242	02/19/08	kenneth	02/19/08	KD
Aroclor-1248	02/19/08	kenneth	02/19/08	KD
Aroclor-1254	02/19/08	kenneth	02/19/08	KD
Aroclor-1260	02/19/08	kenneth	02/19/08	KD
Aroclor-1262	02/19/08	kenneth	02/19/08	KD

TestGroupName Phenols (Soil/Waste) 9065
Preparation Method: EPA 9065
Analytical Method: EPA 9065

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Total Phenolics	02/28/08	BCT	02/26/08	BCT

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TestGroupName PP Metals 6010
Preparation Method: 3005&10/3050
Analytical Method: EPA 6010B

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Antimony	02/27/08	srb	02/28/08	SB
Arsenic	02/27/08	srb	02/28/08	SB
Barium	02/27/08	srb	02/28/08	SB
Beryllium	02/27/08	srb	02/28/08	SB
Cadmium	02/27/08	srb	02/28/08	SB
Chromium	02/27/08	srb	02/28/08	SB
Copper	02/27/08	srb	02/28/08	SB
Lead	02/27/08	srb	02/28/08	SB
Nickel	02/27/08	srb	02/28/08	SB
Selenium	02/27/08	srb	02/28/08	SB
Silver	02/27/08	srb	02/28/08	SB
Thallium	02/27/08	srb	02/28/08	SB
Zinc	02/27/08	srb	02/29/08	SB

TestGroupName Semivolatile Organics + 25 (8270)
Preparation Method: EPA3510/3550
Analytical Method: EPA 8270C

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
1,2,4-Trichlorobenzene	02/19/08	MEGHA	02/20/08	AHD
1,2-Diphenylhydrazine	02/19/08	MEGHA	02/20/08	AHD
2,4,5-Trichlorophenol	02/19/08	MEGHA	02/20/08	AHD
2,4,6-Trichlorophenol	02/19/08	MEGHA	02/20/08	AHD
2,4-Dichlorophenol	02/19/08	MEGHA	02/20/08	AHD
2,4-Dimethylphenol	02/19/08	MEGHA	02/20/08	AHD
2,4-Dinitrophenol	02/19/08	MEGHA	02/20/08	AHD
2,4-Dinitrotoluene	02/19/08	MEGHA	02/20/08	AHD
2,6-Dinitrotoluene	02/19/08	MEGHA	02/20/08	AHD
2-Chloronaphthalene	02/19/08	MEGHA	02/20/08	AHD
2-Chlorophenol	02/19/08	MEGHA	02/20/08	AHD
2-Methylnaphthalene	02/19/08	MEGHA	02/20/08	AHD
2-Methylphenol	02/19/08	MEGHA	02/20/08	AHD
2-Nitroaniline	02/19/08	MEGHA	02/20/08	AHD
2-Nitrophenol	02/19/08	MEGHA	02/20/08	AHD
3&4-Methylphenol	02/19/08	MEGHA	02/20/08	AHD
3,3'-Dichlorobenzidine	02/19/08	MEGHA	02/20/08	AHD
3-Nitroaniline	02/19/08	MEGHA	02/20/08	AHD
4,6-Dinitro-2-methylphenol	02/19/08	MEGHA	02/20/08	AHD
4-Bromophenyl-phenylether	02/19/08	MEGHA	02/20/08	AHD
4-Chloro-3-methylphenol	02/19/08	MEGHA	02/20/08	AHD
4-Chloroaniline	02/19/08	MEGHA	02/20/08	AHD
4-Chlorophenyl-phenylether	02/19/08	MEGHA	02/20/08	AHD
4-Nitroaniline	02/19/08	MEGHA	02/20/08	AHD
4-Nitrophenol	02/19/08	MEGHA	02/20/08	AHD
Acenaphthene	02/19/08	MEGHA	02/20/08	AHD
Acenaphthylene	02/19/08	MEGHA	02/20/08	AHD
Anthracene	02/19/08	MEGHA	02/20/08	AHD
Benzidine	02/19/08	MEGHA	02/20/08	AHD
Benzo[a]anthracene	02/19/08	MEGHA	02/20/08	AHD
Benzo[a]pyrene	02/19/08	MEGHA	02/20/08	AHD
Benzo[b]fluoranthene	02/19/08	MEGHA	02/20/08	AHD
Benzo[g,h,i]perylene	02/19/08	MEGHA	02/20/08	AHD
Benzo[k]fluoranthene	02/19/08	MEGHA	02/20/08	AHD
Bis(2-Chloroethoxy)methane	02/19/08	MEGHA	02/20/08	AHD
Bis(2-Chloroethyl)ether	02/19/08	MEGHA	02/20/08	AHD
Bis(2-Chloroisopropyl)ether	02/19/08	MEGHA	02/20/08	AHD
Bis(2-Ethylhexyl)phthalate	02/19/08	MEGHA	02/20/08	AHD
Butylbenzylphthalate	02/19/08	MEGHA	02/20/08	AHD
Carbazole	02/19/08	MEGHA	02/20/08	AHD
Chrysene	02/19/08	MEGHA	02/20/08	AHD
Dibenzo[a,h]enthracene	02/19/08	MEGHA	02/20/08	AHD
Dibenzofuran	02/19/08	MEGHA	02/20/08	AHD
Diethylphthalate	02/19/08	MEGHA	02/20/08	AHD
Dimethylphthalate	02/19/08	MEGHA	02/20/08	AHD
Di-n-butylphthalate	02/19/08	MEGHA	02/20/08	AHD
Di-n-octylphthalate	02/19/08	MEGHA	02/20/08	AHD
Fluoranthene	02/19/08	MEGHA	02/20/08	AHD
Fluorene	02/19/08	MEGHA	02/20/08	AHD
Hexachlorobenzene	02/19/08	MEGHA	02/20/08	AHD
Hexachlorobutadiene	02/19/08	MEGHA	02/20/08	AHD
Hexachlorocyclopentadiene	02/19/08	MEGHA	02/20/08	AHD
Hexachloroethane	02/19/08	MEGHA	02/20/08	AHD

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Indeno[1,2,3-cd]pyrene	02/19/08	MEGHA	02/20/08	AHD
Isophorone	02/19/08	MEGHA	02/20/08	AHD
Naphthalene	02/19/08	MEGHA	02/20/08	AHD
Nitrobenzene	02/19/08	MEGHA	02/20/08	AHD
N-Nitrosodimethylamine	02/19/08	MEGHA	02/20/08	AHD
N-Nitroso-di-n-propylamine	02/19/08	MEGHA	02/20/08	AHD
N-Nitrosodiphenylamine	02/19/08	MEGHA	02/20/08	AHD
Pentachlorophenol	02/19/08	MEGHA	02/20/08	AHD
Phenanthrene	02/19/08	MEGHA	02/20/08	AHD
Phenol	02/19/08	MEGHA	02/20/08	AHD
Pyrene	02/19/08	MEGHA	02/20/08	AHD

TestGroupName TPH (NJ OQA-QAM-025-Rev6)
Preparation Method: NJ 025-Rev6
Analytical Method: NJ 025-Rev6

	Prep		Analysis	
Analyte	Date	By	Date	By
Total Petroleum Hydrocarbons	02/19/08	sexture	02/20/08	PSL

TestGroupName Volatile Organics + 15 (8260)
Preparation Method: EPA5030/5035
Analytical Method: EPA 8260B

	Prep		Analysis	
Analyte	Date	By	Date	By
1,1,1-Trichloroethane	02/20/08	WP	02/20/08	WP
1,1,2,2-Tetrachloroethane	02/20/08	WP	02/20/08	WP
1,1,2-Trichloroethane	02/20/08	WP	02/20/08	WP
1,1-Dichloroethane	02/20/08	WP	02/20/08	WP
1,1-Dichloroethene	02/20/08	WP	02/20/08	WP
1,2-Dichlorobenzene	02/20/08	WP	02/20/08	WP
1,2-Dichloroethane	02/20/08	WP	02/20/08	WP
1,2-Dichloropropane	02/20/08	WP	02/20/08	WP
1,3-Dichlorobenzene	02/20/08	WP	02/20/08	WP
1,4-Dichlorobenzene	02/20/08	WP	02/20/08	WP
2-Butanone	02/20/08	WP	02/20/08	WP
2-Chloroethylvinylether	02/20/08	WP	02/20/08	WP
2-Hexanone	02/20/08	WP	02/20/08	WP
4-Methyl-2-Pentanone	02/20/08	WP	02/20/08	WP
Acetone	02/20/08	WP	02/20/08	WP
Acrolein	02/20/08	WP	02/20/08	WP
Acrylonitrile	02/20/08	WP	02/20/08	WP
Benzene	02/20/08	WP	02/20/08	WP
Bromodichloromethane	02/20/08	WP	02/20/08	WP
Bromoform	02/20/08	WP	02/20/08	WP
Bromomethane	02/20/08	WP	02/20/08	WP
Carbon disulfide	02/20/08	WP	02/20/08	WP
Carbon tetrachloride	02/20/08	WP	02/20/08	WP
Chlorobenzene	02/20/08	WP	02/20/08	WP
Chloroethane	02/20/08	WP	02/20/08	WP
Chloroform	02/20/08	WP	02/20/08	WP
Chloromethane	02/20/08	WP	02/20/08	WP
cis-1,2-Dichloroethene	02/20/08	WP	02/20/08	WP
cis-1,3-Dichloropropene	02/20/08	WP	02/20/08	WP
Dibromochloromethane	02/20/08	WP	02/20/08	WP
Ethylbenzene	02/20/08	WP	02/20/08	WP
m&p-Xylenes	02/20/08	WP	02/20/08	WP
Methylene chloride	02/20/08	WP	02/20/08	WP
o-Xylene	02/20/08	WP	02/20/08	WP
Styrene	02/20/08	WP	02/20/08	WP
Tetrachloroethene	02/20/08	WP	02/20/08	WP
Toluene	02/20/08	WP	02/20/08	WP
trans-1,2-Dichloroethene	02/20/08	WP	02/20/08	WP
trans-1,3-dichloropropene	02/20/08	WP	02/20/08	WP
Trichloroethene	02/20/08	WP	02/20/08	WP
Vinyl chloride	02/20/08	WP	02/20/08	WP

Lab#: AC35821-014 Sample ID: C-6N

TestGroupName % Solids SM2540G
Preparation Method: SM 2540G
Analytical Method: SM 2540G

	Prep		Analysis	
Analyte	Date	By	Date	By
% Solids	03/04/08	erica	03/04/08	erica

Lab#: AC35821-014 Sample ID: C-6N

TestGroupName 8015/QAM-025 Extract & Hold
Preparation Method: 8015/QAM-025
Analytical Method: 8015/QAM-025

	Prep		Analysis	
Analyte	Date	By	Date	By
Extract and Hold	02/20/08	Mausami	NA	

TestGroupName Base Neutrals (no search) 8270
Preparation Method: EPA3510/3550
Analytical Method: EPA 8270C

	Prep		Analysis	
Analyte	Date	By	Date	By
1,2,4-Trichlorobenzene	02/19/08	megha	02/20/08	AHD
1,2-Diphenylhydrazine	02/19/08	megha	02/20/08	AHD
2,4-Dinitrotoluene	02/19/08	megha	02/20/08	AHD
2,6-Dinitrotoluene	02/19/08	megha	02/20/08	AHD
2-Chloronaphthalene	02/19/08	megha	02/20/08	AHD
2-Methylnaphthalene	02/19/08	megha	02/20/08	AHD
2-Nitroaniline	02/19/08	megha	02/20/08	AHD
3,3'-Dichlorobenzidine	02/19/08	megha	02/20/08	AHD
3-Nitroaniline	02/19/08	megha	02/20/08	AHD
4-Bromophenyl-phenylether	02/19/08	megha	02/20/08	AHD
4-Chloroaniline	02/19/08	megha	02/20/08	AHD
4-Chlorophenyl-phenylether	02/19/08	megha	02/20/08	AHD
4-Nitroaniline	02/19/08	megha	02/20/08	AHD
Acenaphthene	02/19/08	megha	02/20/08	AHD
Acenaphthylene	02/19/08	megha	02/20/08	AHD
Anthracene	02/19/08	megha	02/20/08	AHD
Benzidine	02/19/08	megha	02/20/08	AHD
Benzo[a]anthracene	02/19/08	megha	02/20/08	AHD
Benzo[a]pyrene	02/19/08	megha	02/20/08	AHD
Benzo[b]fluoranthene	02/19/08	megha	02/20/08	AHD
Benzo[g,h,i]perylene	02/19/08	megha	02/20/08	AHD
Benzo[k]fluoranthene	02/19/08	megha	02/20/08	AHD
Bis(2-Chloroethoxy)methane	02/19/08	megha	02/20/08	AHD
Bis(2-Chloroethyl)ether	02/19/08	megha	02/20/08	AHD
Bis(2-Chloroisopropyl)ether	02/19/08	megha	02/20/08	AHD
Bis(2-Ethylhexyl)phthalate	02/19/08	megha	02/20/08	AHD
Butylbenzylphthalate	02/19/08	megha	02/20/08	AHD
Carbazole	02/19/08	megha	02/20/08	AHD
Chrysene	02/19/08	megha	02/20/08	AHD
Dibenzo[a,h]anthracene	02/19/08	megha	02/20/08	AHD
Dibenzofuran	02/19/08	megha	02/20/08	AHD
Diethylphthalate	02/19/08	megha	02/20/08	AHD
Dimethylphthalate	02/19/08	megha	02/20/08	AHD
Di-n-butylphthalate	02/19/08	megha	02/20/08	AHD
Di-n-octylphthalate	02/19/08	megha	02/20/08	AHD
Fluoranthene	02/19/08	megha	02/20/08	AHD
Fluorene	02/19/08	megha	02/20/08	AHD
Hexachlorobenzene	02/19/08	megha	02/20/08	AHD
Hexachlorobutadiene	02/19/08	megha	02/20/08	AHD
Hexachlorocyclopentadiene	02/19/08	megha	02/20/08	AHD
Hexachloroethane	02/19/08	megha	02/20/08	AHD
Indeno[1,2,3-cd]pyrene	02/19/08	megha	02/20/08	AHD
Isophorone	02/19/08	megha	02/20/08	AHD
Naphthalene	02/19/08	megha	02/20/08	AHD
Nitrobenzene	02/19/08	megha	02/20/08	AHD
N-Nitrosodimethylamine	02/19/08	megha	02/20/08	AHD
N-Nitroso-di-n-propylamine	02/19/08	megha	02/20/08	AHD
N-Nitrosodiphenylamine	02/19/08	megha	02/20/08	AHD
Phenanthrene	02/19/08	megha	02/20/08	AHD
Pyrene	02/19/08	megha	02/20/08	AHD

TestGroupName Metals-Three 6010
Preparation Method: 3005&10/3050
Analytical Method: EPA 6010B

	Prep		Analysis	
Analyte	Date	By	Date	By
Antimony	03/04/08	srb	03/04/08	DM
Lead	03/04/08	srb	03/04/08	DM
Zinc	03/04/08	srb	03/04/08	DM

TestGroupName PCB 8082
Preparation Method: EPA3510/3550
Analytical Method: EPA 8082

	Prep		Analysis	
Analyte	Date	By	Date	By

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Aroclor-1016	02/19/08	kw	02/19/08	KD
Aroclor-1221	02/19/08	kw	02/19/08	KD
Aroclor-1232	02/19/08	kw	02/19/08	KD
Aroclor-1242	02/19/08	kw	02/19/08	KD
Aroclor-1248	02/19/08	kw	02/19/08	KD
Aroclor-1254	02/19/08	kw	02/19/08	KD
Aroclor-1260	02/19/08	kw	02/19/08	KD
Aroclor-1262	02/19/08	kw	02/19/08	KD

TestGroupName Pesticides (Extract and Hold) 608/8081
Preparation Method: 608/3550
Analytical Method: EPA 608/8081

	Prep		Analysis	
Analyte	Date	By	Date	By
Extract and Hold	02/19/08	kenneth	NA	

Lab#: AC35821-015 Sample ID: F-1F

TestGroupName % Solids SM2540G
Preparation Method: SM 2540G
Analytical Method: SM 2540G

	Prep		Analysis	
Analyte	Date	By	Date	By
% Solids	02/19/08	erica	02/19/08	erica

TestGroupName Cyanide (Soil/Waste)
Preparation Method: EPA 9014
Analytical Method: EPA 9014

	Prep		Analysis	
Analyte	Date	By	Date	By
Cyanide	02/22/08	hs	02/22/08	hs

TestGroupName Mercury (Soil/Waste) 7471A
Preparation Method: EPA 7471A
Analytical Method: EPA 7471A

	Prep		Analysis	
Analyte	Date	By	Date	By
Mercury	02/27/08	srb	02/28/08	JS

TestGroupName Organochlorine Pesticides 8081
Preparation Method: EPA3510/3550
Analytical Method: EPA 8081A

	Prep		Analysis	
Analyte	Date	By	Date	By
Aldrin	02/19/08	kenneth	02/21/08	KD
Alpha-BHC	02/19/08	kenneth	02/21/08	KD
beta-BHC	02/19/08	kenneth	02/21/08	KD
Chlordane	02/19/08	kenneth	02/21/08	KD
delta-BHC	02/19/08	kenneth	02/21/08	KD
Dieldrin	02/19/08	kenneth	02/21/08	KD
Endosulfan I	02/19/08	kenneth	02/21/08	KD
Endosulfan II	02/19/08	kenneth	02/21/08	KD
Endosulfan Sulfate	02/19/08	kenneth	02/21/08	KD
Endrin	02/19/08	kenneth	02/21/08	KD
Endrin Aldehyde	02/19/08	kenneth	02/21/08	KD
Endrin Ketone	02/19/08	kenneth	02/21/08	KD
Gamma-BHC	02/19/08	kenneth	02/21/08	KD
Heptachlor	02/19/08	kenneth	02/21/08	KD
Heptachlor Epoxide	02/19/08	kenneth	02/21/08	KD
Methoxychlor	02/19/08	kenneth	02/21/08	KD
p,p'-DDD	02/19/08	kenneth	02/21/08	KD
p,p'-DDE	02/19/08	kenneth	02/21/08	KD
p,p'-DDT	02/19/08	kenneth	02/21/08	KD
Toxaphene	02/19/08	kenneth	02/21/08	KD

TestGroupName PCB 8082
Preparation Method: EPA3510/3550
Analytical Method: EPA 8082

	Prep		Analysis	
Analyte	Date	By	Date	By
Aroclor-1016	02/19/08	kenneth	02/20/08	KD
Aroclor-1221	02/19/08	kenneth	02/20/08	KD
Aroclor-1232	02/19/08	kenneth	02/20/08	KD
Aroclor-1242	02/19/08	kenneth	02/20/08	KD
Aroclor-1248	02/19/08	kenneth	02/20/08	KD
Aroclor-1254	02/19/08	kenneth	02/20/08	KD
Aroclor-1260	02/19/08	kenneth	02/20/08	KD

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Aroclor-1262	02/19/08	kenneth	02/20/08	KD

TestGroupName Phenols (Soil/Waste) 9065
Preparation Method: EPA 9065
Analytical Method: EPA 9065

	Prep		Analysis	
Analyte	Date	By	Date	By
Total Phenolics	02/28/08	BCT	02/28/08	BCT

TestGroupName PP Metals 6010
Preparation Method: 3005&10/3050
Analytical Method: EPA 6010B

	Prep		Analysis	
Analyte	Date	By	Date	By
Antimony	02/27/08	srb	02/28/08	SB
Arsenic	02/27/08	srb	02/28/08	SB
Barium	02/27/08	srb	02/28/08	SB
Beryllium	02/27/08	srb	02/28/08	SB
Cadmium	02/27/08	srb	02/28/08	SB
Chromium	02/27/08	srb	02/28/08	SB
Copper	02/27/08	srb	02/28/08	SB
Lead	02/27/08	srb	02/28/08	SB
Nickel	02/27/08	srb	02/28/08	SB
Selenium	02/27/08	srb	02/28/08	SB
Silver	02/27/08	srb	02/28/08	SB
Thallium	02/27/08	srb	02/28/08	SB
Zinc	02/27/08	srb	02/29/08	SB

TestGroupName Semivolatile Organics + 25 (8270)
Preparation Method: EPA3510/3550
Analytical Method: EPA 8270C

	Prep		Analysis	
Analyte	Date	By	Date	By
1,2,4-Trichlorobenzene	02/19/08	MEGHA	02/20/08	AHD
1,2-Diphenylhydrazine	02/19/08	MEGHA	02/20/08	AHD
2,4,5-Trichlorophenol	02/19/08	MEGHA	02/20/08	AHD
2,4,6-Trichlorophenol	02/19/08	MEGHA	02/20/08	AHD
2,4-Dichlorophenol	02/19/08	MEGHA	02/20/08	AHD
2,4-Dimethylphenol	02/19/08	MEGHA	02/20/08	AHD
2,4-Dinitrophenol	02/19/08	MEGHA	02/20/08	AHD
2,4-Dinitrotoluene	02/19/08	MEGHA	02/20/08	AHD
2,6-Dinitrotoluene	02/19/08	MEGHA	02/20/08	AHD
2-Chloronaphthalene	02/19/08	MEGHA	02/20/08	AHD
2-Chlorophenol	02/19/08	MEGHA	02/20/08	AHD
2-Methylnaphthalene	02/19/08	MEGHA	02/20/08	AHD
2-Methylphenol	02/19/08	MEGHA	02/20/08	AHD
2-Nitroaniline	02/19/08	MEGHA	02/20/08	AHD
2-Nitrophenol	02/19/08	MEGHA	02/20/08	AHD
3&4-Methylphenol	02/19/08	MEGHA	02/20/08	AHD
3,3'-Dichlorobenzidine	02/19/08	MEGHA	02/20/08	AHD
3-Nitroaniline	02/19/08	MEGHA	02/20/08	AHD
4,6-Dinitro-2-methylphenol	02/19/08	MEGHA	02/20/08	AHD
4-Bromophenyl-phenylether	02/19/08	MEGHA	02/20/08	AHD
4-Chloro-3-methylphenol	02/19/08	MEGHA	02/20/08	AHD
4-Chloroaniline	02/19/08	MEGHA	02/20/08	AHD
4-Chlorophenyl-phenylether	02/19/08	MEGHA	02/20/08	AHD
4-Nitroaniline	02/19/08	MEGHA	02/20/08	AHD
4-Nitrophenol	02/19/08	MEGHA	02/20/08	AHD
Acenaphthene	02/19/08	MEGHA	02/20/08	AHD
Acenaphthylene	02/19/08	MEGHA	02/20/08	AHD
Anthracene	02/19/08	MEGHA	02/20/08	AHD
Benzidine	02/19/08	MEGHA	02/20/08	AHD
Benzo[a]anthracene	02/19/08	MEGHA	02/20/08	AHD
Benzo[a]pyrene	02/19/08	MEGHA	02/20/08	AHD
Benzo[b]fluoranthene	02/19/08	MEGHA	02/20/08	AHD
Benzo[g,h,i]perylene	02/19/08	MEGHA	02/20/08	AHD
Benzo[k]fluoranthene	02/19/08	MEGHA	02/20/08	AHD
Bis(2-Chloroethoxy)methane	02/19/08	MEGHA	02/20/08	AHD
Bis(2-Chloroethyl)ether	02/19/08	MEGHA	02/20/08	AHD
Bis(2-Chloroisopropyl)ether	02/19/08	MEGHA	02/20/08	AHD
Bis(2-Ethylhexyl)phthalate	02/19/08	MEGHA	02/20/08	AHD
Butylbenzylphthalate	02/19/08	MEGHA	02/20/08	AHD
Carbazole	02/19/08	MEGHA	02/20/08	AHD
Chrysene	02/19/08	MEGHA	02/20/08	AHD
Dibenzo[a,h]anthracene	02/19/08	MEGHA	02/20/08	AHD
Dibenzofuran	02/19/08	MEGHA	02/20/08	AHD
Diethylphthalate	02/19/08	MEGHA	02/20/08	AHD

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Dimethylphthalate	02/19/08	MEGHA	02/20/08	AHD
Di-n-butylphthalate	02/19/08	MEGHA	02/20/08	AHD
Di-n-octylphthalate	02/19/08	MEGHA	02/20/08	AHD
Fluoranthene	02/19/08	MEGHA	02/20/08	AHD
Fluorene	02/19/08	MEGHA	02/20/08	AHD
Hexachlorobenzene	02/19/08	MEGHA	02/20/08	AHD
Hexachlorobutadiene	02/19/08	MEGHA	02/20/08	AHD
Hexachlorocyclopentadiene	02/19/08	MEGHA	02/20/08	AHD
Hexachloroethane	02/19/08	MEGHA	02/20/08	AHD
Indeno[1,2,3-cd]pyrene	02/19/08	MEGHA	02/20/08	AHD
Isophorone	02/19/08	MEGHA	02/20/08	AHD
Naphthalene	02/19/08	MEGHA	02/20/08	AHD
Nitrobenzene	02/19/08	MEGHA	02/20/08	AHD
N-Nitrosodimethylamine	02/19/08	MEGHA	02/20/08	AHD
N-Nitroso-di-n-propylamine	02/19/08	MEGHA	02/20/08	AHD
N-Nitrosodiphenylamine	02/19/08	MEGHA	02/20/08	AHD
Pentachlorophenol	02/19/08	MEGHA	02/20/08	AHD
Phenanthrene	02/19/08	MEGHA	02/20/08	AHD
Phenol	02/19/08	MEGHA	02/20/08	AHD
Pyrene	02/19/08	MEGHA	02/20/08	AHD

TestGroupName TPH (NJ OQA-QAM-025-Rev6)
Preparation Method: NJ 025-Rev6
Analytical Method: NJ 025-Rev6

	Prep		Analysis	
Analyte	Date	By	Date	By
Total Petroleum Hydrocarbons	02/19/08	sexture	02/20/08	PSL

TestGroupName Volatile Organics + 15 (8260)
Preparation Method: EPA5030/5035
Analytical Method: EPA 8260B

	Prep		Analysis	
Analyte	Date	By	Date	By
1,1,1-Trichloroethane	02/20/08	WP	02/20/08	WP
1,1,2,2-Tetrachloroethane	02/20/08	WP	02/20/08	WP
1,1,2-Trichloroethane	02/20/08	WP	02/20/08	WP
1,1-Dichloroethane	02/20/08	WP	02/20/08	WP
1,1-Dichloroethene	02/20/08	WP	02/20/08	WP
1,2-Dichlorobenzene	02/20/08	WP	02/20/08	WP
1,2-Dichloroethane	02/20/08	WP	02/20/08	WP
1,2-Dichloropropane	02/20/08	WP	02/20/08	WP
1,3-Dichlorobenzene	02/20/08	WP	02/20/08	WP
1,4-Dichlorobenzene	02/20/08	WP	02/20/08	WP
2-Butanone	02/20/08	WP	02/20/08	WP
2-Chloroethylvinylether	02/20/08	WP	02/20/08	WP
2-Hexanone	02/20/08	WP	02/20/08	WP
4-Methyl-2-Pentanone	02/20/08	WP	02/20/08	WP
Acetone	02/20/08	WP	02/20/08	WP
Acrolein	02/20/08	WP	02/20/08	WP
Acrylonitrile	02/20/08	WP	02/20/08	WP
Benzene	02/20/08	WP	02/20/08	WP
Bromodichloromethane	02/20/08	WP	02/20/08	WP
Bromoform	02/20/08	WP	02/20/08	WP
Bromomethane	02/20/08	WP	02/20/08	WP
Carbon disulfide	02/20/08	WP	02/20/08	WP
Carbon tetrachloride	02/20/08	WP	02/20/08	WP
Chlorobenzene	02/20/08	WP	02/20/08	WP
Chloroethane	02/20/08	WP	02/20/08	WP
Chloroform	02/20/08	WP	02/20/08	WP
Chloromethane	02/20/08	WP	02/20/08	WP
cis-1,2-Dichloroethene	02/20/08	WP	02/20/08	WP
cis-1,3-Dichloropropene	02/20/08	WP	02/20/08	WP
Dibromochloromethane	02/20/08	WP	02/20/08	WP
Ethylbenzene	02/20/08	WP	02/20/08	WP
m&p-Xylenes	02/20/08	WP	02/20/08	WP
Methylene chloride	02/20/08	WP	02/20/08	WP
o-Xylene	02/20/08	WP	02/20/08	WP
Styrene	02/20/08	WP	02/20/08	WP
Tetrachloroethene	02/20/08	WP	02/20/08	WP
Toluene	02/20/08	WP	02/20/08	WP
trans-1,2-Dichloroethene	02/20/08	WP	02/20/08	WP
trans-1,3-dichloropropene	02/20/08	WP	02/20/08	WP
Trichloroethene	02/20/08	WP	02/20/08	WP
Vinyl chloride	02/20/08	WP	02/20/08	WP

Lab#: AC35821-016 Sample ID: F-1N

TestGroupName % Solids SM2540G
Preparation Method: SM 2540G
Analytical Method: SM 2540G

	Prep		Analysis	
Analyte	Date	By	Date	By
% Solids	03/04/08	erica	03/04/08	erica

TestGroupName 8015/QAM-025 Extract & Hold
Preparation Method: 8015/QAM-025
Analytical Method: 8015/QAM-025

	Prep		Analysis	
Analyte	Date	By	Date	By
Extract and Hold	02/20/08	Mausami	NA	

TestGroupName Base Neutrals (no search) 8270
Preparation Method: EPA3510/3550
Analytical Method: EPA 8270C

	Prep		Analysis	
Analyte	Date	By	Date	By
1,2,4-Trichlorobenzene	02/19/08	megha	02/20/08	AHD
1,2-Diphenylhydrazine	02/19/08	megha	02/20/08	AHD
2,4-Dinitrotoluene	02/19/08	megha	02/20/08	AHD
2,6-Dinitrotoluene	02/19/08	megha	02/20/08	AHD
2-Chloronaphthalene	02/19/08	megha	02/20/08	AHD
2-Methylnaphthalene	02/19/08	megha	02/20/08	AHD
2-Nitroaniline	02/19/08	megha	02/20/08	AHD
3,3'-Dichlorobenzidine	02/19/08	megha	02/20/08	AHD
3-Nitroaniline	02/19/08	megha	02/20/08	AHD
4-Bromophenyl-phenylether	02/19/08	megha	02/20/08	AHD
4-Chloroaniline	02/19/08	megha	02/20/08	AHD
4-Chlorophenyl-phenylether	02/19/08	megha	02/20/08	AHD
4-Nitroaniline	02/19/08	megha	02/20/08	AHD
Acenaphthene	02/19/08	megha	02/20/08	AHD
Acenaphthylene	02/19/08	megha	02/20/08	AHD
Anthracene	02/19/08	megha	02/20/08	AHD
Benzidine	02/19/08	megha	02/20/08	AHD
Benzo[a]anthracene	02/19/08	megha	02/20/08	AHD
Benzo[a]pyrene	02/19/08	megha	02/20/08	AHD
Benzo[b]fluoranthene	02/19/08	megha	02/20/08	AHD
Benzo[g,h,i]perylene	02/19/08	megha	02/20/08	AHD
Benzo[k]fluoranthene	02/19/08	megha	02/20/08	AHD
Bis(2-Chloroethoxy)methane	02/19/08	megha	02/20/08	AHD
Bis(2-Chloroethyl)ether	02/19/08	megha	02/20/08	AHD
Bis(2-Chloroisopropyl)ether	02/19/08	megha	02/20/08	AHD
Bis(2-Ethylhexyl)phthalate	02/19/08	megha	02/20/08	AHD
Butylbenzylphthalate	02/19/08	megha	02/20/08	AHD
Carbazole	02/19/08	megha	02/20/08	AHD
Chrysene	02/19/08	megha	02/20/08	AHD
Dibenzo[a,h]anthracene	02/19/08	megha	02/20/08	AHD
Dibenzofuran	02/19/08	megha	02/20/08	AHD
Diethylphthalate	02/19/08	megha	02/20/08	AHD
Dimethylphthalate	02/19/08	megha	02/20/08	AHD
Di-n-butylphthalate	02/19/08	megha	02/20/08	AHD
Di-n-octylphthalate	02/19/08	megha	02/20/08	AHD
Fluoranthene	02/19/08	megha	02/20/08	AHD
Fluorene	02/19/08	megha	02/20/08	AHD
Hexachlorobenzene	02/19/08	megha	02/20/08	AHD
Hexachlorobutadiene	02/19/08	megha	02/20/08	AHD
Hexachlorocyclopentadiene	02/19/08	megha	02/20/08	AHD
Hexachloroethane	02/19/08	megha	02/20/08	AHD
Indeno[1,2,3-cd]pyrene	02/19/08	megha	02/20/08	AHD
Isophorone	02/19/08	megha	02/20/08	AHD
Naphthalene	02/19/08	megha	02/20/08	AHD
Nitrobenzene	02/19/08	megha	02/20/08	AHD
N-Nitrosodimethylamine	02/19/08	megha	02/20/08	AHD
N-Nitroso-di-n-propylamine	02/19/08	megha	02/20/08	AHD
N-Nitrosodiphenylamine	02/19/08	megha	02/20/08	AHD
Phenanthrene	02/19/08	megha	02/20/08	AHD
Pyrene	02/19/08	megha	02/20/08	AHD

TestGroupName Metals-Five 6010
Preparation Method: 3005&10/3050
Analytical Method: EPA 6010B

	Prep		Analysis	
Analyte	Date	By	Date	By
Antimony	03/04/08	srb	03/04/08	DM
Barium	03/04/08	srb	03/04/08	DM

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Copper	03/04/08	srb	03/04/08	DM
Lead	03/04/08	srb	03/04/08	DM
Zinc	03/04/08	srb	03/04/08	DM

TestGroupName PCB 8082
Preparation Method: EPA3510/3550
Analytical Method: EPA 8082

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Aroclor-1016	02/19/08	kw	02/19/08	KD
Aroclor-1221	02/19/08	kw	02/19/08	KD
Aroclor-1232	02/19/08	kw	02/19/08	KD
Aroclor-1242	02/19/08	kw	02/19/08	KD
Aroclor-1248	02/19/08	kw	02/19/08	KD
Aroclor-1254	02/19/08	kw	02/19/08	KD
Aroclor-1260	02/19/08	kw	02/19/08	KD
Aroclor-1262	02/19/08	kw	02/19/08	KD

TestGroupName Pesticides (Extract and Hold) 608/8081
Preparation Method: 608/3550
Analytical Method: EPA 608/8081

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Extract and Hold	02/19/08	kenneth	NA	

Lab#: AC35821-017 Sample ID: F-2F

TestGroupName % Solids SM2540G
Preparation Method: SM 2540G
Analytical Method: SM 2540G

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
% Solids	02/19/08	erica	02/19/08	erica

TestGroupName Cyanide (Soil/Waste)
Preparation Method: EPA 9014
Analytical Method: EPA 9014

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Cyanide	02/22/08	hs	02/22/08	hs

TestGroupName Mercury (Soil/Waste) 7471A
Preparation Method: EPA 7471A
Analytical Method: EPA 7471A

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Mercury	02/27/08	srb	02/28/08	JS

TestGroupName Organochlorine Pesticides 8081
Preparation Method: EPA3510/3550
Analytical Method: EPA 8081A

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Aldrin	02/19/08	mausami	02/20/08	KD
Alpha-BHC	02/19/08	mausami	02/20/08	KD
beta-BHC	02/19/08	mausami	02/20/08	KD
Chlordane	02/19/08	mausami	02/20/08	KD
delta-BHC	02/19/08	mausami	02/20/08	KD
Dieldrin	02/19/08	mausami	02/20/08	KD
Endosulfan I	02/19/08	mausami	02/20/08	KD
Endosulfan II	02/19/08	mausami	02/20/08	KD
Endosulfan Sulfate	02/19/08	mausami	02/20/08	KD
Endrin	02/19/08	mausami	02/20/08	KD
Endrin Aldehyde	02/19/08	mausami	02/20/08	KD
Endrin Ketone	02/19/08	mausami	02/20/08	KD
Gamma-BHC	02/19/08	mausami	02/20/08	KD
Heptachlor	02/19/08	mausami	02/20/08	KD
Heptachlor Epoxide	02/19/08	mausami	02/20/08	KD
Methoxychlor	02/19/08	mausami	02/20/08	KD
p,p'-DDD	02/19/08	mausami	02/20/08	KD
p,p'-DDE	02/19/08	mausami	02/20/08	KD
p,p'-DDT	02/19/08	mausami	02/20/08	KD
Toxaphene	02/19/08	mausami	02/20/08	KD

Lab#: AC35821-017 Sample ID: F-2F

TestGroupName PCB 8082
Preparation Method: EPA3510/3550
Analytical Method: EPA 8082

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Aroclor-1016	02/19/08	mausami	02/20/08	KD
Aroclor-1221	02/19/08	mausami	02/20/08	KD
Aroclor-1232	02/19/08	mausami	02/20/08	KD
Aroclor-1242	02/19/08	mausami	02/20/08	KD
Aroclor-1248	02/19/08	mausami	02/20/08	KD
Aroclor-1254	02/19/08	mausami	02/20/08	KD
Aroclor-1260	02/19/08	mausami	02/20/08	KD
Aroclor-1262	02/19/08	mausami	02/20/08	KD

TestGroupName Phenols (Soil/Waste) 9065
Preparation Method: EPA 9065
Analytical Method: EPA 9065

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Total Phenolics	02/28/08	BCT	02/28/08	BCT

TestGroupName PP Metals 6010
Preparation Method: 3005&10/3050
Analytical Method: EPA 6010B

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Antimony	02/27/08	srb	02/28/08	SB
Arsenic	02/27/08	srb	02/28/08	SB
Barium	02/27/08	srb	02/28/08	SB
Beryllium	02/27/08	srb	02/28/08	SB
Cadmium	02/27/08	srb	02/28/08	SB
Chromium	02/27/08	srb	02/28/08	SB
Copper	02/27/08	srb	02/28/08	SB
Lead	02/27/08	srb	02/28/08	SB
Nickel	02/27/08	srb	02/28/08	SB
Selenium	02/27/08	srb	02/28/08	SB
Silver	02/27/08	srb	02/28/08	SB
Thallium	02/27/08	srb	02/28/08	SB
Zinc	02/27/08	srb	02/29/08	SB

TestGroupName Semivolatile Organics + 25 (8270)
Preparation Method: EPA3510/3550
Analytical Method: EPA 8270C

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
1,2,4-Trichlorobenzene	02/19/08	MEGHA	02/20/08	AHD
1,2-Diphenylhydrazine	02/19/08	MEGHA	02/20/08	AHD
2,4,5-Trichlorophenol	02/19/08	MEGHA	02/20/08	AHD
2,4,6-Trichlorophenol	02/19/08	MEGHA	02/20/08	AHD
2,4-Dichlorophenol	02/19/08	MEGHA	02/20/08	AHD
2,4-Dimethylphenol	02/19/08	MEGHA	02/20/08	AHD
2,4-Dinitrophenol	02/19/08	MEGHA	02/20/08	AHD
2,4-Dinitrotoluene	02/19/08	MEGHA	02/20/08	AHD
2,6-Dinitrotoluene	02/19/08	MEGHA	02/20/08	AHD
2-Chloronaphthalene	02/19/08	MEGHA	02/20/08	AHD
2-Chlorophenol	02/19/08	MEGHA	02/20/08	AHD
2-Methylnaphthalene	02/19/08	MEGHA	02/20/08	AHD
2-Methylphenol	02/19/08	MEGHA	02/20/08	AHD
2-Nitroaniline	02/19/08	MEGHA	02/20/08	AHD
2-Nitrophenol	02/19/08	MEGHA	02/20/08	AHD
3&4-Methylphenol	02/19/08	MEGHA	02/20/08	AHD
3,3'-Dichlorobenzidine	02/19/08	MEGHA	02/20/08	AHD
3-Nitroaniline	02/19/08	MEGHA	02/20/08	AHD
4,6-Dinitro-2-methylphenol	02/19/08	MEGHA	02/20/08	AHD
4-Bromophenyl-phenylether	02/19/08	MEGHA	02/20/08	AHD
4-Chloro-3-methylphenol	02/19/08	MEGHA	02/20/08	AHD
4-Chloroaniline	02/19/08	MEGHA	02/20/08	AHD
4-Chlorophenyl-phenylether	02/19/08	MEGHA	02/20/08	AHD
4-Nitroaniline	02/19/08	MEGHA	02/20/08	AHD
4-Nitrophenol	02/19/08	MEGHA	02/20/08	AHD
Acenaphthene	02/19/08	MEGHA	02/20/08	AHD
Acenaphthylene	02/19/08	MEGHA	02/20/08	AHD
Anthracene	02/19/08	MEGHA	02/20/08	AHD
Benzidine	02/19/08	MEGHA	02/20/08	AHD
Benzo[a]anthracene	02/19/08	MEGHA	02/20/08	AHD
Benzo[a]pyrene	02/19/08	MEGHA	02/20/08	AHD
Benzo[b]fluoranthene	02/19/08	MEGHA	02/20/08	AHD

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Benzo[g,h,i]perylene	02/19/08	MEGHA	02/20/08	AHD
Benzo[k]fluoranthene	02/19/08	MEGHA	02/20/08	AHD
Bis(2-Chloroethoxy)methane	02/19/08	MEGHA	02/20/08	AHD
Bis(2-Chloroethyl)ether	02/19/08	MEGHA	02/20/08	AHD
Bis(2-Chloroisopropyl)ether	02/19/08	MEGHA	02/20/08	AHD
Bis(2-Ethylhexyl)phthalate	02/19/08	MEGHA	02/20/08	AHD
Butylbenzylphthalate	02/19/08	MEGHA	02/20/08	AHD
Carbazole	02/19/08	MEGHA	02/20/08	AHD
Chrysene	02/19/08	MEGHA	02/20/08	AHD
Dibenzo[a,h]anthracene	02/19/08	MEGHA	02/20/08	AHD
Dibenzofuran	02/19/08	MEGHA	02/20/08	AHD
Diethylphthalate	02/19/08	MEGHA	02/20/08	AHD
Dimethylphthalate	02/19/08	MEGHA	02/20/08	AHD
Di-n-butylphthalate	02/19/08	MEGHA	02/20/08	AHD
Di-n-octylphthalate	02/19/08	MEGHA	02/20/08	AHD
Fluoranthene	02/19/08	MEGHA	02/20/08	AHD
Fluorene	02/19/08	MEGHA	02/20/08	AHD
Hexachlorobenzene	02/19/08	MEGHA	02/20/08	AHD
Hexachlorobutadiene	02/19/08	MEGHA	02/20/08	AHD
Hexachlorocyclopentadiene	02/19/08	MEGHA	02/20/08	AHD
Hexachloroethane	02/19/08	MEGHA	02/20/08	AHD
Indeno[1,2,3-cd]pyrene	02/19/08	MEGHA	02/20/08	AHD
Isophorone	02/19/08	MEGHA	02/20/08	AHD
Naphthalene	02/19/08	MEGHA	02/20/08	AHD
Nitrobenzene	02/19/08	MEGHA	02/20/08	AHD
N-Nitrosodimethylamine	02/19/08	MEGHA	02/20/08	AHD
N-Nitroso-di-n-propylamine	02/19/08	MEGHA	02/20/08	AHD
N-Nitrosodiphenylamine	02/19/08	MEGHA	02/20/08	AHD
Pentachlorophenol	02/19/08	MEGHA	02/20/08	AHD
Phenanthrene	02/19/08	MEGHA	02/20/08	AHD
Phenol	02/19/08	MEGHA	02/20/08	AHD
Pyrene	02/19/08	MEGHA	02/20/08	AHD

TestGroupName TPH (NJ OQA-QAM-025-Rev6)
Preparation Method: NJ 025-Rev6
Analytical Method: NJ 025-Rev6

	Prep		Analysis	
Analyte	Date	By	Date	By
Total Petroleum Hydrocarbons	02/19/08	sexture	02/20/08	PSL

TestGroupName Volatile Organics + 15 (8260)
Preparation Method: EPA5030/5035
Analytical Method: EPA 8260B

	Prep		Analysis	
Analyte	Date	By	Date	By
1,1,1-Trichloroethane	02/19/08	WP	02/19/08	WP
1,1,2,2-Tetrachloroethane	02/19/08	WP	02/19/08	WP
1,1,2-Trichloroethane	02/19/08	WP	02/19/08	WP
1,1-Dichloroethane	02/19/08	WP	02/19/08	WP
1,1-Dichloroethene	02/19/08	WP	02/19/08	WP
1,2-Dichlorobenzene	02/19/08	WP	02/19/08	WP
1,2-Dichloroethane	02/19/08	WP	02/19/08	WP
1,2-Dichloropropane	02/19/08	WP	02/19/08	WP
1,3-Dichlorobenzene	02/19/08	WP	02/19/08	WP
1,4-Dichlorobenzene	02/19/08	WP	02/19/08	WP
2-Butanone	02/19/08	WP	02/19/08	WP
2-Chloroethylvinylether	02/19/08	WP	02/19/08	WP
2-Hexanone	02/19/08	WP	02/19/08	WP
4-Methyl-2-Pentanone	02/19/08	WP	02/19/08	WP
Acetone	02/19/08	WP	02/19/08	WP
Acrolein	02/19/08	WP	02/19/08	WP
Acrylonitrile	02/19/08	WP	02/19/08	WP
Benzene	02/19/08	WP	02/19/08	WP
Bromodichloromethane	02/19/08	WP	02/19/08	WP
Bromoform	02/19/08	WP	02/19/08	WP
Bromomethane	02/19/08	WP	02/19/08	WP
Carbon disulfide	02/19/08	WP	02/19/08	WP
Carbon tetrachloride	02/19/08	WP	02/19/08	WP
Chlorobenzene	02/19/08	WP	02/19/08	WP
Chloroethane	02/19/08	WP	02/19/08	WP
Chloroform	02/19/08	WP	02/19/08	WP
Chloromethane	02/19/08	WP	02/19/08	WP
cis-1,2-Dichloroethene	02/19/08	WP	02/19/08	WP
cis-1,3-Dichloropropene	02/19/08	WP	02/19/08	WP
Dibromochloromethane	02/19/08	WP	02/19/08	WP
Ethylbenzene	02/19/08	WP	02/19/08	WP
m&p-Xylenes	02/19/08	WP	02/19/08	WP

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Methylene chloride	02/19/08	WP	02/19/08	WP
o-Xylene	02/19/08	WP	02/19/08	WP
Styrene	02/19/08	WP	02/19/08	WP
Tetrachloroethene	02/19/08	WP	02/19/08	WP
Toluene	02/19/08	WP	02/19/08	WP
trans-1,2-Dichloroethene	02/19/08	WP	02/19/08	WP
trans-1,3-dichloropropene	02/19/08	WP	02/19/08	WP
Trichloroethene	02/19/08	WP	02/19/08	WP
Vinyl chloride	02/19/08	WP	02/19/08	WP

Lab#: AC35821-018 Sample ID: F-2N

TestGroupName % Solids SM2540G
Preparation Method: SM 2540G
Analytical Method: SM 2540G

	Prep		Analysis	
Analyte	Date	By	Date	By
% Solids	03/04/08	erica	03/04/08	erica

TestGroupName 8015/QAM-025 Extract & Hold
Preparation Method: 8015/QAM-025
Analytical Method: 8015/QAM-025

	Prep		Analysis	
Analyte	Date	By	Date	By
Extract and Hold	02/20/08	Mausami	NA	

TestGroupName Base Neutrals (no search) 8270
Preparation Method: EPA3510/3550
Analytical Method: EPA 8270C

	Prep		Analysis	
Analyte	Date	By	Date	By
1,2,4-Trichlorobenzene	02/19/08	megha	02/20/08	AHD
1,2-Diphenylhydrazine	02/19/08	megha	02/20/08	AHD
2,4-Dinitrotoluene	02/19/08	megha	02/20/08	AHD
2,6-Dinitrotoluene	02/19/08	megha	02/20/08	AHD
2-Chloronaphthalene	02/19/08	megha	02/20/08	AHD
2-Methylnaphthalene	02/19/08	megha	02/20/08	AHD
2-Nitroaniline	02/19/08	megha	02/20/08	AHD
3,3'-Dichlorobenzidine	02/19/08	megha	02/20/08	AHD
3-Nitroaniline	02/19/08	megha	02/20/08	AHD
4-Bromophenyl-phenylether	02/19/08	megha	02/20/08	AHD
4-Chloroaniline	02/19/08	megha	02/20/08	AHD
4-Chlorophenyl-phenylether	02/19/08	megha	02/20/08	AHD
4-Nitroaniline	02/19/08	megha	02/20/08	AHD
Acenaphthene	02/19/08	megha	02/20/08	AHD
Acenaphthylene	02/19/08	megha	02/20/08	AHD
Anthracene	02/19/08	megha	02/20/08	AHD
Benzidine	02/19/08	megha	02/20/08	AHD
Benzo[a]anthracene	02/19/08	megha	02/20/08	AHD
Benzo[a]pyrene	02/19/08	megha	02/20/08	AHD
Benzo[b]fluoranthene	02/19/08	megha	02/20/08	AHD
Benzo[g,h,i]perylene	02/19/08	megha	02/20/08	AHD
Benzo[k]fluoranthene	02/19/08	megha	02/20/08	AHD
Bis(2-Chloroethoxy)methane	02/19/08	megha	02/20/08	AHD
Bis(2-Chloroethyl)ether	02/19/08	megha	02/20/08	AHD
Bis(2-Chloroisopropyl)ether	02/19/08	megha	02/20/08	AHD
Bis(2-Ethylhexyl)phthalate	02/19/08	megha	02/20/08	AHD
Butylbenzylphthalate	02/19/08	megha	02/20/08	AHD
Carbazole	02/19/08	megha	02/20/08	AHD
Chrysene	02/19/08	megha	02/20/08	AHD
Dibenzo[a,h]anthracene	02/19/08	megha	02/20/08	AHD
Dibenzofuran	02/19/08	megha	02/20/08	AHD
Diethylphthalate	02/19/08	megha	02/20/08	AHD
Dimethylphthalate	02/19/08	megha	02/20/08	AHD
Di-n-butylphthalate	02/19/08	megha	02/20/08	AHD
Di-n-octylphthalate	02/19/08	megha	02/20/08	AHD
Fluoranthene	02/19/08	megha	02/20/08	AHD
Fluorene	02/19/08	megha	02/20/08	AHD
Hexachlorobenzene	02/19/08	megha	02/20/08	AHD
Hexachlorobutadiene	02/19/08	megha	02/20/08	AHD
Hexachlorocyclopentadiene	02/19/08	megha	02/20/08	AHD
Hexachloroethane	02/19/08	megha	02/20/08	AHD
Indeno[1,2,3-cd]pyrene	02/19/08	megha	02/20/08	AHD
Isophorone	02/19/08	megha	02/20/08	AHD
Naphthalene	02/19/08	megha	02/20/08	AHD
Nitrobenzene	02/19/08	megha	02/20/08	AHD
N-Nitrosodimethylamine	02/19/08	megha	02/20/08	AHD

N-Nitroso-di-n-propylamine	02/19/08	megha	02/20/08	AHD
N-Nitrosodiphenylamine	02/19/08	megha	02/20/08	AHD
Phenanthrene	02/19/08	megha	02/20/08	AHD
Pyrene	02/19/08	megha	02/20/08	AHD

Lab#: AC35821-018 Sample ID: F-2N

TestGroupName PCB 8082
Preparation Method: EPA3510/3550
Analytical Method: EPA 8082

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Aroclor-1016	02/19/08	mausami	02/20/08	KD
Aroclor-1221	02/19/08	mausami	02/20/08	KD
Aroclor-1232	02/19/08	mausami	02/20/08	KD
Aroclor-1242	02/19/08	mausami	02/20/08	KD
Aroclor-1248	02/19/08	mausami	02/20/08	KD
Aroclor-1254	02/19/08	mausami	02/20/08	KD
Aroclor-1260	02/19/08	mausami	02/20/08	KD
Aroclor-1262	02/19/08	mausami	02/20/08	KD

TestGroupName Pesticides (Extract and Hold) 608/8081
Preparation Method: 608/3550
Analytical Method: EPA 608/8081

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Extract and Hold	02/19/08	mausami	NA	

Lab#: AC35821-019 Sample ID: F-3F

TestGroupName % Solids SM2540G
Preparation Method: SM 2540G
Analytical Method: SM 2540G

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
% Solids	02/19/08	erica	02/19/08	erica

TestGroupName Cyanide (Soil/Waste)
Preparation Method: EPA 9014
Analytical Method: EPA 9014

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Cyanide	02/22/08	hs	02/22/08	hs

TestGroupName Mercury (Soil/Waste) 7471A
Preparation Method: EPA 7471A
Analytical Method: EPA 7471A

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Mercury	02/27/08	srb	02/28/08	JS

TestGroupName Organochlorine Pesticides 8081
Preparation Method: EPA3510/3550
Analytical Method: EPA 8081A

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Aldrin	02/19/08	mausami	02/21/08	KD
Alpha-BHC	02/19/08	mausami	02/21/08	KD
beta-BHC	02/19/08	mausami	02/21/08	KD
Chlordane	02/19/08	mausami	02/21/08	KD
delta-BHC	02/19/08	mausami	02/21/08	KD
Dieldrin	02/19/08	mausami	02/21/08	KD
Endosulfan I	02/19/08	mausami	02/21/08	KD
Endosulfan II	02/19/08	mausami	02/21/08	KD
Endosulfan Sulfate	02/19/08	mausami	02/21/08	KD
Endrin	02/19/08	mausami	02/21/08	KD
Endrin Aldehyde	02/19/08	mausami	02/21/08	KD
Endrin Ketone	02/19/08	mausami	02/21/08	KD
Gamma-BHC	02/19/08	mausami	02/21/08	KD
Heptachlor	02/19/08	mausami	02/21/08	KD
Heptachlor Epoxide	02/19/08	mausami	02/21/08	KD
Methoxychlor	02/19/08	mausami	02/21/08	KD
p,p'-DDD	02/19/08	mausami	02/21/08	KD
p,p'-DDE	02/19/08	mausami	02/21/08	KD
p,p'-DDT	02/19/08	mausami	02/21/08	KD
Toxaphene	02/19/08	mausami	02/21/08	KD

Lab#: AC35821-019 Sample ID: F-3F

TestGroupName PCB 8082
Preparation Method: EPA3510/3550
Analytical Method: EPA 8082

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Aroclor-1016	02/19/08	mausami	02/20/08	KD
Aroclor-1221	02/19/08	mausami	02/20/08	KD
Aroclor-1232	02/19/08	mausami	02/20/08	KD
Aroclor-1242	02/19/08	mausami	02/20/08	KD
Aroclor-1248	02/19/08	mausami	02/20/08	KD
Aroclor-1254	02/19/08	mausami	02/20/08	KD
Aroclor-1260	02/19/08	mausami	02/20/08	KD
Aroclor-1262	02/19/08	mausami	02/20/08	KD

TestGroupName Phenols (Soil/Waste) 9065
Preparation Method: EPA 9065
Analytical Method: EPA 9065

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Total Phenolics	02/28/08	BCT	02/28/08	BCT

TestGroupName PP Metals 6010
Preparation Method: 3005&10/3050
Analytical Method: EPA 6010B

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Antimony	02/27/08	srb	02/28/08	SB
Arsenic	02/27/08	srb	02/28/08	SB
Barium	02/27/08	srb	02/28/08	SB
Beryllium	02/27/08	srb	02/28/08	SB
Cadmium	02/27/08	srb	02/28/08	SB
Chromium	02/27/08	srb	02/28/08	SB
Copper	02/27/08	srb	02/28/08	SB
Lead	02/27/08	srb	02/28/08	SB
Nickel	02/27/08	srb	02/28/08	SB
Selenium	02/27/08	srb	02/28/08	SB
Silver	02/27/08	srb	02/28/08	SB
Thallium	02/27/08	srb	02/28/08	SB
Zinc	02/27/08	srb	02/29/08	SB

TestGroupName Semivolatile Organics + 25 (8270)
Preparation Method: EPA3510/3550
Analytical Method: EPA 8270C

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
1,2,4-Trichlorobenzene	02/22/08	celie	02/22/08	AHD
1,2-Diphenylhydrazine	02/22/08	celie	02/22/08	AHD
2,4,5-Trichlorophenol	02/22/08	celie	02/22/08	AHD
2,4,6-Trichlorophenol	02/22/08	celie	02/22/08	AHD
2,4-Dichlorophenol	02/22/08	celie	02/22/08	AHD
2,4-Dimethylphenol	02/22/08	celie	02/22/08	AHD
2,4-Dinitrophenol	02/22/08	celie	02/22/08	AHD
2,4-Dinitrotoluene	02/22/08	celie	02/22/08	AHD
2,6-Dinitrotoluene	02/22/08	celie	02/22/08	AHD
2-Chloronaphthalene	02/22/08	celie	02/22/08	AHD
2-Chlorophenol	02/22/08	celie	02/22/08	AHD
2-Methylnaphthalene	02/22/08	celie	02/22/08	AHD
2-Methylphenol	02/22/08	celie	02/22/08	AHD
2-Nitroaniline	02/22/08	celie	02/22/08	AHD
2-Nitrophenol	02/22/08	celie	02/22/08	AHD
3&4-Methylphenol	02/22/08	celie	02/22/08	AHD
3,3'-Dichlorobenzidine	02/22/08	celie	02/22/08	AHD
3-Nitroaniline	02/22/08	celie	02/22/08	AHD
4,6-Dinitro-2-methylphenol	02/22/08	celie	02/22/08	AHD
4-Bromophenyl-phenylether	02/22/08	celie	02/22/08	AHD
4-Chloro-3-methylphenol	02/22/08	celie	02/22/08	AHD
4-Chloroaniline	02/22/08	celie	02/22/08	AHD
4-Chlorophenyl-phenylether	02/22/08	celie	02/22/08	AHD
4-Nitroaniline	02/22/08	celie	02/22/08	AHD
4-Nitrophenol	02/22/08	celie	02/22/08	AHD
Acenaphthene	02/22/08	celie	02/22/08	AHD
Acenaphthylene	02/22/08	celie	02/22/08	AHD
Anthracene	02/22/08	celie	02/22/08	AHD
Benzidine	02/22/08	celie	02/22/08	AHD
Benzo[a]anthracene	02/22/08	celie	02/22/08	AHD
Benzo[a]pyrene	02/22/08	celie	02/22/08	AHD
Benzo[b]fluoranthene	02/22/08	celie	02/22/08	AHD

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Benzo[g,h,i]perylene	02/22/08	celie	02/22/08	AHD
Benzo[k]fluoranthene	02/22/08	celie	02/22/08	AHD
Bis(2-Chloroethoxy)methane	02/22/08	celie	02/22/08	AHD
Bis(2-Chloroethyl)ether	02/22/08	celie	02/22/08	AHD
Bis(2-Chloroisopropyl)ether	02/22/08	celie	02/22/08	AHD
Bis(2-Ethylhexyl)phthalate	02/22/08	celie	02/22/08	AHD
Butylbenzylphthalate	02/22/08	celie	02/22/08	AHD
Carbazole	02/22/08	celie	02/22/08	AHD
Chrysene	02/22/08	celie	02/22/08	AHD
Dibenzo[a,h]anthracene	02/22/08	celie	02/22/08	AHD
Dibenzofuran	02/22/08	celie	02/22/08	AHD
Diethylphthalate	02/22/08	celie	02/22/08	AHD
Dimethylphthalate	02/22/08	celie	02/22/08	AHD
Di-n-butylphthalate	02/22/08	celie	02/22/08	AHD
Di-n-octylphthalate	02/22/08	celie	02/22/08	AHD
Fluoranthene	02/22/08	celie	02/22/08	AHD
Fluorene	02/22/08	celie	02/22/08	AHD
Hexachlorobenzene	02/22/08	celie	02/22/08	AHD
Hexachlorobutadiene	02/22/08	celie	02/22/08	AHD
Hexachlorocyclopentadiene	02/22/08	celie	02/22/08	AHD
Hexachloroethane	02/22/08	celie	02/22/08	AHD
Indeno[1,2,3-cd]pyrene	02/22/08	celie	02/22/08	AHD
Isophorone	02/22/08	celie	02/22/08	AHD
Naphthalene	02/22/08	celie	02/22/08	AHD
Nitrobenzene	02/22/08	celie	02/22/08	AHD
N-Nitrosodimethylamine	02/22/08	celie	02/22/08	AHD
N-Nitroso-di-n-propylamine	02/22/08	celie	02/22/08	AHD
N-Nitrosodiphenylamine	02/22/08	celie	02/22/08	AHD
Pentachlorophenol	02/22/08	celie	02/22/08	AHD
Phenanthrene	02/22/08	celie	02/22/08	AHD
Phenol	02/22/08	celie	02/22/08	AHD
Pyrene	02/22/08	celie	02/22/08	AHD

TestGroupName TPH (NJ OQA-QAM-025-Rev6)
Preparation Method: NJ 025-Rev6
Analytical Method: NJ 025-Rev6

	Prep		Analysis	
Analyte	Date	By	Date	By
Total Petroleum Hydrocarbons	02/19/08	sexture	02/20/08	PSL

TestGroupName Volatile Organics + 15 (8260)
Preparation Method: EPA5030/5035
Analytical Method: EPA 8260B

	Prep		Analysis	
Analyte	Date	By	Date	By
1,1,1-Trichloroethane	02/19/08	WP	02/19/08	WP
1,1,2,2-Tetrachloroethane	02/19/08	WP	02/19/08	WP
1,1,2-Trichloroethane	02/19/08	WP	02/19/08	WP
1,1-Dichloroethane	02/19/08	WP	02/19/08	WP
1,1-Dichloroethene	02/19/08	WP	02/19/08	WP
1,2-Dichlorobenzene	02/19/08	WP	02/19/08	WP
1,2-Dichloroethane	02/19/08	WP	02/19/08	WP
1,2-Dichloropropane	02/19/08	WP	02/19/08	WP
1,3-Dichlorobenzene	02/19/08	WP	02/19/08	WP
1,4-Dichlorobenzene	02/19/08	WP	02/19/08	WP
2-Butanone	02/19/08	WP	02/19/08	WP
2-Chloroethylvinylether	02/19/08	WP	02/19/08	WP
2-Hexanone	02/19/08	WP	02/19/08	WP
4-Methyl-2-Pentanone	02/19/08	WP	02/19/08	WP
Acetone	02/19/08	WP	02/19/08	WP
Acrolein	02/19/08	WP	02/19/08	WP
Acrylonitrile	02/19/08	WP	02/19/08	WP
Benzene	02/19/08	WP	02/19/08	WP
Bromodichloromethane	02/19/08	WP	02/19/08	WP
Bromoform	02/19/08	WP	02/19/08	WP
Bromomethane	02/19/08	WP	02/19/08	WP
Carbon disulfide	02/19/08	WP	02/19/08	WP
Carbon tetrachloride	02/19/08	WP	02/19/08	WP
Chlorobenzene	02/19/08	WP	02/19/08	WP
Chloroethane	02/19/08	WP	02/19/08	WP
Chloroform	02/19/08	WP	02/19/08	WP
Chloromethane	02/19/08	WP	02/19/08	WP
cis-1,2-Dichloroethene	02/19/08	WP	02/19/08	WP
cis-1,3-Dichloropropene	02/19/08	WP	02/19/08	WP
Dibromochloromethane	02/19/08	WP	02/19/08	WP
Ethylbenzene	02/19/08	WP	02/19/08	WP
m&p-Xylenes	02/19/08	WP	02/19/08	WP

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Methylene chloride	02/19/08	WP	02/19/08	WP
o-Xylene	02/19/08	WP	02/19/08	WP
Styrene	02/19/08	WP	02/19/08	WP
Tetrachloroethene	02/19/08	WP	02/19/08	WP
Toluene	02/19/08	WP	02/19/08	WP
trans-1,2-Dichloroethene	02/19/08	WP	02/19/08	WP
trans-1,3-dichloropropene	02/19/08	WP	02/19/08	WP
Trichloroethene	02/19/08	WP	02/19/08	WP
Vinyl chloride	02/19/08	WP	02/19/08	WP

Lab#: AC35821-020 Sample ID: F-3N

TestGroupName 8015/QAM-025 Extract & Hold
Preparation Method: 8015/QAM-025
Analytical Method: 8015/QAM-025

	Prep		Analysis	
Analyte	Date	By	Date	By
Extract and Hold	02/20/08	Mausami	NA	

TestGroupName Base Neutrals (Extract and Hold) 8270
Preparation Method: EPA3510/3550
Analytical Method: EPA 8270C

	Prep		Analysis	
Analyte	Date	By	Date	By
Extract and Hold	02/22/08	celie	NA	

TestGroupName PCB (Extract and Hold) 8082
Preparation Method: EPA3510/3550
Analytical Method: EPA 8082

	Prep		Analysis	
Analyte	Date	By	Date	By
Extract and Hold	02/19/08	mausami	NA	

TestGroupName Pesticides (Extract and Hold) 608/8081
Preparation Method: 608/3550
Analytical Method: EPA 608/8081

	Prep		Analysis	
Analyte	Date	By	Date	By
Extract and Hold	02/19/08	mausami	NA	

Lab#: AC35821-021 Sample ID: F-4F

TestGroupName % Solids SM2540G
Preparation Method: SM 2540G
Analytical Method: SM 2540G

	Prep		Analysis	
Analyte	Date	By	Date	By
% Solids	02/19/08	erica	02/19/08	erica

TestGroupName Cyanide (Soil/Waste)
Preparation Method: EPA 9014
Analytical Method: EPA 9014

	Prep		Analysis	
Analyte	Date	By	Date	By
Cyanide	02/24/08	hs	02/24/08	hs

TestGroupName Mercury (Soil/Waste) 7471A
Preparation Method: EPA 7471A
Analytical Method: EPA 7471A

	Prep		Analysis	
Analyte	Date	By	Date	By
Mercury	02/27/08	srb	02/28/08	JS

TestGroupName Organochlorine Pesticides 8081
Preparation Method: EPA3510/3550
Analytical Method: EPA 8081A

	Prep		Analysis	
Analyte	Date	By	Date	By
Aldrin	02/20/08	kenneth	02/21/08	KD
Alpha-BHC	02/20/08	kenneth	02/21/08	KD
beta-BHC	02/20/08	kenneth	02/21/08	KD
Chlordane	02/20/08	kenneth	02/21/08	KD
delta-BHC	02/20/08	kenneth	02/21/08	KD
Dieldrin	02/20/08	kenneth	02/21/08	KD
Endosulfan I	02/20/08	kenneth	02/21/08	KD
Endosulfan II	02/20/08	kenneth	02/21/08	KD
Endosulfan Sulfate	02/20/08	kenneth	02/21/08	KD

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Endrin	02/20/08	kenneth	02/21/08	KD
Endrin Aldehyde	02/20/08	kenneth	02/21/08	KD
Endrin Ketone	02/20/08	kenneth	02/21/08	KD
Gamma-BHC	02/20/08	kenneth	02/21/08	KD
Heptachlor	02/20/08	kenneth	02/21/08	KD
Heptachlor Epoxide	02/20/08	kenneth	02/21/08	KD
Methoxychlor	02/20/08	kenneth	02/21/08	KD
p,p'-DDD	02/20/08	kenneth	02/21/08	KD
p,p'-DDE	02/20/08	kenneth	02/21/08	KD
p,p'-DDT	02/20/08	kenneth	02/21/08	KD
Toxaphene	02/20/08	kenneth	02/21/08	KD

TestGroupName PCB 8082
Preparation Method: EPA3510/3550
Analytical Method: EPA 8082

	Prep		Analysis	
Analyte	Date	By	Date	By
Aroclor-1016	02/20/08	kenneth	02/20/08	KD
Aroclor-1221	02/20/08	kenneth	02/20/08	KD
Aroclor-1232	02/20/08	kenneth	02/20/08	KD
Aroclor-1242	02/20/08	kenneth	02/20/08	KD
Aroclor-1248	02/20/08	kenneth	02/20/08	KD
Aroclor-1254	02/20/08	kenneth	02/20/08	KD
Aroclor-1260	02/20/08	kenneth	02/20/08	KD
Aroclor-1262	02/20/08	kenneth	02/20/08	KD

TestGroupName Phenols (Soil/Waste) 9065
Preparation Method: EPA 9065
Analytical Method: EPA 9065

	Prep		Analysis	
Analyte	Date	By	Date	By
Total Phenolics	02/28/08	BCT	02/28/08	BCT

TestGroupName PP Metals 6010
Preparation Method: 3005&10/3050
Analytical Method: EPA 6010B

	Prep		Analysis	
Analyte	Date	By	Date	By
Antimony	02/27/08	srb	02/28/08	SB
Arsenic	02/27/08	srb	02/28/08	SB
Barium	02/27/08	srb	02/28/08	SB
Beryllium	02/27/08	srb	02/28/08	SB
Cadmium	02/27/08	srb	02/28/08	SB
Chromium	02/27/08	srb	02/28/08	SB
Copper	02/27/08	srb	02/28/08	SB
Lead	02/27/08	srb	02/28/08	SB
Nickel	02/27/08	srb	02/28/08	SB
Selenium	02/27/08	srb	02/28/08	SB
Silver	02/27/08	srb	02/28/08	SB
Thallium	02/27/08	srb	02/28/08	SB
Zinc	02/27/08	srb	02/29/08	SB

TestGroupName Semivolatile Organics + 25 (8270)
Preparation Method: EPA3510/3550
Analytical Method: EPA 8270C

	Prep		Analysis	
Analyte	Date	By	Date	By
1,2,4-Trichlorobenzene	02/22/08	celie	02/22/08	AHD
1,2-Diphenylhydrazine	02/22/08	celie	02/22/08	AHD
2,4,5-Trichlorophenol	02/22/08	celie	02/22/08	AHD
2,4,6-Trichlorophenol	02/22/08	celie	02/22/08	AHD
2,4-Dichlorophenol	02/22/08	celie	02/22/08	AHD
2,4-Dimethylphenol	02/22/08	celie	02/22/08	AHD
2,4-Dinitrophenol	02/22/08	celie	02/22/08	AHD
2,4-Dinitrotoluene	02/22/08	celie	02/22/08	AHD
2,6-Dinitrotoluene	02/22/08	celie	02/22/08	AHD
2-Chloronaphthalene	02/22/08	celie	02/22/08	AHD
2-Chlorophenol	02/22/08	celie	02/22/08	AHD
2-Methylnaphthalene	02/22/08	celie	02/22/08	AHD
2-Methylphenol	02/22/08	celie	02/22/08	AHD
2-Nitroaniline	02/22/08	celie	02/22/08	AHD
2-Nitrophenol	02/22/08	celie	02/22/08	AHD
3&4-Methylphenol	02/22/08	celie	02/22/08	AHD
3,3'-Dichlorobenzidine	02/22/08	celie	02/22/08	AHD
3-Nitroaniline	02/22/08	celie	02/22/08	AHD
4,6-Dinitro-2-methylphenol	02/22/08	celie	02/22/08	AHD
4-Bromophenyl-phenylether	02/22/08	celie	02/22/08	AHD

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4-Chloro-3-methylphenol	02/22/08	celie	02/22/08	AHD
4-Chloroaniline	02/22/08	celie	02/22/08	AHD
4-Chlorophenyl-phenylether	02/22/08	celie	02/22/08	AHD
4-Nitroaniline	02/22/08	celie	02/22/08	AHD
4-Nitrophenol	02/22/08	celie	02/22/08	AHD
Acenaphthene	02/22/08	celie	02/22/08	AHD
Acenaphthylene	02/22/08	celie	02/22/08	AHD
Anthracene	02/22/08	celie	02/22/08	AHD
Benzidine	02/22/08	celie	02/22/08	AHD
Benzo[a]anthracene	02/22/08	celie	02/22/08	AHD
Benzo[a]pyrene	02/22/08	celie	02/22/08	AHD
Benzo[b]fluoranthene	02/22/08	celie	02/22/08	AHD
Benzo[g,h,i]perylene	02/22/08	celie	02/22/08	AHD
Benzo[k]fluoranthene	02/22/08	celie	02/22/08	AHD
Bis(2-Chloroethoxy)methane	02/22/08	celie	02/22/08	AHD
Bis(2-Chloroethyl)ether	02/22/08	celie	02/22/08	AHD
Bis(2-Chloroisopropyl)ether	02/22/08	celie	02/22/08	AHD
Bis(2-Ethylhexyl)phthalate	02/22/08	celie	02/22/08	AHD
Butylbenzylphthalate	02/22/08	celie	02/22/08	AHD
Carbazole	02/22/08	celie	02/22/08	AHD
Chrysene	02/22/08	celie	02/22/08	AHD
Dibenzo[a,h]anthracene	02/22/08	celie	02/22/08	AHD
Dibenzofuran	02/22/08	celie	02/22/08	AHD
Diethylphthalate	02/22/08	celie	02/22/08	AHD
Dimethylphthalate	02/22/08	celie	02/22/08	AHD
Di-n-butylphthalate	02/22/08	celie	02/22/08	AHD
Di-n-octylphthalate	02/22/08	celie	02/22/08	AHD
Fluoranthene	02/22/08	celie	02/22/08	AHD
Fluorene	02/22/08	celie	02/22/08	AHD
Hexachlorobenzene	02/22/08	celie	02/22/08	AHD
Hexachlorobutadiene	02/22/08	celie	02/22/08	AHD
Hexachlorocyclopentadiene	02/22/08	celie	02/22/08	AHD
Hexachloroethane	02/22/08	celie	02/22/08	AHD
Indeno[1,2,3-cd]pyrene	02/22/08	celie	02/22/08	AHD
Isophorone	02/22/08	celie	02/22/08	AHD
Naphthalene	02/22/08	celie	02/22/08	AHD
Nitrobenzene	02/22/08	celie	02/22/08	AHD
N-Nitrosodimethylamine	02/22/08	celie	02/22/08	AHD
N-Nitroso-di-n-propylamine	02/22/08	celie	02/22/08	AHD
N-Nitrosodiphenylamine	02/22/08	celie	02/22/08	AHD
Pentachlorophenol	02/22/08	celie	02/22/08	AHD
Phenanthrene	02/22/08	celie	02/22/08	AHD
Phenol	02/22/08	celie	02/22/08	AHD
Pyrene	02/22/08	celie	02/22/08	AHD

TestGroupName TPH (NJ OQA-QAM-025-Rev6)
Preparation Method: NJ 025-Rev6
Analytical Method: NJ 025-Rev6

	Prep		Analysis	
Analyte	Date	By	Date	By
Total Petroleum Hydrocarbons	02/19/08	sexiure	02/20/08	PSL

TestGroupName Volatile Organics + 15 (8260)
Preparation Method: EPA5030/5035
Analytical Method: EPA 8260B

	Prep		Analysis	
Analyte	Date	By	Date	By
1,1,1-Trichloroethane	02/19/08	WP	02/19/08	WP
1,1,2,2-Tetrachloroethane	02/19/08	WP	02/19/08	WP
1,1,2-Trichloroethane	02/19/08	WP	02/19/08	WP
1,1-Dichloroethane	02/19/08	WP	02/19/08	WP
1,1-Dichloroethene	02/19/08	WP	02/19/08	WP
1,2-Dichlorobenzene	02/19/08	WP	02/19/08	WP
1,2-Dichloroethane	02/19/08	WP	02/19/08	WP
1,2-Dichloropropane	02/19/08	WP	02/19/08	WP
1,3-Dichlorobenzene	02/19/08	WP	02/19/08	WP
1,4-Dichlorobenzene	02/19/08	WP	02/19/08	WP
2-Butanone	02/19/08	WP	02/19/08	WP
2-Chloroethylvinylether	02/19/08	WP	02/19/08	WP
2-Hexanone	02/19/08	WP	02/19/08	WP
4-Methyl-2-Pentanone	02/19/08	WP	02/19/08	WP
Acetone	02/19/08	WP	02/19/08	WP
Acrolein	02/19/08	WP	02/19/08	WP
Acrylonitrile	02/19/08	WP	02/19/08	WP
Benzene	02/19/08	WP	02/19/08	WP
Bromodichloromethane	02/19/08	WP	02/19/08	WP
Bromoform	02/19/08	WP	02/19/08	WP

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Bromomethane	02/19/08	WP	02/19/08	WP
Carbon disulfide	02/19/08	WP	02/19/08	WP
Carbon tetrachloride	02/19/08	WP	02/19/08	WP
Chlorobenzene	02/19/08	WP	02/19/08	WP
Chloroethane	02/19/08	WP	02/19/08	WP
Chloroform	02/19/08	WP	02/19/08	WP
Chloromethane	02/19/08	WP	02/19/08	WP
cis-1,2-Dichloroethene	02/19/08	WP	02/19/08	WP
cis-1,3-Dichloropropene	02/19/08	WP	02/19/08	WP
Dibromochloromethane	02/19/08	WP	02/19/08	WP
Ethylbenzene	02/19/08	WP	02/19/08	WP
m&p-Xylenes	02/19/08	WP	02/19/08	WP
Methylene chloride	02/19/08	WP	02/19/08	WP
o-Xylene	02/19/08	WP	02/19/08	WP
Styrene	02/19/08	WP	02/19/08	WP
Tetrachloroethene	02/19/08	WP	02/19/08	WP
Toluene	02/19/08	WP	02/19/08	WP
trans-1,2-Dichloroethene	02/19/08	WP	02/19/08	WP
trans-1,3-dichloropropene	02/19/08	WP	02/19/08	WP
Trichloroethene	02/19/08	WP	02/19/08	WP
Vinyl chloride	02/19/08	WP	02/19/08	WP

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TestGroupName 8015/QAM-025 Extract & Hold
Preparation Method: 8015/QAM-025
Analytical Method: 8015/QAM-025

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Extract and Hold	02/20/08	Mausami	NA	

TestGroupName Base Neutrals (Extract and Hold) 8270
Preparation Method: EPA3510/3550
Analytical Method: EPA 8270C

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Extract and Hold	02/22/08	celie	NA	

TestGroupName PCB (Extract and Hold) 8082
Preparation Method: EPA3510/3550
Analytical Method: EPA 8082

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Extract and Hold	02/20/08	kenneth	NA	

TestGroupName Pesticides (Extract and Hold) 608/8081
Preparation Method: 608/3550
Analytical Method: EPA 608/8081

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Extract and Hold	02/20/08	kenneth	NA	

Lab#: AC35821-023 Sample ID: F-5F

TestGroupName % Solids SM2540G
Preparation Method: SM 2540G
Analytical Method: SM 2540G

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
% Solids	02/19/08	erica	02/19/08	erica

TestGroupName Cyanide (Soil/Waste)
Preparation Method: EPA 9014
Analytical Method: EPA 9014

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Cyanide	02/24/08	hs	02/24/08	hs

TestGroupName Mercury (Soil/Waste) 7471A
Preparation Method: EPA 7471A
Analytical Method: EPA 7471A

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Mercury	02/27/08	srb	02/28/08	JS

Lab#: AC35821-023 Sample ID: F-5F

TestGroupName Organochlorine Pesticides 8081
Preparation Method: EPA3510/3550
Analytical Method: EPA 8081A

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Aldrin	02/20/08	kenneth	02/21/08	KD
Alpha-BHC	02/20/08	kenneth	02/21/08	KD
beta-BHC	02/20/08	kenneth	02/21/08	KD
Chlordane	02/20/08	kenneth	02/21/08	KD
delta-BHC	02/20/08	kenneth	02/21/08	KD
Dieldrin	02/20/08	kenneth	02/21/08	KD
Endosulfan I	02/20/08	kenneth	02/21/08	KD
Endosulfan II	02/20/08	kenneth	02/21/08	KD
Endosulfan Sulfate	02/20/08	kenneth	02/21/08	KD
Endrin	02/20/08	kenneth	02/21/08	KD
Endrin Aldehyde	02/20/08	kenneth	02/21/08	KD
Endrin Ketone	02/20/08	kenneth	02/21/08	KD
Gamma-BHC	02/20/08	kenneth	02/21/08	KD
Heptachlor	02/20/08	kenneth	02/21/08	KD
Heptachlor Epoxide	02/20/08	kenneth	02/21/08	KD
Methoxychlor	02/20/08	kenneth	02/21/08	KD
p,p'-DDD	02/20/08	kenneth	02/21/08	KD
p,p'-DDE	02/20/08	kenneth	02/21/08	KD
p,p'-DDT	02/20/08	kenneth	02/21/08	KD
Toxaphene	02/20/08	kenneth	02/21/08	KD

TestGroupName PCB 8082
Preparation Method: EPA3510/3550
Analytical Method: EPA 8082

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Aroclor-1016	02/20/08	kenneth	02/20/08	KD
Aroclor-1221	02/20/08	kenneth	02/20/08	KD
Aroclor-1232	02/20/08	kenneth	02/20/08	KD
Aroclor-1242	02/20/08	kenneth	02/20/08	KD
Aroclor-1248	02/20/08	kenneth	02/20/08	KD
Aroclor-1254	02/20/08	kenneth	02/20/08	KD
Aroclor-1260	02/20/08	kenneth	02/20/08	KD
Aroclor-1262	02/20/08	kenneth	02/20/08	KD

TestGroupName Phenols (Soil/Waste) 9065
Preparation Method: EPA 9065
Analytical Method: EPA 9065

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Total Phenolics	02/28/08	BCT	02/28/08	BCT

TestGroupName PP Metals 6010
Preparation Method: 3005&10/3050
Analytical Method: EPA 6010B

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Antimony	02/27/08	srb	02/28/08	SB
Arsenic	02/27/08	srb	02/28/08	SB
Barium	02/27/08	srb	02/28/08	SB
Beryllium	02/27/08	srb	02/28/08	SB
Cadmium	02/27/08	srb	02/28/08	SB
Chromium	02/27/08	srb	02/28/08	SB
Copper	02/27/08	srb	02/28/08	SB
Lead	02/27/08	srb	02/28/08	SB
Nickel	02/27/08	srb	02/28/08	SB
Selenium	02/27/08	srb	02/28/08	SB
Silver	02/27/08	srb	02/28/08	SB
Thallium	02/27/08	srb	02/28/08	SB
Zinc	02/27/08	srb	02/29/08	SB

TestGroupName Semivolatile Organics + 25 (8270)
Preparation Method: EPA3510/3550
Analytical Method: EPA 8270C

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
1,2,4-Trichlorobenzene	02/22/08	celie	02/22/08	AHD
1,2-Diphenylhydrazine	02/22/08	celie	02/22/08	AHD
2,4,5-Trichlorophenol	02/22/08	celie	02/22/08	AHD
2,4,6-Trichlorophenol	02/22/08	celie	02/22/08	AHD
2,4-Dichlorophenol	02/22/08	celie	02/22/08	AHD
2,4-Dimethylphenol	02/22/08	celie	02/22/08	AHD

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2,4-Dinitrophenol	02/22/08	celie	02/22/08	AHD
2,4-Dinitrotoluene	02/22/08	celie	02/22/08	AHD
2,6-Dinitrotoluene	02/22/08	celie	02/22/08	AHD
2-Chloronaphthalene	02/22/08	celie	02/22/08	AHD
2-Chlorophenol	02/22/08	celie	02/22/08	AHD
2-Methylnaphthalene	02/22/08	celie	02/22/08	AHD
2-Methylphenol	02/22/08	celie	02/22/08	AHD
2-Nitroaniline	02/22/08	celie	02/22/08	AHD
2-Nitrophenol	02/22/08	celie	02/22/08	AHD
3&4-Methylphenol	02/22/08	celie	02/22/08	AHD
3,3'-Dichlorobenzidine	02/22/08	celie	02/22/08	AHD
3-Nitroaniline	02/22/08	celie	02/22/08	AHD
4,6-Dinitro-2-methylphenol	02/22/08	celie	02/22/08	AHD
4-Bromophenyl-phenylether	02/22/08	celie	02/22/08	AHD
4-Chloro-3-methylphenol	02/22/08	celie	02/22/08	AHD
4-Chloroaniline	02/22/08	celie	02/22/08	AHD
4-Chlorophenyl-phenylether	02/22/08	celie	02/22/08	AHD
4-Nitroaniline	02/22/08	celie	02/22/08	AHD
4-Nitrophenol	02/22/08	celie	02/22/08	AHD
Acenaphthene	02/22/08	celie	02/22/08	AHD
Acenaphthylene	02/22/08	celie	02/22/08	AHD
Anthracene	02/22/08	celie	02/22/08	AHD
Benzidine	02/22/08	celie	02/22/08	AHD
Benzo[a]anthracene	02/22/08	celie	02/22/08	AHD
Benzo[a]pyrene	02/22/08	celie	02/22/08	AHD
Benzo[b]fluoranthene	02/22/08	celie	02/22/08	AHD
Benzo[g,h,i]perylene	02/22/08	celie	02/22/08	AHD
Benzo[k]fluoranthene	02/22/08	celie	02/22/08	AHD
Bis(2-Chloroethoxy)methane	02/22/08	celie	02/22/08	AHD
Bis(2-Chloroethyl)ether	02/22/08	celie	02/22/08	AHD
Bis(2-Chloroisopropyl)ether	02/22/08	celie	02/22/08	AHD
Bis(2-Ethylhexyl)phthalate	02/22/08	celie	02/22/08	AHD
Butylbenzylphthalate	02/22/08	celie	02/22/08	AHD
Carbazole	02/22/08	celie	02/22/08	AHD
Chrysene	02/22/08	celie	02/22/08	AHD
Dibenzo[a,h]anthracene	02/22/08	celie	02/22/08	AHD
Dibenzofuran	02/22/08	celie	02/22/08	AHD
Diethylphthalate	02/22/08	celie	02/22/08	AHD
Dimethylphthalate	02/22/08	celie	02/22/08	AHD
Di-n-butylphthalate	02/22/08	celie	02/22/08	AHD
Di-n-octylphthalate	02/22/08	celie	02/22/08	AHD
Fluoranthene	02/22/08	celie	02/22/08	AHD
Fluorene	02/22/08	celie	02/22/08	AHD
Hexachlorobenzene	02/22/08	celie	02/22/08	AHD
Hexachlorobutadiene	02/22/08	celie	02/22/08	AHD
Hexachlorocyclopentadiene	02/22/08	celie	02/22/08	AHD
Hexachloroethane	02/22/08	celie	02/22/08	AHD
Indeno[1,2,3-cd]pyrene	02/22/08	celie	02/22/08	AHD
Isophorone	02/22/08	celie	02/22/08	AHD
Naphthalene	02/22/08	celie	02/22/08	AHD
Nitrobenzene	02/22/08	celie	02/22/08	AHD
N-Nitrosodimethylamine	02/22/08	celie	02/22/08	AHD
N-Nitroso-di-n-propylamine	02/22/08	celie	02/22/08	AHD
N-Nitrosodiphenylamine	02/22/08	celie	02/22/08	AHD
Pentachlorophenol	02/22/08	celie	02/22/08	AHD
Phenanthrene	02/22/08	celie	02/22/08	AHD
Phenol	02/22/08	celie	02/22/08	AHD
Pyrene	02/22/08	celie	02/22/08	AHD

TestGroupName TPH (NJ OQA-QAM-025-Rev6)
Preparation Method: NJ 025-Rev6
Analytical Method: NJ 025-Rev6

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Total Petroleum Hydrocarbons	02/19/08	sexture	02/20/08	PSL

TestGroupName Volatile Organics + 15 (8260)
Preparation Method: EPA5030/5035
Analytical Method: EPA 8260B

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
1,1,1-Trichloroethane	02/19/08	WP	02/19/08	WP
1,1,2,2-Tetrachloroethane	02/19/08	WP	02/19/08	WP
1,1,2-Trichloroethane	02/19/08	WP	02/19/08	WP
1,1-Dichloroethane	02/19/08	WP	02/19/08	WP
1,1-Dichloroethene	02/19/08	WP	02/19/08	WP
1,2-Dichlorobenzene	02/19/08	WP	02/19/08	WP

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1,2-Dichloroethane	02/19/08	WP	02/19/08	WP
1,2-Dichloropropane	02/19/08	WP	02/19/08	WP
1,3-Dichlorobenzene	02/19/08	WP	02/19/08	WP
1,4-Dichlorobenzene	02/19/08	WP	02/19/08	WP
2-Butanone	02/19/08	WP	02/19/08	WP
2-Chloroethylvinylether	02/19/08	WP	02/19/08	WP
2-Hexanone	02/19/08	WP	02/19/08	WP
4-Methyl-2-Pentanone	02/19/08	WP	02/19/08	WP
Acetone	02/19/08	WP	02/19/08	WP
Acrolein	02/19/08	WP	02/19/08	WP
Acrylonitrile	02/19/08	WP	02/19/08	WP
Benzene	02/19/08	WP	02/19/08	WP
Bromodichloromethane	02/19/08	WP	02/19/08	WP
Bromoform	02/19/08	WP	02/19/08	WP
Bromomethane	02/19/08	WP	02/19/08	WP
Carbon disulfide	02/19/08	WP	02/19/08	WP
Carbon tetrachloride	02/19/08	WP	02/19/08	WP
Chlorobenzene	02/19/08	WP	02/19/08	WP
Chloroethane	02/19/08	WP	02/19/08	WP
Chloroform	02/19/08	WP	02/19/08	WP
Chloromethane	02/19/08	WP	02/19/08	WP
cis-1,2-Dichloroethene	02/19/08	WP	02/19/08	WP
cis-1,3-Dichloropropene	02/19/08	WP	02/19/08	WP
Dibromochloromethane	02/19/08	WP	02/19/08	WP
Ethylbenzene	02/19/08	WP	02/19/08	WP
m&p-Xylenes	02/19/08	WP	02/19/08	WP
Methylene chloride	02/19/08	WP	02/19/08	WP
o-Xylene	02/19/08	WP	02/19/08	WP
Styrene	02/19/08	WP	02/19/08	WP
Tetrachloroethene	02/19/08	WP	02/19/08	WP
Toluene	02/19/08	WP	02/19/08	WP
trans-1,2-Dichloroethene	02/19/08	WP	02/19/08	WP
trans-1,3-dichloropropene	02/19/08	WP	02/19/08	WP
Trichloroethene	02/19/08	WP	02/19/08	WP
Vinyl chloride	02/19/08	WP	02/19/08	WP

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TestGroupName 8015/QAM-025 Extract & Hold
Preparation Method: 8015/QAM-025
Analytical Method: 8015/QAM-025

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Extract and Hold	02/20/08	Mausami	NA	

TestGroupName Base Neutrals (Extract and Hold) 8270
Preparation Method: EPA3510/3550
Analytical Method: EPA 8270C

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Extract and Hold	02/22/08	celie	NA	

TestGroupName PCB (Extract and Hold) 8082
Preparation Method: EPA3510/3550
Analytical Method: EPA 8082

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Extract and Hold	02/20/08	kenneth	NA	

TestGroupName Pesticides (Extract and Hold) 608/8081
Preparation Method: 608/3550
Analytical Method: EPA 608/8081

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Extract and Hold	02/20/08	kenneth	NA	

Lab#: AC35821-025 Sample ID: F-6F

TestGroupName % Solids SM2540G
Preparation Method: SM 2540G
Analytical Method: SM 2540G

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
% Solids	02/19/08	erica	02/19/08	erica

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TestGroupName Cyanide (Soil/Waste)
Preparation Method: EPA 9014
Analytical Method: EPA 9014

Analyte	Prep Date	By	Analysis Date	By
Cyanide	02/24/08	hs	02/24/08	hs

TestGroupName Mercury (Soil/Waste) 7471A
Preparation Method: EPA 7471A
Analytical Method: EPA 7471A

Analyte	Prep Date	By	Analysis Date	By
Mercury	02/27/08	srb	02/28/08	JS

TestGroupName Organochlorine Pesticides 8081
Preparation Method: EPA3510/3550
Analytical Method: EPA 8081A

Analyte	Prep Date	By	Analysis Date	By
Aldrin	02/20/08	kenneth	02/21/08	KD
Alpha-BHC	02/20/08	kenneth	02/21/08	KD
beta-BHC	02/20/08	kenneth	02/21/08	KD
Chlordane	02/20/08	kenneth	02/21/08	KD
delta-BHC	02/20/08	kenneth	02/21/08	KD
Dieldrin	02/20/08	kenneth	02/21/08	KD
Endosulfan I	02/20/08	kenneth	02/21/08	KD
Endosulfan II	02/20/08	kenneth	02/21/08	KD
Endosulfan Sulfate	02/20/08	kenneth	02/21/08	KD
Endrin	02/20/08	kenneth	02/21/08	KD
Endrin Aldehyde	02/20/08	kenneth	02/21/08	KD
Endrin Ketone	02/20/08	kenneth	02/21/08	KD
Gamma-BHC	02/20/08	kenneth	02/21/08	KD
Heptachlor	02/20/08	kenneth	02/21/08	KD
Heptachlor Epoxide	02/20/08	kenneth	02/21/08	KD
Methoxychlor	02/20/08	kenneth	02/21/08	KD
p,p'-DDD	02/20/08	kenneth	02/21/08	KD
p,p'-DDE	02/20/08	kenneth	02/21/08	KD
p,p'-DDT	02/20/08	kenneth	02/21/08	KD
Toxaphene	02/20/08	kenneth	02/21/08	KD

TestGroupName PCB 8082
Preparation Method: EPA3510/3550
Analytical Method: EPA 8082

Analyte	Prep Date	By	Analysis Date	By
Aroclor-1016	02/20/08	kenneth	02/20/08	KD
Aroclor-1221	02/20/08	kenneth	02/20/08	KD
Aroclor-1232	02/20/08	kenneth	02/20/08	KD
Aroclor-1242	02/20/08	kenneth	02/20/08	KD
Aroclor-1248	02/20/08	kenneth	02/20/08	KD
Aroclor-1254	02/20/08	kenneth	02/20/08	KD
Aroclor-1260	02/20/08	kenneth	02/20/08	KD
Aroclor-1262	02/20/08	kenneth	02/20/08	KD

TestGroupName Phenols (Soil/Waste) 9065
Preparation Method: EPA 9065
Analytical Method: EPA 9065

Analyte	Prep Date	By	Analysis Date	By
Total Phenolics	02/28/08	BCT	02/28/08	BCT

TestGroupName PP Metals 6010
Preparation Method: 3005&10/3050
Analytical Method: EPA 6010B

Analyte	Prep Date	By	Analysis Date	By
Antimony	02/27/08	srb	02/28/08	SB
Arsenic	02/27/08	srb	02/28/08	SB
Barium	02/27/08	srb	02/28/08	SB
Beryllium	02/27/08	srb	02/28/08	SB
Cadmium	02/27/08	srb	02/28/08	SB
Chromium	02/27/08	srb	02/28/08	SB
Copper	02/27/08	srb	02/28/08	SB
Lead	02/27/08	srb	02/28/08	SB
Nickel	02/27/08	srb	02/28/08	SB
Selenium	02/27/08	srb	02/28/08	SB
Silver	02/27/08	srb	02/28/08	SB
Thallium	02/27/08	srb	02/28/08	SB
Zinc	02/27/08	srb	02/29/08	SB

Lab#: AC35821-025 Sample ID: F-6F

TestGroupName Semivolatile Organics + 25 (8270)
Preparation Method: EPA3510/3550
Analytical Method: EPA 8270C

Analyte	Prep Date	By	Analysis Date	By
1,2,4-Trichlorobenzene	02/22/08	celie	02/22/08	AHD
1,2-Diphenylhydrazine	02/22/08	celie	02/22/08	AHD
2,4,5-Trichlorophenol	02/22/08	celie	02/22/08	AHD
2,4,6-Trichlorophenol	02/22/08	celie	02/22/08	AHD
2,4-Dichlorophenol	02/22/08	celie	02/22/08	AHD
2,4-Dimethylphenol	02/22/08	celie	02/22/08	AHD
2,4-Dinitrophenol	02/22/08	celie	02/22/08	AHD
2,4-Dinitrotoluene	02/22/08	celie	02/22/08	AHD
2,6-Dinitrotoluene	02/22/08	celie	02/22/08	AHD
2-Chloronaphthalene	02/22/08	celie	02/22/08	AHD
2-Chlorophenol	02/22/08	celie	02/22/08	AHD
2-Methylnaphthalene	02/22/08	celie	02/22/08	AHD
2-Methylphenol	02/22/08	celie	02/22/08	AHD
2-Nitroaniline	02/22/08	celie	02/22/08	AHD
2-Nitrophenol	02/22/08	celie	02/22/08	AHD
3&4-Methylphenol	02/22/08	celie	02/22/08	AHD
3,3'-Dichlorobenzidine	02/22/08	celie	02/22/08	AHD
3-Nitroaniline	02/22/08	celie	02/22/08	AHD
4,6-Dinitro-2-methylphenol	02/22/08	celie	02/22/08	AHD
4-Bromophenyl-phenylether	02/22/08	celie	02/22/08	AHD
4-Chloro-3-methylphenol	02/22/08	celie	02/22/08	AHD
4-Chloroaniline	02/22/08	celie	02/22/08	AHD
4-Chlorophenyl-phenylether	02/22/08	celie	02/22/08	AHD
4-Nitroaniline	02/22/08	celie	02/22/08	AHD
4-Nitrophenol	02/22/08	celie	02/22/08	AHD
Acenaphthene	02/22/08	celie	02/22/08	AHD
Acenaphthylene	02/22/08	celie	02/22/08	AHD
Anthracene	02/22/08	celie	02/22/08	AHD
Benzidine	02/22/08	celie	02/22/08	AHD
Benzo[a]anthracene	02/22/08	celie	02/22/08	AHD
Benzo[a]pyrene	02/22/08	celie	02/22/08	AHD
Benzo[b]fluoranthene	02/22/08	celie	02/22/08	AHD
Benzo[g,h,i]perylene	02/22/08	celie	02/22/08	AHD
Benzo[k]fluoranthene	02/22/08	celie	02/22/08	AHD
Bis(2-Chloroethoxy)methane	02/22/08	celie	02/22/08	AHD
Bis(2-Chloroethyl)ether	02/22/08	celie	02/22/08	AHD
Bis(2-Chloroisopropyl)ether	02/22/08	celie	02/22/08	AHD
Bis(2-Ethylhexyl)phthalate	02/22/08	celie	02/22/08	AHD
Butylbenzylphthalate	02/22/08	celie	02/22/08	AHD
Carbazole	02/22/08	celie	02/22/08	AHD
Chrysene	02/22/08	celie	02/22/08	AHD
Dibenzo[a,h]anthracene	02/22/08	celie	02/22/08	AHD
Dibenzofuran	02/22/08	celie	02/22/08	AHD
Diethylphthalate	02/22/08	celie	02/22/08	AHD
Dimethylphthalate	02/22/08	celie	02/22/08	AHD
Di-n-butylphthalate	02/22/08	celie	02/22/08	AHD
Di-n-octylphthalate	02/22/08	celie	02/22/08	AHD
Fluoranthene	02/22/08	celie	02/22/08	AHD
Fluorene	02/22/08	celie	02/22/08	AHD
Hexachlorobenzene	02/22/08	celie	02/22/08	AHD
Hexachlorobutadiene	02/22/08	celie	02/22/08	AHD
Hexachlorocyclopentadiene	02/22/08	celie	02/22/08	AHD
Hexachloroethane	02/22/08	celie	02/22/08	AHD
Indeno[1,2,3-cd]pyrene	02/22/08	celie	02/22/08	AHD
Isophorone	02/22/08	celie	02/22/08	AHD
Naphthalene	02/22/08	celie	02/22/08	AHD
Nitrobenzene	02/22/08	celie	02/22/08	AHD
N-Nitrosodimethylamine	02/22/08	celie	02/22/08	AHD
N-Nitroso-di-n-propylamine	02/22/08	celie	02/22/08	AHD
N-Nitrosodiphenylamine	02/22/08	celie	02/22/08	AHD
Pentachlorophenol	02/22/08	celie	02/22/08	AHD
Phenanthrene	02/22/08	celie	02/22/08	AHD
Phenol	02/22/08	celie	02/22/08	AHD
Pyrene	02/22/08	celie	02/22/08	AHD

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Lab#: AC35821-025 Sample ID: F-6F

TestGroupName TPH (NJ OQA-QAM-025-Rev6)
Preparation Method: NJ 025-Rev6
Analytical Method: NJ 025-Rev6

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Total Petroleum Hydrocarbons	02/19/08	sexture	02/20/08	PSL

TestGroupName Volatile Organics + 15 (8260)
Preparation Method: EPA5030/5035
Analytical Method: EPA 8260B

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
1,1,1-Trichloroethane	02/20/08	WP	02/20/08	WP
1,1,2,2-Tetrachloroethane	02/20/08	WP	02/20/08	WP
1,1,2-Trichloroethane	02/20/08	WP	02/20/08	WP
1,1-Dichloroethane	02/20/08	WP	02/20/08	WP
1,1-Dichloroethene	02/20/08	WP	02/20/08	WP
1,2-Dichlorobenzene	02/20/08	WP	02/20/08	WP
1,2-Dichloroethane	02/20/08	WP	02/20/08	WP
1,2-Dichloropropane	02/20/08	WP	02/20/08	WP
1,3-Dichlorobenzene	02/20/08	WP	02/20/08	WP
1,4-Dichlorobenzene	02/20/08	WP	02/20/08	WP
2-Butanone	02/20/08	WP	02/20/08	WP
2-Chloroethylvinylether	02/20/08	WP	02/20/08	WP
2-Hexanone	02/20/08	WP	02/20/08	WP
4-Methyl-2-Pentanone	02/20/08	WP	02/20/08	WP
Acetone	02/20/08	WP	02/20/08	WP
Acrolein	02/20/08	WP	02/20/08	WP
Acrylonitrile	02/20/08	WP	02/20/08	WP
Benzene	02/20/08	WP	02/20/08	WP
Bromodichloromethane	02/20/08	WP	02/20/08	WP
Bromoform	02/20/08	WP	02/20/08	WP
Bromomethane	02/20/08	WP	02/20/08	WP
Carbon disulfide	02/20/08	WP	02/20/08	WP
Carbon tetrachloride	02/20/08	WP	02/20/08	WP
Chlorobenzene	02/20/08	WP	02/20/08	WP
Chloroethane	02/20/08	WP	02/20/08	WP
Chloroform	02/20/08	WP	02/20/08	WP
Chloromethane	02/20/08	WP	02/20/08	WP
cis-1,2-Dichloroethene	02/20/08	WP	02/20/08	WP
cis-1,3-Dichloropropene	02/20/08	WP	02/20/08	WP
Dibromochloromethane	02/20/08	WP	02/20/08	WP
Ethylbenzene	02/20/08	WP	02/20/08	WP
m&p-Xylenes	02/20/08	WP	02/20/08	WP
Methylene chloride	02/20/08	WP	02/20/08	WP
o-Xylene	02/20/08	WP	02/20/08	WP
Styrene	02/20/08	WP	02/20/08	WP
Tetrachloroethene	02/20/08	WP	02/20/08	WP
Toluene	02/20/08	WP	02/20/08	WP
trans-1,2-Dichloroethene	02/20/08	WP	02/20/08	WP
trans-1,3-dichloropropene	02/20/08	WP	02/20/08	WP
Trichloroethene	02/20/08	WP	02/20/08	WP
Vinyl chloride	02/20/08	WP	02/20/08	WP

Lab#: AC35821-026 Sample ID: F-6N

TestGroupName 8015/QAM-025 Extract & Hold
Preparation Method: 8015/QAM-025
Analytical Method: 8015/QAM-025

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Extract and Hold	02/20/08	Mausami	NA	

TestGroupName Base Neutrals (Extract and Hold) 8270
Preparation Method: EPA3510/3550
Analytical Method: EPA 8270C

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Extract and Hold	02/22/08	celie	NA	

TestGroupName PCB (Extract and Hold) 8082
Preparation Method: EPA3510/3550
Analytical Method: EPA 8082

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Extract and Hold	02/20/08	kenneth	NA	

Lab#: AC35821-026 Sample ID: F-6N

TestGroupName Pesticides (Extract and Hold) 608/8081
Preparation Method: 608/3550
Analytical Method: EPA 608/8081

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Extract and Hold	02/20/08	kenneth	NA	

Lab#: AC35821-027 Sample ID: D-1

TestGroupName % Solids SM2540G
Preparation Method: SM 2540G
Analytical Method: SM 2540G

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
% Solids	02/19/08	erica	02/19/08	erica

TestGroupName PCB 8082
Preparation Method: EPA3510/3550
Analytical Method: EPA 8082

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Aroclor-1016	02/20/08	kenneth	02/20/08	KD
Aroclor-1221	02/20/08	kenneth	02/20/08	KD
Aroclor-1232	02/20/08	kenneth	02/20/08	KD
Aroclor-1242	02/20/08	kenneth	02/20/08	KD
Aroclor-1248	02/20/08	kenneth	02/20/08	KD
Aroclor-1254	02/20/08	kenneth	02/20/08	KD
Aroclor-1260	02/20/08	kenneth	02/20/08	KD
Aroclor-1262	02/20/08	kenneth	02/20/08	KD

Lab#: AC35821-028 Sample ID: D-2

TestGroupName % Solids SM2540G
Preparation Method: SM 2540G
Analytical Method: SM 2540G

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
% Solids	02/19/08	erica	02/19/08	erica

TestGroupName PCB 8082
Preparation Method: EPA3510/3550
Analytical Method: EPA 8082

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Aroclor-1016	02/20/08	kenneth	02/20/08	KD
Aroclor-1221	02/20/08	kenneth	02/20/08	KD
Aroclor-1232	02/20/08	kenneth	02/20/08	KD
Aroclor-1242	02/20/08	kenneth	02/20/08	KD
Aroclor-1248	02/20/08	kenneth	02/20/08	KD
Aroclor-1254	02/20/08	kenneth	02/20/08	KD
Aroclor-1260	02/20/08	kenneth	02/20/08	KD
Aroclor-1262	02/20/08	kenneth	02/20/08	KD

Lab#: AC35821-029 Sample ID: D-3

TestGroupName % Solids SM2540G
Preparation Method: SM 2540G
Analytical Method: SM 2540G

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
% Solids	02/19/08	erica	02/19/08	erica

TestGroupName PCB 8082
Preparation Method: EPA3510/3550
Analytical Method: EPA 8082

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Aroclor-1016	02/20/08	kenneth	02/20/08	KD
Aroclor-1221	02/20/08	kenneth	02/20/08	KD
Aroclor-1232	02/20/08	kenneth	02/20/08	KD
Aroclor-1242	02/20/08	kenneth	02/20/08	KD
Aroclor-1248	02/20/08	kenneth	02/20/08	KD
Aroclor-1254	02/20/08	kenneth	02/20/08	KD
Aroclor-1260	02/20/08	kenneth	02/20/08	KD
Aroclor-1262	02/20/08	kenneth	02/20/08	KD

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Lab#: AC35821-030 Sample ID: D-4

TestGroupName % Solids SM2540G
Preparation Method: SM 2540G
Analytical Method: SM 2540G

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
% Solids	02/19/08	erica	02/19/08	erica

TestGroupName PCB 8082
Preparation Method: EPA3510/3550
Analytical Method: EPA 8082

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Aroclor-1016	02/20/08	kenneth	02/20/08	KD
Aroclor-1221	02/20/08	kenneth	02/20/08	KD
Aroclor-1232	02/20/08	kenneth	02/20/08	KD
Aroclor-1242	02/20/08	kenneth	02/20/08	KD
Aroclor-1248	02/20/08	kenneth	02/20/08	KD
Aroclor-1254	02/20/08	kenneth	02/20/08	KD
Aroclor-1260	02/20/08	kenneth	02/20/08	KD
Aroclor-1262	02/20/08	kenneth	02/20/08	KD

Lab#: AC35821-031 Sample ID: D-5

TestGroupName % Solids SM2540G
Preparation Method: SM 2540G
Analytical Method: SM 2540G

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
% Solids	02/19/08	erica	02/19/08	erica

TestGroupName PCB 8082
Preparation Method: EPA3510/3550
Analytical Method: EPA 8082

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Aroclor-1016	02/20/08	kenneth	02/20/08	KD
Aroclor-1221	02/20/08	kenneth	02/20/08	KD
Aroclor-1232	02/20/08	kenneth	02/20/08	KD
Aroclor-1242	02/20/08	kenneth	02/20/08	KD
Aroclor-1248	02/20/08	kenneth	02/20/08	KD
Aroclor-1254	02/20/08	kenneth	02/20/08	KD
Aroclor-1260	02/20/08	kenneth	02/20/08	KD
Aroclor-1262	02/20/08	kenneth	02/20/08	KD

Lab#: AC35821-032 Sample ID: DC-1

TestGroupName % Solids SM2540G
Preparation Method: SM 2540G
Analytical Method: SM 2540G

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
% Solids	02/19/08	erica	02/19/08	erica

TestGroupName PCB 8082
Preparation Method: EPA3510/3550
Analytical Method: EPA 8082

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Aroclor-1016	02/20/08	kenneth	02/20/08	KD
Aroclor-1221	02/20/08	kenneth	02/20/08	KD
Aroclor-1232	02/20/08	kenneth	02/20/08	KD
Aroclor-1242	02/20/08	kenneth	02/20/08	KD
Aroclor-1248	02/20/08	kenneth	02/20/08	KD
Aroclor-1254	02/20/08	kenneth	02/20/08	KD
Aroclor-1260	02/20/08	kenneth	02/20/08	KD
Aroclor-1262	02/20/08	kenneth	02/20/08	KD

Lab#: AC35821-033 Sample ID: DC-2

TestGroupName % Solids SM2540G
Preparation Method: SM 2540G
Analytical Method: SM 2540G

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
% Solids	02/19/08	erica	02/19/08	erica

Lab#: AC35821-033 Sample ID: DC-2

TestGroupName PCB 8082
Preparation Method: EPA3510/3550
Analytical Method: EPA 8082

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Aroclor-1016	02/20/08	kenneth	02/20/08	KD
Aroclor-1221	02/20/08	kenneth	02/20/08	KD
Aroclor-1232	02/20/08	kenneth	02/20/08	KD
Aroclor-1242	02/20/08	kenneth	02/20/08	KD
Aroclor-1248	02/20/08	kenneth	02/20/08	KD
Aroclor-1254	02/20/08	kenneth	02/20/08	KD
Aroclor-1260	02/20/08	kenneth	02/20/08	KD
Aroclor-1262	02/20/08	kenneth	02/20/08	KD

Lab#: AC35821-034 Sample ID: BC

TestGroupName % Solids SM2540G
Preparation Method: SM 2540G
Analytical Method: SM 2540G

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
% Solids	02/19/08	erica	02/19/08	erica

TestGroupName PAH Compounds 8270
Preparation Method: EPA3510/3550
Analytical Method: EPA 8270C

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Acenaphthene	02/22/08	celie	02/22/08	AHD
Acenaphthylene	02/22/08	celie	02/22/08	AHD
Anthracene	02/22/08	celie	02/22/08	AHD
Benzo[a]anthracene	02/22/08	celie	02/22/08	AHD
Benzo[a]pyrene	02/22/08	celie	02/22/08	AHD
Benzo[b]fluoranthene	02/22/08	celie	02/22/08	AHD
Benzo[g,h,i]perylene	02/22/08	celie	02/22/08	AHD
Benzo[k]fluoranthene	02/22/08	celie	02/22/08	AHD
Chrysene	02/22/08	celie	02/22/08	AHD
Dibenzo[a,h]anthracene	02/22/08	celie	02/22/08	AHD
Fluoranthene	02/22/08	celie	02/22/08	AHD
Fluorene	02/22/08	celie	02/22/08	AHD
Indeno[1,2,3-cd]pyrene	02/22/08	celie	02/22/08	AHD
Naphthalene	02/22/08	celie	02/22/08	AHD
Phenanthrene	02/22/08	celie	02/22/08	AHD
Pyrene	02/22/08	celie	02/22/08	AHD

TestGroupName PCB 8082
Preparation Method: EPA3510/3550
Analytical Method: EPA 8082

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Aroclor-1016	02/20/08	kenneth	02/20/08	KD
Aroclor-1221	02/20/08	kenneth	02/20/08	KD
Aroclor-1232	02/20/08	kenneth	02/20/08	KD
Aroclor-1242	02/20/08	kenneth	02/20/08	KD
Aroclor-1248	02/20/08	kenneth	02/20/08	KD
Aroclor-1254	02/20/08	kenneth	02/20/08	KD
Aroclor-1260	02/20/08	kenneth	02/20/08	KD
Aroclor-1262	02/20/08	kenneth	02/20/08	KD

TestGroupName TPH (NJ OQA-QAM-025-Rev6)
Preparation Method: NJ 025-Rev6
Analytical Method: NJ 025-Rev6

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Total Petroleum Hydrocarbons	02/19/08	sexture	02/20/08	PSL

Lab#: AC35821-035 Sample ID: BB

TestGroupName % Solids SM2540G
Preparation Method: SM 2540G
Analytical Method: SM 2540G

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
% Solids	02/19/08	erica	02/19/08	erica

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Lab#: AC35821-035 Sample ID: BB

TestGroupName PAH Compounds 8270
Preparation Method: EPA3510/3550
Analytical Method: EPA 8270C

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Acenaphthene	02/22/08	celie	02/22/08	AHD
Acenaphthylene	02/22/08	celie	02/22/08	AHD
Anthracene	02/22/08	celie	02/22/08	AHD
Benzo[a]anthracene	02/22/08	celie	02/22/08	AHD
Benzo[a]pyrene	02/22/08	celie	02/22/08	AHD
Benzo[b]fluoranthene	02/22/08	celie	02/22/08	AHD
Benzo[g,h,i]perylene	02/22/08	celie	02/22/08	AHD
Benzo[k]fluoranthene	02/22/08	celie	02/22/08	AHD
Chrysene	02/22/08	celie	02/22/08	AHD
Dibenzo[a,h]anthracene	02/22/08	celie	02/22/08	AHD
Fluoranthene	02/22/08	celie	02/22/08	AHD
Fluorene	02/22/08	celie	02/22/08	AHD
Indeno[1,2,3-cd]pyrene	02/22/08	celie	02/22/08	AHD
Naphthalene	02/22/08	celie	02/22/08	AHD
Phenanthrene	02/22/08	celie	02/22/08	AHD
Pyrene	02/22/08	celie	02/22/08	AHD

TestGroupName PCB 8082
Preparation Method: EPA3510/3550
Analytical Method: EPA 8082

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Aroclor-1016	02/20/08	kenneth	02/20/08	KD
Aroclor-1221	02/20/08	kenneth	02/20/08	KD
Aroclor-1232	02/20/08	kenneth	02/20/08	KD
Aroclor-1242	02/20/08	kenneth	02/20/08	KD
Aroclor-1248	02/20/08	kenneth	02/20/08	KD
Aroclor-1254	02/20/08	kenneth	02/20/08	KD
Aroclor-1260	02/20/08	kenneth	02/20/08	KD
Aroclor-1262	02/20/08	kenneth	02/20/08	KD

TestGroupName TPH (NJ OQA-QAM-025-Rev6)
Preparation Method: NJ 025-Rev6
Analytical Method: NJ 025-Rev6

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Total Petroleum Hydrocarbons	02/19/08	sexture	02/20/08	PSL

Lab#: AC35821-036 Sample ID: FB

TestGroupName Cyanide (Water) 9010
Preparation Method: EPA 9010B
Analytical Method: EPA 9010B

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Cyanide	02/26/08	hs	02/26/08	hs

TestGroupName Mercury (Water) 7470A
Preparation Method: EPA 7470A
Analytical Method: EPA 7470A

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Mercury	02/27/08	srb	02/28/08	JS

TestGroupName Organochlorine Pesticides 8081
Preparation Method: EPA3510/3550
Analytical Method: EPA 8081A

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Aldrin	02/19/08	mausami	02/21/08	KD
Alpha-BHC	02/19/08	mausami	02/21/08	KD
beta-BHC	02/19/08	mausami	02/21/08	KD
Chlordane	02/19/08	mausami	02/21/08	KD
delta-BHC	02/19/08	mausami	02/21/08	KD
Dieldrin	02/19/08	mausami	02/21/08	KD
Endosulfan I	02/19/08	mausami	02/21/08	KD
Endosulfan II	02/19/08	mausami	02/21/08	KD
Endosulfan Sulfate	02/19/08	mausami	02/21/08	KD
Endrin	02/19/08	mausami	02/21/08	KD
Endrin Aldehyde	02/19/08	mausami	02/21/08	KD
Endrin Ketone	02/19/08	mausami	02/21/08	KD
Gamma-BHC	02/19/08	mausami	02/21/08	KD
Heptachlor	02/19/08	mausami	02/21/08	KD
Heptachlor Epoxide	02/19/08	mausami	02/21/08	KD
Methoxychlor	02/19/08	mausami	02/21/08	KD
p,p'-DDD	02/19/08	mausami	02/21/08	KD
p,p'-DDE	02/19/08	mausami	02/21/08	KD
p,p'-DDT	02/19/08	mausami	02/21/08	KD
Toxaphene	02/19/08	mausami	02/21/08	KD

Lab#: AC35821-036 Sample ID: FB

TestGroupName PCB 8082
Preparation Method: EPA3510/3550
Analytical Method: EPA 8082

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Aroclor-1016	02/19/08	mausami	02/20/08	KD
Aroclor-1221	02/19/08	mausami	02/20/08	KD
Aroclor-1232	02/19/08	mausami	02/20/08	KD
Aroclor-1242	02/19/08	mausami	02/20/08	KD
Aroclor-1248	02/19/08	mausami	02/20/08	KD
Aroclor-1254	02/19/08	mausami	02/20/08	KD
Aroclor-1260	02/19/08	mausami	02/20/08	KD
Aroclor-1262	02/19/08	mausami	02/20/08	KD

TestGroupName Phenols (Water) 420.1
Preparation Method: EPA 420.1
Analytical Method: EPA 420.1

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Total Phenolics	02/21/08	BCT	02/21/08	BCT

TestGroupName PP Metals 6010
Preparation Method: 3005&10/3050
Analytical Method: EPA 6010B

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
Antimony	02/27/08	srb	02/28/08	SB
Arsenic	02/27/08	srb	02/28/08	SB
Barium	02/27/08	srb	02/28/08	SB
Beryllium	02/27/08	srb	02/28/08	SB
Cadmium	02/27/08	srb	02/28/08	SB
Chromium	02/27/08	srb	02/28/08	SB
Copper	02/27/08	srb	02/28/08	SB
Lead	02/27/08	srb	02/28/08	SB
Nickel	02/27/08	srb	02/28/08	SB
Selenium	02/27/08	srb	02/28/08	SB
Silver	02/27/08	srb	02/28/08	SB
Thallium	02/27/08	srb	02/28/08	SB
Zinc	02/27/08	srb	02/29/08	SB

TestGroupName Semivolatile Organics + 25 (8270)
Preparation Method: EPA3510/3550
Analytical Method: EPA 8270C

Analyte	Prep Date	Prep By	Analysis Date	Analysis By
1,2,4-Trichlorobenzene	02/20/08	celie	02/20/08	AHD
1,2-Diphenylhydrazine	02/20/08	celie	02/20/08	AHD
2,4,5-Trichlorophenol	02/20/08	celie	02/20/08	AHD
2,4,6-Trichlorophenol	02/20/08	celie	02/20/08	AHD
2,4-Dichlorophenol	02/20/08	celie	02/20/08	AHD
2,4-Dimethylphenol	02/20/08	celie	02/20/08	AHD
2,4-Dinitrophenol	02/20/08	celie	02/20/08	AHD
2,4-Dinitrotoluene	02/20/08	celie	02/20/08	AHD
2,6-Dinitrotoluene	02/20/08	celie	02/20/08	AHD
2-Chloronaphthalene	02/20/08	celie	02/20/08	AHD
2-Chlorophenol	02/20/08	celie	02/20/08	AHD
2-Methylnaphthalene	02/20/08	celie	02/20/08	AHD
2-Methylphenol	02/20/08	celie	02/20/08	AHD
2-Nitroaniline	02/20/08	celie	02/20/08	AHD
2-Nitrophenol	02/20/08	celie	02/20/08	AHD
3&4-Methylphenol	02/20/08	celie	02/20/08	AHD
3,3'-Dichlorobenzidine	02/20/08	celie	02/20/08	AHD
3-Nitroaniline	02/20/08	celie	02/20/08	AHD
4,6-Dinitro-2-methylphenol	02/20/08	celie	02/20/08	AHD
4-Bromophenyl-phenylether	02/20/08	celie	02/20/08	AHD
4-Chloro-3-methylphenol	02/20/08	celie	02/20/08	AHD
4-Chloroaniline	02/20/08	celie	02/20/08	AHD
4-Chlorophenyl-phenylether	02/20/08	celie	02/20/08	AHD
4-Nitroaniline	02/20/08	celie	02/20/08	AHD

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4-Nitrophenol	02/20/08	celie	02/20/08	AHD
Acenaphthene	02/20/08	celie	02/20/08	AHD
Acenaphthylene	02/20/08	celie	02/20/08	AHD
Anthracene	02/20/08	celie	02/20/08	AHD
Benzidine	02/20/08	celie	02/20/08	AHD
Benzo[a]anthracene	02/20/08	celie	02/20/08	AHD
Benzo[a]pyrene	02/20/08	celie	02/20/08	AHD
Benzo[b]fluoranthene	02/20/08	celie	02/20/08	AHD
Benzo[g,h,i]perylene	02/20/08	celie	02/20/08	AHD
Benzo[k]fluoranthene	02/20/08	celie	02/20/08	AHD
Bis(2-Chloroethoxy)methane	02/20/08	celie	02/20/08	AHD
Bis(2-Chloroethyl)ether	02/20/08	celie	02/20/08	AHD
Bis(2-Chloroisopropyl)ether	02/20/08	celie	02/20/08	AHD
Bis(2-Ethylhexyl)phthalate	02/20/08	celie	02/20/08	AHD
Butylbenzylphthalate	02/20/08	celie	02/20/08	AHD
Carbazole	02/20/08	celie	02/20/08	AHD
Chrysene	02/20/08	celie	02/20/08	AHD
Dibenzo[a,h]anthracene	02/20/08	celie	02/20/08	AHD
Dibenzofuran	02/20/08	celie	02/20/08	AHD
Diethylphthalate	02/20/08	celie	02/20/08	AHD
Dimethylphthalate	02/20/08	celie	02/20/08	AHD
Di-n-butylphthalate	02/20/08	celie	02/20/08	AHD
Di-n-octylphthalate	02/20/08	celie	02/20/08	AHD
Fluoranthene	02/20/08	celie	02/20/08	AHD
Fluorene	02/20/08	celie	02/20/08	AHD
Hexachlorobenzene	02/20/08	celie	02/20/08	AHD
Hexachlorobutadiene	02/20/08	celie	02/20/08	AHD
Hexachlorocyclopentadiene	02/20/08	celie	02/20/08	AHD
Hexachloroethane	02/20/08	celie	02/20/08	AHD
Indeno[1,2,3-cd]pyrene	02/20/08	celie	02/20/08	AHD
Isophorone	02/20/08	celie	02/20/08	AHD
Naphthalene	02/20/08	celie	02/20/08	AHD
Nitrobenzene	02/20/08	celie	02/20/08	AHD
N-Nitrosodimethylamine	02/20/08	celie	02/20/08	AHD
N-Nitroso-di-n-propylamine	02/20/08	celie	02/20/08	AHD
N-Nitrosodiphenylamine	02/20/08	celie	02/20/08	AHD
Pentachlorophenol	02/20/08	celie	02/20/08	AHD
Phenanthrene	02/20/08	celie	02/20/08	AHD
Phenol	02/20/08	celie	02/20/08	AHD
Pyrene	02/20/08	celie	02/20/08	AHD

TestGroupName TPH (NJ OQA-QAM-025-Rev6)
Preparation Method: NJ 025-Rev6
Analytical Method: NJ 025-Rev6

Analyte	Prep Date	By	Analysis Date	By
Total Petroleum Hydrocarbons	02/20/08	marie	02/20/08	PSL

TestGroupName Volatile Organics + 15 (8260)
Preparation Method: EPA5030/5035
Analytical Method: EPA 8260B

Analyte	Prep Date	By	Analysis Date	By
1,1,1-Trichloroethane	02/19/08	WP	02/19/08	WP
1,1,2,2-Tetrachloroethane	02/19/08	WP	02/19/08	WP
1,1,2-Trichloroethane	02/19/08	WP	02/19/08	WP
1,1-Dichloroethane	02/19/08	WP	02/19/08	WP
1,1-Dichloroethene	02/19/08	WP	02/19/08	WP
1,2-Dichlorobenzene	02/19/08	WP	02/19/08	WP
1,2-Dichloroethane	02/19/08	WP	02/19/08	WP
1,2-Dichloropropane	02/19/08	WP	02/19/08	WP
1,3-Dichlorobenzene	02/19/08	WP	02/19/08	WP
1,4-Dichlorobenzene	02/19/08	WP	02/19/08	WP
2-Butanone	02/19/08	WP	02/19/08	WP
2-Chloroethylvinylether	02/19/08	WP	02/19/08	WP
2-Hexanone	02/19/08	WP	02/19/08	WP
4-Methyl-2-Pentanone	02/19/08	WP	02/19/08	WP
Acetone	02/19/08	WP	02/19/08	WP
Acrolein	02/19/08	WP	02/19/08	WP
Acrylonitrile	02/19/08	WP	02/19/08	WP
Benzene	02/19/08	WP	02/19/08	WP
Bromodichloromethane	02/19/08	WP	02/19/08	WP
Bromoform	02/19/08	WP	02/19/08	WP
Bromomethane	02/19/08	WP	02/19/08	WP
Carbon disulfide	02/19/08	WP	02/19/08	WP
Carbon tetrachloride	02/19/08	WP	02/19/08	WP
Chlorobenzene	02/19/08	WP	02/19/08	WP

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Chloroethane	02/19/08	WP	02/19/08	WP
Chloroform	02/19/08	WP	02/19/08	WP
Chloromethane	02/19/08	WP	02/19/08	WP
cis-1,2-Dichloroethene	02/19/08	WP	02/19/08	WP
cis-1,3-Dichloropropene	02/19/08	WP	02/19/08	WP
Dibromochloromethane	02/19/08	WP	02/19/08	WP
Ethylbenzene	02/19/08	WP	02/19/08	WP
m&p-Xylenes	02/19/08	WP	02/19/08	WP
Methylene chloride	02/19/08	WP	02/19/08	WP
o-Xylene	02/19/08	WP	02/19/08	WP
Styrene	02/19/08	WP	02/19/08	WP
Tetrachloroethene	02/19/08	WP	02/19/08	WP
Toluene	02/19/08	WP	02/19/08	WP
trans-1,2-Dichloroethene	02/19/08	WP	02/19/08	WP
trans-1,3-dichloropropene	02/19/08	WP	02/19/08	WP
Trichloroethene	02/19/08	WP	02/19/08	WP
Vinyl chloride	02/19/08	WP	02/19/08	WP

Lab#: AC35821-037 Sample ID: TB

TestGroupName Volatile Organics + 15 (8260)
Preparation Method: EPA5030/5035
Analytical Method: EPA 8260B

Analyte	Prep Date	By	Analysis Date	By
1,1,1-Trichloroethane	02/19/08	WP	02/19/08	WP
1,1,2,2-Tetrachloroethane	02/19/08	WP	02/19/08	WP
1,1,2-Trichloroethane	02/19/08	WP	02/19/08	WP
1,1-Dichloroethane	02/19/08	WP	02/19/08	WP
1,1-Dichloroethene	02/19/08	WP	02/19/08	WP
1,2-Dichlorobenzene	02/19/08	WP	02/19/08	WP
1,2-Dichloroethane	02/19/08	WP	02/19/08	WP
1,2-Dichloropropane	02/19/08	WP	02/19/08	WP
1,3-Dichlorobenzene	02/19/08	WP	02/19/08	WP
1,4-Dichlorobenzene	02/19/08	WP	02/19/08	WP
2-Butanone	02/19/08	WP	02/19/08	WP
2-Chloroethylvinylether	02/19/08	WP	02/19/08	WP
2-Hexanone	02/19/08	WP	02/19/08	WP
4-Methyl-2-Pentanone	02/19/08	WP	02/19/08	WP
Acetone	02/19/08	WP	02/19/08	WP
Acrolein	02/19/08	WP	02/19/08	WP
Acrylonitrile	02/19/08	WP	02/19/08	WP
Benzene	02/19/08	WP	02/19/08	WP
Bromodichloromethane	02/19/08	WP	02/19/08	WP
Bromoform	02/19/08	WP	02/19/08	WP
Bromomethane	02/19/08	WP	02/19/08	WP
Carbon disulfide	02/19/08	WP	02/19/08	WP
Carbon tetrachloride	02/19/08	WP	02/19/08	WP
Chlorobenzene	02/19/08	WP	02/19/08	WP
Chloroethane	02/19/08	WP	02/19/08	WP
Chloroform	02/19/08	WP	02/19/08	WP
Chloromethane	02/19/08	WP	02/19/08	WP
cis-1,2-Dichloroethene	02/19/08	WP	02/19/08	WP
cis-1,3-Dichloropropene	02/19/08	WP	02/19/08	WP
Dibromochloromethane	02/19/08	WP	02/19/08	WP
Ethylbenzene	02/19/08	WP	02/19/08	WP
m&p-Xylenes	02/19/08	WP	02/19/08	WP
Methylene chloride	02/19/08	WP	02/19/08	WP
o-Xylene	02/19/08	WP	02/19/08	WP
Styrene	02/19/08	WP	02/19/08	WP
Tetrachloroethene	02/19/08	WP	02/19/08	WP
Toluene	02/19/08	WP	02/19/08	WP
trans-1,2-Dichloroethene	02/19/08	WP	02/19/08	WP
trans-1,3-dichloropropene	02/19/08	WP	02/19/08	WP
Trichloroethene	02/19/08	WP	02/19/08	WP
Vinyl chloride	02/19/08	WP	02/19/08	WP

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Non-Conformance Summary

HCV Project AC35821

Volatile Organic Analysis:

Sample AC35821-003 was analyzed at a 181X methanol dilution due to high concentration of non-target analytes.

Base Neutral/Acid Extractable Analysis:

The recovery of 4-Chloro-3-methylphenol is biased high, outside QC limits in the Matrix Spike and Matrix Spike Duplicate in batch 3663. All QC criteria were met in the Laboratory Control Sample (MBS).

PCB Analysis:

The recovery of DCB surrogate is biased high, outside QC limits in sample AC35821-005 and 013 due to co-eluting interference.

Pesticide Analysis:

The recovery of DCB surrogate is biased high, outside QC limits in sample AC35821-005 and 013 due to co-eluting interference.

Total Petroleum Hydrocarbon Analysis:

The Matrix Spike/Matrix Spike Duplicate recovery of DRO is biased low, outside QC limits in batch 1828 due to high sample concentration. All QC criteria were met in the Laboratory Control Sample (MBS).

Metals Analysis:

The serial dilution for Beryllium and Cadmium is outside QC limits in batch 8820, suggesting matrix interference.

The RPD between the QC sample and the Method Replicate for Barium, Copper, Lead and Zinc is outside QC limits in batches 8820 and 8864. The RPD criteria were met between the LCS/LCS Method Replicate.

The recovery of Barium, Lead and Zinc is outside QC limits in the Matrix Spike and/or Matrix Spike Duplicate in batch 8864. All QC criteria were met in the LCS and LCS MR.

Wet Chemistry Analysis:

Data conforms to method requirements.

Jeri Rossi — Date 3/16/18

Jeri Rossi
Quality Assurance Director

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Method References

PARAMETER	METHOD	TECHNIQUE
DRINKING WATER PARAMETERS		
Total coliform	SM 9221D + E	Presence/Absence
Total coli/E. coli	SM 9222 B/G	Membrane Filtration/Enumeration
Cyanide	SM 4500-CN-E	Dist/Spectrophotometric (man.)
Cyanide	EPA 335.4	Dist/Spectrophotometric (auto)
VOA	EPA 524.2	GC/MS
Metals	EPA 200.8	ICP/MS
Turbidity	EPA 180.1	Nephelometric
WATER POLLUTION PARAMETERS		
Fecal Coliform	SM 9222 D	Membrane Filtration
Total Coliform	SM 9222 B	Membrane Filtration
Heterotrophic PC	SM 9215 B	Pour Plate
Acidity	SM 2310 B (4a)	Electrometric
Alkalinity	SM 2320 B	Electrometric
Ammonia	SM4500NH3B-18	Distillation (prep)
Ammonia	SM4500NH3C-18	Nesslerization (analysis)
BOD	SM 5210 B	DO Depletion
Bromide	EPA 300.0	Ion Chromatography
Calcium	EPA 200.7	Digestion, ICP
CBOD	SM 5210 B	DO Depletion, N Inhib.
COD	HACH 8000	Spectrophotometric, manual
Chloride	EPA 300.0	Ion Chromatography
Cyanide (T)	EPA 335.4	Dist/Spectrophotometric (auto)
Cyanide (T)	SM4500-CN C/E	Dist/Spectrophotometric (man.)
Cyanide (Am)	SM4500-CN C/G	Distillation, Spectrophotometric
Cyanide (Am)	EPA 1677	Flow Injection/Ligand Exchange
Fluoride	EPA 300.0	Ion Chromatography
Hardness	EPA 200.7	Ca + Mg Carbonates, ICP
Hex Chrom	SM 3500-Cr D	Spectrophotometric
Magnesium	EPA 200.7	Digestion, ICP
Metals	EPA 200.7	Digestion, ICP
Mercury	EPA 245.1	Manual, Cold Vapor
Metals	EPA 200.8	ICP/MS
Nitrate	EPA 300.0	Ion Chromatography
Nitrite	EPA 300.0	Ion Chromatography
Oil & Grease	EPA 413.1	Gravimetric
O & G HEM	EPA 1664A	Grav., Hexane Extractable
Oil & Grease SGT	EPA 1664A	Grav., Silica Gel Treated, HEM
TPH	EPA 418.1	Spectrophotometric, Infrared
TOC	SM 5310 B	Combustion
Ortho Phosphate	EPA 300.0	Ion Chromatography
Phenols	EPA 420.1	Distillation, Colorimetric
Total Phosphorus	SM 4500-P B5+E	Persulfate Digestion
Potassium	EPA 200.7	Digestion, ICP
Total Residue	SM 2540 B	Gravimetric, 103-105° C
TDS	SM 2540 C	Gravimetric, 180° C
TSS	SM 2540 D	Gravimetric, 103-105° C
Settleable Solids	SM 2540 F	Volumetric, Imhoff Cone
Volatile Solids	EPA 160.4	Gravimetric, 550° C
Total,Fix,Vol Sol.	SM 2540 G	Gravimetric, 550° C
Salinity	SM 2520 B	Electrical Conductivity
Sodium	EPA 200.7	Digestion, ICP
Specific Cond.	SM 2510 B	Wheatstone Bridge
Sulfides	SM 4500-S^2 F	Titrimetric, Iodine
Turbidity	SM 2130 B	Nephelometric
PCB	EPA 608	Extraction, GC, ECD
Pesticides	EPA 608	Extraction, GC, ECD
Petroleum Org.	OQ QAM 25 rev. 6	Extraction, GC, FID
VOA	EPA 624	GC/MS
Semi-VOA	EPA 625	Extraction, GC/MS

PARAMETER	METHOD	TECHNIQUE
SOLID HAZARDOUS WASTE PARAMETERS		
Specific Cond.	SW-846 9050A	Wheatstone Bridge
Phenols	SW-846 9065	Colorimetric
Cyanide	SW-846 9014	Titrimetric/Spectrophotometric
Chromium VI	SW-846 7196A	Colorimetric
Metals	SW-846 6010B	ICP
Mercury (liquid)	SW-846 7470A	Manual Cold Vapor
Mercury (solid)	SW-846 7471A	Manual Cold Vapor
EDB/DBCP	SW-846 8011	Microextraction, GC, ECD
Alcohols/Glycols	SW-846 8015B	GC, FID
Petroleum Organics	OQA QAM 25	Extraction, GC, FID
DRO	SW-846 8015B	Extraction, GC, FID
GRO	SW8468015B m	GC/MS, Purge & Trap
PCB	SW-846 8082	Extraction,GC, ECD
Pesticides	SW-846 8081A	Extraction,GC, ECD
Herbicides	SW-846 8151A	Extraction,GC, ECD
VOA	SW-846 8260B	GC/MS
Semi-VOA	SW-846 8270C	Extraction, GC/MS
Cyanide (T)	SW-846 9012A	Colorimetric (auto)
Cyanide (T)	SW-846 9010C	Distillation
Cyanide (Am)	SW-846 9010C	Distillation
Sulfides	SW-846 9030B	Redox Titration
Sulfides	SW-846 9034	Titration
Sulfate	SW-846 9056	Ion Chromatography
pH	SW-846 9040B	Elect. waste, >20% water
TOC	SW-846 9060	Infrared Spectrometry
Oil & Grease hem	SW-846 1664A	Extraction and Gravimetric
Nitrite	SW-846 9056	Ion Chromatography
Nitrate	SW-846 9056	Ion Chromatography
Bromide	SW-846 9056	Ion Chromatography
Chloride	SW-846 9056	Ion Chromatography
Fluoride	SW-846 9056	Ion Chromatography
Ortho Phosphate	SW-846 9056	Ion Chromatography
SOLID HAZARDOUS WASTE PREP		
Metals, Total& Diss	SW-846 3005A	Acid Dig/Surface & GW, ICP
Metals, Total	SW-846 3010A	Acid Dig/Aq Samples, ICP
Metals	SW-846 3050B	Acid Dig, Soil Sediment, Sludge
Metals	SW-846 3060A	Chromium VI Digestion
Semi-VO	SW-846 3510C	Separatory Funnel Extraction
Semi-VO	SW-846 3550B	Ultrasonic Extraction
Semi-VO	SW-846 3520C	Liquid-Liquid Extraction
Semi-VO	SW-846 3545	Pressurized Fluid Extraction
VO	SW-846 5030B	Purge & Trap Aqueous
Organics	SW-846 3580A	Waste Dilution
Organics	SW-846 3585	Waste Dilution, Volatile Organics
VO-low/high conc.	SW-8465035l/h	Closed System Purge & Trap
Semi-VO	SW-846 3611B	Petroleum Waste, Cleanup Alumina
Semi-VO	SW-846 3620B	Cleanup-Florisil
Semi-VO	SW-846 3640A	Cleanup-Gel Permeation
Semi-VO	SW-846 3650B	Cleanup-Acid/Base Partition
Semi-VO	SW-846 3660B	Cleanup-Sulfur Removal
Semi-VO	SW-846 3665A	Cleanup-Sulfuric Acid/$KMnO_4$
CHARACTERISTICS OF HAZARDOUS WASTE		
Corrosivity	SW-846 9040B	Aqueous Waste, Potentiometric
Volatile Organics	SW-846 1311	TCLP, Toxicity Procedure, ZHE
Metals-Semi VOA	SW-846 1311	TCLP, Toxicity Procedure, Shaker
Metals-Organics	SW-846 1310A	EP Toxicity Test
Metals-Organics	SW-846 1312	Synthetic PPT Leachate Procedure
Metals-Organics	SW-846 1320	Multiple Extraction

HC-V
HAMPTONCLARKE-VERITECH

Method References cont'd

PARAMETER	METHOD	TECHNIQUE
ANALYZE IMMEDIATELY PARAMETERS		
D.O.	SM 4500-O G	Electrode
pH	SM 4500-H+ B	Electrometric
Temperature	SM 2550 B	Thermometric
pH	SW-846 9040B	Aqueous, Electrometric

PARAMETER	METHOD	TECHNIQUE
SOLID AND CHEMICAL MATERIALS		
Ignitability of Solids	SW-846 1030	Burn Rate
Reactivity	SW-846 7.3	HCN, HS Release
SM 2550 B	Thermometric	Extraction, Oils and Solids
EOX	SW-846 9023	Extraction
Sulfides-extractable	SW-846 9031	Water extraction, Distillation
O & G Sludge HEM	SW-846 9071	Extraction and Gravimetric
Free Liquid	SW-846 9095	Flow-through Paint Filtration (obs)

HC·V
HAMPTONCLARKE·VERITECH

REPORTING LIMIT DEFINITIONS

RL = Reporting Limit

PQL = Practical Quantitation Limit

MDL = Method Detection Limit

CRQL= Contract Required Quantitation Limit

For Clean Water Act Organic methods, the RL = PQL. The PQL is defined as a value greater than the MDL but less than regulatory criteria.

For SW846 Organic methods, the RL = PQL. The PQL is determined by the concentration of the lowest standard in the calibration curve.

For Clean Water Act Metals method, the RL = PQL. The PQL is defined as a value greater than the MDL but less than regulatory criteria.

For SW846 and Clean Water Act Wet Chemistry methods, the RL = PQL. The PQL is defined as a value 3 to 5 times the MDL.

CLP Organics and Inorganics reported to CRQL.

Veritech Report Of Analysis

Lab#: AC35821-001 Collection Date: 2/14/2008
Sample ID: E-1F

TestGroup/Analyte	DF	Units	RL	Result
% Solids SM2540G				
% Solids	1	percent		89
PAH Compounds 8270				
Acenaphthene	1	mg/kg	0.37	ND
Acenaphthylene	1	mg/kg	0.37	ND
Anthracene	1	mg/kg	0.37	ND
Benzo[a]anthracene	1	mg/kg	0.37	ND
Benzo[a]pyrene	1	mg/kg	0.37	ND
Benzo[b]fluoranthene	1	mg/kg	0.37	ND
Benzo[g,h,i]perylene	1	mg/kg	0.37	ND
Benzo[k]fluoranthene	1	mg/kg	0.37	ND
Chrysene	1	mg/kg	0.37	ND
Dibenzo[a,h]anthracene	1	mg/kg	0.37	ND
Fluoranthene	1	mg/kg	0.37	ND
Fluorene	1	mg/kg	0.37	ND
Indeno[1,2,3-cd]pyrene	1	mg/kg	0.37	ND
Naphthalene	1	mg/kg	0.37	ND
Phenanthrene	1	mg/kg	0.37	ND
Pyrene	1	mg/kg	0.37	ND
PCB 8082				
Aroclor-1016	1	mg/kg	0.028	ND
Aroclor-1221	1	mg/kg	0.028	ND
Aroclor-1232	1	mg/kg	0.028	ND
Aroclor-1242	1	mg/kg	0.028	ND
Aroclor-1248	1	mg/kg	0.028	ND
Aroclor-1254	1	mg/kg	0.028	ND
Aroclor-1260	1	mg/kg	0.028	ND
Aroclor-1262	1	mg/kg	0.028	ND
TPH (NJ OQA-QAM-025-Rev6)				
Total Petroleum Hydrocarbons	1	mg/kg	67	ND

Lab#: AC35821-002 Collection Date: 2/14/2008
Sample ID: E-1N

TestGroup/Analyte	DF	Units	RL	Result
8015/QAM-025 Extract & Hold				
Extract and Hold	1			
Base Neutrals (Extract and Hold) 8270				
Extract and Hold	1			
PCB (Extract and Hold) 8082				
Extract and Hold	1			

Lab#: AC35821-003 Collection Date: 2/14/2008
Sample ID: C-1F

TestGroup/Analyte	DF	Units	RL	Result
% Solids SM2540G				
% Solids	1	percent		82
Cyanide (Soil/Waste)				
Cyanide	1	mg/kg	0.3	0.63
Mercury (Soil/Waste) 7471A				
Mercury	167	mg/kg	0.10	0.17
Organochlorine Pesticides 8081				
Aldrin	1	mg/kg	0.0061	ND
Alpha-BHC	1	mg/kg	0.0061	ND
beta-BHC	1	mg/kg	0.0061	ND
Chlordane	1	mg/kg	0.012	0.030
delta-BHC	1	mg/kg	0.0061	ND
Dieldrin	1	mg/kg	0.0061	ND
Endosulfan I	1	mg/kg	0.0061	ND
Endosulfan II	1	mg/kg	0.0061	ND
Endosulfan Sulfate	1	mg/kg	0.0061	ND
Endrin	1	mg/kg	0.0061	ND
Endrin Aldehyde	1	mg/kg	0.0061	ND
Endrin Ketone	1	mg/kg	0.0061	ND
Gamma-BHC	1	mg/kg	0.0061	ND
Heptachlor	1	mg/kg	0.0061	ND
Heptachlor Epoxide	1	mg/kg	0.0061	ND
Methoxychlor	1	mg/kg	0.0061	ND
p,p'-DDD	1	mg/kg	0.0030	0.031
p,p'-DDE	1	mg/kg	0.0030	0.033
p,p'-DDT	1	mg/kg	0.0030	ND
Toxaphene	1	mg/kg	0.030	ND
PCB 8082				
Aroclor-1016	1	mg/kg	0.030	ND
Aroclor-1221	1	mg/kg	0.030	ND
Aroclor-1232	1	mg/kg	0.030	ND
Aroclor-1242	1	mg/kg	0.030	ND
Aroclor-1248	1	mg/kg	0.030	ND
Aroclor-1254	1	mg/kg	0.030	ND
Aroclor-1260	1	mg/kg	0.030	ND
Aroclor-1262	1	mg/kg	0.030	ND
Phenols (Soil/Waste) 9065				
Total Phenolics	1	mg/kg	1.5	ND
PP Metals 6010				
Antimony	100	mg/kg	2.4	ND
Arsenic	100	mg/kg	2.4	5.5
Barium	100	mg/kg	12	490
Beryllium	100	mg/kg	0.73	ND
Cadmium	100	mg/kg	0.73	0.88
Chromium	100	mg/kg	6.1	16
Copper	100	mg/kg	6.1	45
Lead	100	mg/kg	6.1	390
Nickel	100	mg/kg	6.1	11
Selenium	100	mg/kg	2.2	ND
Silver	100	mg/kg	1.8	ND
Thallium	100	mg/kg	1.5	ND
Zinc	100	mg/kg	12	340

RL = Reporting Limit
ND = Not Detected

RL Definitions:
SW846 Organics reported to PQL
SW846 Inorganics reported to PQL
Clean Water Act Organics reported to PQL
Clean Water Act Inorganics reported to PQL
CLP Organics reported to CRQL
CLP Inorganics reported to CRQL

Lab#: AC35821-003 Collection Date: 2/14/2008 Sample ID: C-1F				
TestGroup/Analyte	**DF**	**Units**	**RL**	**Result**
Semivolatile Organics + 25 (8270)				
:TotalSemiVolatileTic	**3**	**mg/kg**	**NA**	**49.64J**
1,2,4-Trichlorobenzene	3	mg/kg	1.2	ND
1,2-Diphenylhydrazine	3	mg/kg	1.2	ND
2,4,5-Trichlorophenol	3	mg/kg	1.2	ND
2,4,6-Trichlorophenol	3	mg/kg	1.2	ND
2,4-Dichlorophenol	3	mg/kg	1.2	ND
2,4-Dimethylphenol	3	mg/kg	1.2	ND
2,4-Dinitrophenol	3	mg/kg	3.0	ND
2,4-Dinitrotoluene	3	mg/kg	1.2	ND
2,6-Dinitrotoluene	3	mg/kg	1.2	ND
2-Chloronaphthalene	3	mg/kg	1.2	ND
2-Chlorophenol	3	mg/kg	1.2	ND
2-Methylnaphthalene	3	mg/kg	1.2	ND
2-Methylphenol	3	mg/kg	1.2	ND
2-Nitroaniline	3	mg/kg	1.2	ND
2-Nitrophenol	3	mg/kg	1.2	ND
3&4-Methylphenol	3	mg/kg	1.2	ND
3,3'-Dichlorobenzidine	3	mg/kg	1.2	ND
3-Nitroaniline	3	mg/kg	1.2	ND
4,6-Dinitro-2-methylphenol	3	mg/kg	3.0	ND
4-Bromophenyl-phenylether	3	mg/kg	1.2	ND
4-Chloro-3-methylphenol	3	mg/kg	1.2	ND
4-Chloroaniline	3	mg/kg	1.2	ND
4-Chlorophenyl-phenylether	3	mg/kg	1.2	ND
4-Nitroaniline	3	mg/kg	1.2	ND
4-Nitrophenol	3	mg/kg	1.2	ND
Acenaphthene	**3**	**mg/kg**	**1.2**	**1.1J**
Acenaphthylene	3	mg/kg	1.2	ND
Anthracene	**3**	**mg/kg**	**1.2**	**1.5**
Benzidine	3	mg/kg	1.2	ND
Benzo[a]anthracene	**3**	**mg/kg**	**1.2**	**3.2**
Benzo[a]pyrene	**3**	**mg/kg**	**1.2**	**2.8**
Benzo[b]fluoranthene	**3**	**mg/kg**	**1.2**	**3.3**
Benzo[g,h,i]perylene	**3**	**mg/kg**	**1.2**	**1.6**
Benzo[k]fluoranthene	**3**	**mg/kg**	**1.2**	**1.2J**
Bis(2-Chloroethoxy)methane	3	mg/kg	1.2	ND
Bis(2-Chloroethyl)ether	3	mg/kg	1.2	ND
Bis(2-Chloroisopropyl)ether	3	mg/kg	1.2	ND
Bis(2-Ethylhexyl)phthalate	3	mg/kg	1.2	ND
Butylbenzylphthalate	3	mg/kg	1.2	ND
Carbazole	**3**	**mg/kg**	**1.2**	**0.58J**
Chrysene	**3**	**mg/kg**	**1.2**	**2.6**
Dibenzo[a,h]anthracene	**3**	**mg/kg**	**1.2**	**0.52J**
Dibenzofuran	**3**	**mg/kg**	**1.2**	**0.77J**
Diethylphthalate	3	mg/kg	1.2	ND
Dimethylphthalate	3	mg/kg	1.2	ND
Di-n-butylphthalate	3	mg/kg	1.2	ND
Di-n-octylphthalate	3	mg/kg	1.2	ND
Fluoranthene	**3**	**mg/kg**	**1.2**	**6.5**
Fluorene	**3**	**mg/kg**	**1.2**	**1.0J**
Hexachlorobenzene	3	mg/kg	1.2	ND
Hexachlorobutadiene	3	mg/kg	1.2	ND
Hexachlorocyclopentadiene	3	mg/kg	3.0	ND
Hexachloroethane	3	mg/kg	1.2	ND
Indeno[1,2,3-cd]pyrene	**3**	**mg/kg**	**1.2**	**1.4**
Isophorone	3	mg/kg	1.2	ND
Naphthalene	**3**	**mg/kg**	**1.2**	**1.6**
Nitrobenzene	3	mg/kg	1.2	ND
N-Nitrosodimethylamine	3	mg/kg	1.2	ND
N-Nitroso-di-n-propylamine	3	mg/kg	1.2	ND
N-Nitrosodiphenylamine	3	mg/kg	1.2	ND
Pentachlorophenol	3	mg/kg	3.0	ND
Phenanthrene	**3**	**mg/kg**	**1.2**	**7.7**
Phenol	3	mg/kg	1.2	ND
Pyrene	**3**	**mg/kg**	**1.2**	**6.8**
TPH (NJ OQA-QAM-025-Rev6)				
Total Petroleum Hydrocarbons	**6**	**mg/kg**	**370**	**7700**

Lab#: AC35821-003 Collection Date: 2/14/2008 Sample ID: C-1F				
TestGroup/Analyte	**DF**	**Units**	**RL**	**Result**
Volatile Organics + 15 (8260)				
:TotalVolatileTic	**181**	**mg/kg**	**NA**	**97.2J**
1,1,1-Trichloroethane	181	mg/kg	0.22	ND
1,1,2,2-Tetrachloroethane	181	mg/kg	0.22	ND
1,1,2-Trichloroethane	181	mg/kg	0.22	ND
1,1-Dichloroethane	181	mg/kg	0.22	ND
1,1-Dichloroethene	181	mg/kg	0.22	ND
1,2-Dichlorobenzene	181	mg/kg	0.22	ND
1,2-Dichloroethane	181	mg/kg	0.11	ND
1,2-Dichloropropane	181	mg/kg	0.22	ND
1,3-Dichlorobenzene	181	mg/kg	0.22	ND
1,4-Dichlorobenzene	181	mg/kg	0.22	ND
2-Butanone	181	mg/kg	0.22	ND
2-Chloroethylvinylether	181	mg/kg	1.1	ND
2-Hexanone	181	mg/kg	0.22	ND
4-Methyl-2-Pentanone	181	mg/kg	0.22	ND
Acetone	181	mg/kg	1.1	ND
Acrolein	181	mg/kg	1.1	ND
Acrylonitrile	181	mg/kg	0.22	ND
Benzene	181	mg/kg	0.11	ND
Bromodichloromethane	181	mg/kg	0.22	ND
Bromoform	181	mg/kg	0.22	ND
Bromomethane	181	mg/kg	0.22	ND
Carbon disulfide	181	mg/kg	0.22	ND
Carbon tetrachloride	181	mg/kg	0.22	ND
Chlorobenzene	181	mg/kg	0.22	ND
Chloroethane	181	mg/kg	0.22	ND
Chloroform	181	mg/kg	0.22	ND
Chloromethane	181	mg/kg	0.22	ND
cis-1,2-Dichloroethene	181	mg/kg	0.22	ND
cis-1,3-Dichloropropene	181	mg/kg	0.22	ND
Dibromochloromethane	181	mg/kg	0.22	ND
Ethylbenzene	181	mg/kg	0.22	ND
m&p-Xylenes	181	mg/kg	0.44	ND
Methylene chloride	181	mg/kg	0.22	ND
o-Xylene	181	mg/kg	0.22	ND
Styrene	181	mg/kg	0.22	ND
Tetrachloroethene	181	mg/kg	0.22	ND
Toluene	181	mg/kg	0.22	ND
trans-1,2-Dichloroethene	181	mg/kg	0.22	ND
trans-1,3-dichloropropene	181	mg/kg	0.22	ND
Trichloroethene	181	mg/kg	0.22	ND
Vinyl chloride	181	mg/kg	0.22	ND

Lab#: AC35821-004 Collection Date: 2/14/2008 Sample ID: C-1N				
TestGroup/Analyte	**DF**	**Units**	**RL**	**Result**
% Solids SM2540G				
% Solids	1	percent		26
8015/QAM-025 Extract & Hold				
Extract and Hold	1			
Base Neutrals (no search) 8270				
1,2,4-Trichlorobenzene	1	mg/kg	1.3	ND
1,2-Diphenylhydrazine	1	mg/kg	1.3	ND
2,4-Dinitrotoluene	1	mg/kg	1.3	ND
2,6-Dinitrotoluene	1	mg/kg	1.3	ND
2-Chloronaphthalene	1	mg/kg	1.3	ND
2-Methylnaphthalene	1	mg/kg	1.3	ND
2-Nitroaniline	1	mg/kg	1.3	ND
3,3'-Dichlorobenzidine	1	mg/kg	1.3	ND
3-Nitroaniline	1	mg/kg	1.3	ND
4-Bromophenyl-phenylether	1	mg/kg	1.3	ND
4-Chloroaniline	1	mg/kg	1.3	ND
4-Chlorophenyl-phenylether	1	mg/kg	1.3	ND
4-Nitroaniline	1	mg/kg	1.3	ND
Acenaphthene	1	mg/kg	1.3	ND
Acenaphthylene	1	mg/kg	1.3	ND
Anthracene	1	mg/kg	1.3	ND
Benzidine	1	mg/kg	1.3	ND
Benzo[a]anthracene	1	mg/kg	1.3	ND
Benzo[a]pyrene	1	mg/kg	1.3	ND
Benzo[b]fluoranthene	1	mg/kg	1.3	ND
Benzo[g,h,i]perylene	1	mg/kg	1.3	ND
Benzo[k]fluoranthene	1	mg/kg	1.3	ND
Bis(2-Chloroethoxy)methane	1	mg/kg	1.3	ND
Bis(2-Chloroethyl)ether	1	mg/kg	1.3	ND
Bis(2-Chloroisopropyl)ether	1	mg/kg	1.3	ND
Bis(2-Ethylhexyl)phthalate	1	mg/kg	1.3	ND
Butylbenzylphthalate	1	mg/kg	1.3	ND
Carbazole	1	mg/kg	1.3	ND
Chrysene	1	mg/kg	1.3	ND
Dibenzo[a,h]anthracene	1	mg/kg	1.3	ND
Dibenzofuran	1	mg/kg	1.3	ND
Diethylphthalate	1	mg/kg	1.3	ND
Dimethylphthalate	1	mg/kg	1.3	ND
Di-n-butylphthalate	1	mg/kg	1.3	ND
Di-n-octylphthalate	1	mg/kg	1.3	ND
Fluoranthene	1	mg/kg	1.3	0.23J
Fluorene	1	mg/kg	1.3	ND
Hexachlorobenzene	1	mg/kg	1.3	ND
Hexachlorobutadiene	1	mg/kg	1.3	ND
Hexachlorocyclopentadiene	1	mg/kg	3.2	ND
Hexachloroethane	1	mg/kg	1.3	ND
Indeno[1,2,3-cd]pyrene	1	mg/kg	1.3	ND
Isophorone	1	mg/kg	1.3	ND
Naphthalene	1	mg/kg	1.3	ND
Nitrobenzene	1	mg/kg	1.3	ND
N-Nitrosodimethylamine	1	mg/kg	1.3	ND
N-Nitroso-di-n-propylamine	1	mg/kg	1.3	ND
N-Nitrosodiphenylamine	1	mg/kg	1.3	ND
Phenanthrene	1	mg/kg	1.3	0.29J
Pyrene	1	mg/kg	1.3	0.18J
PCB (Extract and Hold) 8082				
Extract and Hold	1			
Pesticides (Extract and Hold) 608/8081				
Extract and Hold	1			

Lab#: AC35821-005 Collection Date: 2/14/2008 Sample ID: C-2F				
TestGroup/Analyte	**DF**	**Units**	**RL**	**Result**
% Solids SM2540G				
% Solids	1	percent		81
Cyanide (Soil/Waste)				
Cyanide	1	mg/kg	0.31	1.5
Mercury (Soil/Waste) 7471A				
Mercury	167	mg/kg	0.10	1.1
Organochlorine Pesticides 8081				
Aldrin	1	mg/kg	0.0062	ND
Alpha-BHC	1	mg/kg	0.0062	ND
beta-BHC	1	mg/kg	0.0062	ND
Chlordane	1	mg/kg	0.012	ND
delta-BHC	1	mg/kg	0.0062	ND
Dieldrin	1	mg/kg	0.0062	ND
Endosulfan I	1	mg/kg	0.0062	ND
Endosulfan II	1	mg/kg	0.0062	ND
Endosulfan Sulfate	1	mg/kg	0.0062	ND
Endrin	1	mg/kg	0.0062	ND
Endrin Aldehyde	1	mg/kg	0.0062	ND
Endrin Ketone	1	mg/kg	0.0062	ND
Gamma-BHC	1	mg/kg	0.0062	ND
Heptachlor	1	mg/kg	0.0062	ND
Heptachlor Epoxide	1	mg/kg	0.0062	ND
Methoxychlor	1	mg/kg	0.0062	ND
p,p'-DDD	1	mg/kg	0.0031	0.011
p,p'-DDE	1	mg/kg	0.0031	0.0062d
p,p'-DDT	1	mg/kg	0.0031	0.0080d
Toxaphene	1	mg/kg	0.031	ND
PCB 8082				
Aroclor-1016	1	mg/kg	0.031	ND
Aroclor-1221	1	mg/kg	0.031	ND
Aroclor-1232	1	mg/kg	0.031	ND
Aroclor-1242	1	mg/kg	0.031	ND
Aroclor-1248	1	mg/kg	0.031	ND
Aroclor-1254	1	mg/kg	0.031	ND
Aroclor-1260	1	mg/kg	0.031	0.20
Aroclor-1262	1	mg/kg	0.031	ND
Phenols (Soil/Waste) 9065				
Total Phenolics	1	mg/kg	1.5	1.5
PP Metals 6010				
Antimony	100	mg/kg	2.5	690
Arsenic	100	mg/kg	2.5	13
Barium	100	mg/kg	12	210
Beryllium	100	mg/kg	0.74	ND
Cadmium	100	mg/kg	0.74	1.9
Chromium	100	mg/kg	6.2	37
Copper	100	mg/kg	6.2	81
Lead	100	mg/kg	6.2	4800
Nickel	100	mg/kg	6.2	34
Selenium	100	mg/kg	2.2	ND
Silver	100	mg/kg	1.9	2.0
Thallium	100	mg/kg	1.5	ND
Zinc	100	mg/kg	12	480

Lab#: AC35821-005 Collection Date: 2/14/2008
Sample ID: C-2F

TestGroup/Analyte	DF	Units	RL	Result
Semivolatile Organics + 25 (8270)				
:TotalSemiVolatileTic	**10**	**mg/kg**	**NA**	**43.6J**
1,2,4-Trichlorobenzene	10	mg/kg	4.1	ND
1,2-Diphenylhydrazine	10	mg/kg	4.1	ND
2,4,5-Trichlorophenol	10	mg/kg	4.1	ND
2,4,6-Trichlorophenol	10	mg/kg	4.1	ND
2,4-Dichlorophenol	10	mg/kg	4.1	ND
2,4-Dimethylphenol	10	mg/kg	4.1	ND
2,4-Dinitrophenol	10	mg/kg	10	ND
2,4-Dinitrotoluene	10	mg/kg	4.1	ND
2,6-Dinitrotoluene	10	mg/kg	4.1	ND
2-Chloronaphthalene	10	mg/kg	4.1	ND
2-Chlorophenol	10	mg/kg	4.1	ND
2-Methylnaphthalene	10	mg/kg	4.1	ND
2-Methylphenol	10	mg/kg	4.1	ND
2-Nitroaniline	10	mg/kg	4.1	ND
2-Nitrophenol	10	mg/kg	4.1	ND
3&4-Methylphenol	10	mg/kg	4.1	ND
3,3'-Dichlorobenzidine	10	mg/kg	4.1	ND
3-Nitroaniline	10	mg/kg	4.1	ND
4,6-Dinitro-2-methylphenol	10	mg/kg	10	ND
4-Bromophenyl-phenylether	10	mg/kg	4.1	ND
4-Chloro-3-methylphenol	10	mg/kg	4.1	ND
4-Chloroaniline	10	mg/kg	4.1	ND
4-Chlorophenyl-phenylether	10	mg/kg	4.1	ND
4-Nitroaniline	10	mg/kg	4.1	ND
4-Nitrophenol	10	mg/kg	4.1	ND
Acenaphthene	10	mg/kg	4.1	ND
Acenaphthylene	10	mg/kg	4.1	ND
Anthracene	10	mg/kg	4.1	ND
Benzidine	10	mg/kg	4.1	ND
Benzo[a]anthracene	10	mg/kg	4.1	ND
Benzo[a]pyrene	10	mg/kg	4.1	ND
Benzo[b]fluoranthene	10	mg/kg	4.1	ND
Benzo[g,h,i]perylene	10	mg/kg	4.1	ND
Benzo[k]fluoranthene	10	mg/kg	4.1	ND
Bis(2-Chloroethoxy)methane	10	mg/kg	4.1	ND
Bis(2-Chloroethyl)ether	10	mg/kg	4.1	ND
Bis(2-Chloroisopropyl)ether	10	mg/kg	4.1	ND
Bis(2-Ethylhexyl)phthalate	10	mg/kg	4.1	ND
Butylbenzylphthalate	10	mg/kg	4.1	ND
Carbazole	10	mg/kg	4.1	ND
Chrysene	10	mg/kg	4.1	ND
Dibenzo[a,h]anthracene	10	mg/kg	4.1	ND
Dibenzofuran	10	mg/kg	4.1	ND
Diethylphthalate	10	mg/kg	4.1	ND
Dimethylphthalate	**10**	**mg/kg**	**4.1**	**23**
Di-n-butylphthalate	**10**	**mg/kg**	**4.1**	**1.9J**
Di-n-octylphthalate	10	mg/kg	4.1	ND
Fluoranthene	10	mg/kg	4.1	ND
Fluorene	10	mg/kg	4.1	ND
Hexachlorobenzene	10	mg/kg	4.1	ND
Hexachlorobutadiene	10	mg/kg	4.1	ND
Hexachlorocyclopentadiene	10	mg/kg	10	ND
Hexachloroethane	10	mg/kg	4.1	ND
Indeno[1,2,3-cd]pyrene	10	mg/kg	4.1	ND
Isophorone	10	mg/kg	4.1	ND
Naphthalene	10	mg/kg	4.1	ND
Nitrobenzene	10	mg/kg	4.1	ND
N-Nitrosodimethylamine	10	mg/kg	4.1	ND
N-Nitroso-di-n-propylamine	10	mg/kg	4.1	ND
N-Nitrosodiphenylamine	10	mg/kg	4.1	ND
Pentachlorophenol	10	mg/kg	10	ND
Phenanthrene	10	mg/kg	4.1	ND
Phenol	10	mg/kg	4.1	ND
Pyrene	10	mg/kg	4.1	ND
TPH (NJ OQA-QAM-025-Rev6)				
Total Petroleum Hydrocarbons	**1**	**mg/kg**	**74**	**350**

Lab#: AC35821-005 Collection Date: 2/14/2008
Sample ID: C-2F

TestGroup/Analyte	DF	Units	RL	Result
Volatile Organics + 15 (8260)				
:TotalVolatileTic	81.2	mg/kg	NA	ND
1,1,1-Trichloroethane	81.2	mg/kg	0.10	ND
1,1,2,2-Tetrachloroethane	81.2	mg/kg	0.10	ND
1,1,2-Trichloroethane	81.2	mg/kg	0.10	ND
1,1-Dichloroethane	81.2	mg/kg	0.10	ND
1,1-Dichloroethene	81.2	mg/kg	0.10	ND
1,2-Dichlorobenzene	81.2	mg/kg	0.10	ND
1,2-Dichloroethane	81.2	mg/kg	0.050	ND
1,2-Dichloropropane	81.2	mg/kg	0.10	ND
1,3-Dichlorobenzene	81.2	mg/kg	0.10	ND
1,4-Dichlorobenzene	81.2	mg/kg	0.10	ND
2-Butanone	81.2	mg/kg	0.10	ND
2-Chloroethylvinylether	81.2	mg/kg	0.50	ND
2-Hexanone	81.2	mg/kg	0.10	ND
4-Methyl-2-Pentanone	81.2	mg/kg	0.10	ND
Acetone	81.2	mg/kg	0.50	ND
Acrolein	81.2	mg/kg	0.50	ND
Acrylonitrile	81.2	mg/kg	0.10	ND
Benzene	81.2	mg/kg	0.050	ND
Bromodichloromethane	81.2	mg/kg	0.10	ND
Bromoform	81.2	mg/kg	0.10	ND
Bromomethane	81.2	mg/kg	0.10	ND
Carbon disulfide	81.2	mg/kg	0.10	ND
Carbon tetrachloride	81.2	mg/kg	0.10	ND
Chlorobenzene	81.2	mg/kg	0.10	ND
Chloroethane	81.2	mg/kg	0.10	ND
Chloroform	81.2	mg/kg	0.10	ND
Chloromethane	81.2	mg/kg	0.10	ND
cis-1,2-Dichloroethene	81.2	mg/kg	0.10	ND
cis-1,3-Dichloropropene	81.2	mg/kg	0.10	ND
Dibromochloromethane	81.2	mg/kg	0.10	ND
Ethylbenzene	81.2	mg/kg	0.10	ND
m&p-Xylenes	81.2	mg/kg	0.20	ND
Methylene chloride	81.2	mg/kg	0.10	ND
o-Xylene	81.2	mg/kg	0.10	ND
Styrene	81.2	mg/kg	0.10	ND
Tetrachloroethene	81.2	mg/kg	0.10	ND
Toluene	81.2	mg/kg	0.10	ND
trans-1,2-Dichloroethene	81.2	mg/kg	0.10	ND
trans-1,3-dichloropropene	81.2	mg/kg	0.10	ND
Trichloroethene	81.2	mg/kg	0.10	ND
Vinyl chloride	81.2	mg/kg	0.10	ND

Lab#: AC35821-006 Collection Date: 2/14/2008
Sample ID: C-2N

TestGroup/Analyte	DF	Units	RL	Result
% Solids SM2540G				
% Solids	**1**	**percent**		**67**
8015/QAM-025 Extract & Hold				
Extract and Hold	1			
Base Neutrals (Extract and Hold) 8270				
Extract and Hold	1			
Metals Pair 6010				
Antimony	100	mg/kg	3.0	ND
Lead	**100**	**mg/kg**	**7.6**	**20**
PCB (Extract and Hold) 8082				
Extract and Hold	1			
Pesticides (Extract and Hold) 608/8081				
Extract and Hold	1			

RL = Reporting Limit
ND = Not Detected

RL Definitions: **SW846 Organics reported to PQL** | **SW846 Inorganics reported to PQL** | **Clean Water Act Organics reported to PQL** | **Clean Water Act Inorganics reported to PQL** | **CLP Organics reported to CRQL** | **CLP Inorganics reported to CRQL**

Lab#: AC35821-007 Collection Date: 2/14/2008 Sample ID: C-3F				
TestGroup/Analyte	**DF**	**Units**	**RL**	**Result**
% Solids SM2540G				
% Solids	1	percent		77
Cyanide (Soil/Waste)				
Cyanide	1	mg/kg	0.32	0.69
Mercury (Soil/Waste) 7471A				
Mercury	167	mg/kg	0.11	0.14
Organochlorine Pesticides 8081				
Aldrin	1	mg/kg	0.0065	ND
Alpha-BHC	1	mg/kg	0.0065	ND
beta-BHC	1	mg/kg	0.0065	ND
Chlordane	1	mg/kg	0.013	ND
delta-BHC	1	mg/kg	0.0065	ND
Dieldrin	1	mg/kg	0.0065	ND
Endosulfan I	1	mg/kg	0.0065	ND
Endosulfan II	1	mg/kg	0.0065	ND
Endosulfan Sulfate	1	mg/kg	0.0065	ND
Endrin	1	mg/kg	0.0065	ND
Endrin Aldehyde	1	mg/kg	0.0065	ND
Endrin Ketone	1	mg/kg	0.0065	ND
Gamma-BHC	1	mg/kg	0.0065	ND
Heptachlor	1	mg/kg	0.0065	ND
Heptachlor Epoxide	1	mg/kg	0.0065	ND
Methoxychlor	1	mg/kg	0.0065	ND
p,p'-DDD	1	mg/kg	0.0032	ND
p,p'-DDE	1	mg/kg	0.0032	ND
p,p'-DDT	1	mg/kg	0.0032	ND
Toxaphene	1	mg/kg	0.032	ND
PCB 8082				
Aroclor-1016	1	mg/kg	0.032	ND
Aroclor-1221	1	mg/kg	0.032	ND
Aroclor-1232	1	mg/kg	0.032	ND
Aroclor-1242	1	mg/kg	0.032	ND
Aroclor-1248	1	mg/kg	0.032	0.26
Aroclor-1254	1	mg/kg	0.032	ND
Aroclor-1260	1	mg/kg	0.032	0.076
Aroclor-1262	1	mg/kg	0.032	ND
Phenols (Soil/Waste) 9065				
Total Phenolics	1	mg/kg	1.6	ND
PP Metals 6010				
Antimony	100	mg/kg	2.6	ND
Arsenic	100	mg/kg	2.6	4.2
Barium	100	mg/kg	13	84
Beryllium	100	mg/kg	0.78	ND
Cadmium	100	mg/kg	0.78	ND
Chromium	100	mg/kg	6.5	20
Copper	100	mg/kg	6.5	92
Lead	100	mg/kg	6.5	87
Nickel	100	mg/kg	6.5	10
Selenium	100	mg/kg	2.3	ND
Silver	100	mg/kg	1.9	ND
Thallium	100	mg/kg	1.6	ND
Zinc	100	mg/kg	13	46

Lab#: AC35821-007 Collection Date: 2/14/2008 Sample ID: C-3F				
TestGroup/Analyte	**DF**	**Units**	**RL**	**Result**
Semivolatile Organics + 25 (8270)				
:TotalSemiVolatileTic	1	mg/kg	NA	81.78J
1,2,4-Trichlorobenzene	1	mg/kg	0.43	ND
1,2-Diphenylhydrazine	1	mg/kg	0.43	ND
2,4,5-Trichlorophenol	1	mg/kg	0.43	ND
2,4,6-Trichlorophenol	1	mg/kg	0.43	ND
2,4-Dichlorophenol	1	mg/kg	0.43	ND
2,4-Dimethylphenol	1	mg/kg	0.43	ND
2,4-Dinitrophenol	1	mg/kg	1.1	ND
2,4-Dinitrotoluene	1	mg/kg	0.43	ND
2,6-Dinitrotoluene	1	mg/kg	0.43	ND
2-Chloronaphthalene	1	mg/kg	0.43	ND
2-Chlorophenol	1	mg/kg	0.43	ND
2-Methylnaphthalene	1	mg/kg	0.43	ND
2-Methylphenol	1	mg/kg	0.43	ND
2-Nitroaniline	1	mg/kg	0.43	ND
2-Nitrophenol	1	mg/kg	0.43	ND
3&4-Methylphenol	1	mg/kg	0.43	ND
3,3'-Dichlorobenzidine	1	mg/kg	0.43	ND
3-Nitroaniline	1	mg/kg	0.43	ND
4,6-Dinitro-2-methylphenol	1	mg/kg	1.1	ND
4-Bromophenyl-phenylether	1	mg/kg	0.43	ND
4-Chloro-3-methylphenol	1	mg/kg	0.43	ND
4-Chloroaniline	1	mg/kg	0.43	ND
4-Chlorophenyl-phenylether	1	mg/kg	0.43	ND
4-Nitroaniline	1	mg/kg	0.43	ND
4-Nitrophenol	1	mg/kg	0.43	ND
Acenaphthene	1	mg/kg	0.43	ND
Acenaphthylene	1	mg/kg	0.43	ND
Anthracene	1	mg/kg	0.43	ND
Benzidine	1	mg/kg	0.43	ND
Benzo[a]anthracene	1	mg/kg	0.43	0.043J
Benzo[a]pyrene	1	mg/kg	0.43	ND
Benzo[b]fluoranthene	1	mg/kg	0.43	0.052J
Benzo[g,h,i]perylene	1	mg/kg	0.43	ND
Benzo[k]fluoranthene	1	mg/kg	0.43	ND
Bis(2-Chloroethoxy)methane	1	mg/kg	0.43	ND
Bis(2-Chloroethyl)ether	1	mg/kg	0.43	ND
Bis(2-Chloroisopropyl)ether	1	mg/kg	0.43	ND
Bis(2-Ethylhexyl)phthalate	1	mg/kg	0.43	0.055J
Butylbenzylphthalate	1	mg/kg	0.43	ND
Carbazole	1	mg/kg	0.43	ND
Chrysene	1	mg/kg	0.43	ND
Dibenzo[a,h]anthracene	1	mg/kg	0.43	ND
Dibenzofuran	1	mg/kg	0.43	ND
Diethylphthalate	1	mg/kg	0.43	ND
Dimethylphthalate	1	mg/kg	0.43	ND
Di-n-butylphthalate	1	mg/kg	0.43	ND
Di-n-octylphthalate	1	mg/kg	0.43	ND
Fluoranthene	1	mg/kg	0.43	0.068J
Fluorene	1	mg/kg	0.43	ND
Hexachlorobenzene	1	mg/kg	0.43	ND
Hexachlorobutadiene	1	mg/kg	0.43	ND
Hexachlorocyclopentadiene	1	mg/kg	1.1	ND
Hexachloroethane	1	mg/kg	0.43	ND
Indeno[1,2,3-cd]pyrene	1	mg/kg	0.43	ND
Isophorone	1	mg/kg	0.43	ND
Naphthalene	1	mg/kg	0.43	ND
Nitrobenzene	1	mg/kg	0.43	ND
N-Nitrosodimethylamine	1	mg/kg	0.43	ND
N-Nitroso-di-n-propylamine	1	mg/kg	0.43	ND
N-Nitrosodiphenylamine	1	mg/kg	0.43	ND
Pentachlorophenol	1	mg/kg	1.1	ND
Phenanthrene	1	mg/kg	0.43	ND
Phenol	1	mg/kg	0.43	ND
Pyrene	1	mg/kg	0.43	0.064J
TPH (NJ OQA-QAM-025-Rev6)				
Total Petroleum Hydrocarbons	1	mg/kg	78	200

Lab#: AC35821-007 **Collection Date: 2/14/2008**
Sample ID: C-3F

TestGroup/Analyte	DF	Units	RL	Result
Volatile Organics + 15 (8260)				
:TotalVolatileTic	64.6	mg/kg	NA	ND
1,1,1-Trichloroethane	64.6	mg/kg	0.084	ND
1,1,2,2-Tetrachloroethane	64.6	mg/kg	0.084	ND
1,1,2-Trichloroethane	64.6	mg/kg	0.084	ND
1,1-Dichloroethane	64.6	mg/kg	0.084	ND
1,1-Dichloroethene	64.6	mg/kg	0.084	ND
1,2-Dichlorobenzene	64.6	mg/kg	0.084	ND
1,2-Dichloroethane	64.6	mg/kg	0.042	ND
1,2-Dichloropropane	64.6	mg/kg	0.084	ND
1,3-Dichlorobenzene	64.6	mg/kg	0.084	ND
1,4-Dichlorobenzene	64.6	mg/kg	0.084	ND
2-Butanone	64.6	mg/kg	0.084	ND
2-Chloroethylvinylether	64.6	mg/kg	0.42	ND
2-Hexanone	64.6	mg/kg	0.084	ND
4-Methyl-2-Pentanone	64.6	mg/kg	0.084	ND
Acetone	64.6	mg/kg	0.42	ND
Acrolein	64.6	mg/kg	0.42	ND
Acrylonitrile	64.6	mg/kg	0.084	ND
Benzene	64.6	mg/kg	0.042	ND
Bromodichloromethane	64.6	mg/kg	0.084	ND
Bromoform	64.6	mg/kg	0.084	ND
Bromomethane	64.6	mg/kg	0.084	ND
Carbon disulfide	64.6	mg/kg	0.084	ND
Carbon tetrachloride	64.6	mg/kg	0.084	ND
Chlorobenzene	64.6	mg/kg	0.084	ND
Chloroethane	64.6	mg/kg	0.084	ND
Chloroform	64.6	mg/kg	0.084	ND
Chloromethane	64.6	mg/kg	0.084	ND
cis-1,2-Dichloroethene	64.6	mg/kg	0.084	ND
cis-1,3-Dichloropropene	64.6	mg/kg	0.084	ND
Dibromochloromethane	64.6	mg/kg	0.084	ND
Ethylbenzene	64.6	mg/kg	0.084	ND
m&p-Xylenes	64.6	mg/kg	0.17	ND
Methylene chloride	64.6	mg/kg	0.084	ND
o-Xylene	64.6	mg/kg	0.084	ND
Styrene	64.6	mg/kg	0.084	ND
Tetrachloroethene	64.6	mg/kg	0.084	ND
Toluene	64.6	mg/kg	0.084	ND
trans-1,2-Dichloroethene	64.6	mg/kg	0.084	ND
trans-1,3-dichloropropene	64.6	mg/kg	0.084	ND
Trichloroethene	64.6	mg/kg	0.084	ND
Vinyl chloride	64.6	mg/kg	0.084	ND

Lab#: AC35821-008 **Collection Date: 2/14/2008**
Sample ID: C-3N

TestGroup/Analyte	DF	Units	RL	Result
8015/QAM-025 Extract & Hold				
Extract and Hold	1			
Base Neutrals (Extract and Hold) 8270				
Extract and Hold	1			
PCB (Extract and Hold) 8082				
Extract and Hold	1			
Pesticides (Extract and Hold) 608/8081				
Extract and Hold	1			

Lab#: AC35821-009 **Collection Date: 2/14/2008**
Sample ID: C-4F

TestGroup/Analyte	DF	Units	RL	Result
% Solids SM2540G				
% Solids	1	**percent**		**86**
Cyanide (Soil/Waste)				
Cyanide	1	mg/kg	0.29	ND
Mercury (Soil/Waste) 7471A				
Mercury	167	**mg/kg**	**0.097**	**0.21**
Organochlorine Pesticides 8081				
Aldrin	1	mg/kg	0.0058	ND
Alpha-BHC	1	mg/kg	0.0058	ND
beta-BHC	1	mg/kg	0.0058	ND
Chlordane	1	mg/kg	0.012	ND
delta-BHC	1	mg/kg	0.0058	ND
Dieldrin	1	mg/kg	0.0058	ND
Endosulfan I	1	mg/kg	0.0058	ND
Endosulfan II	1	mg/kg	0.0058	ND
Endosulfan Sulfate	1	mg/kg	0.0058	ND
Endrin	1	mg/kg	0.0058	ND
Endrin Aldehyde	1	mg/kg	0.0058	ND
Endrin Ketone	1	mg/kg	0.0058	ND
Gamma-BHC	1	mg/kg	0.0058	ND
Heptachlor	1	mg/kg	0.0058	ND
Heptachlor Epoxide	1	mg/kg	0.0058	ND
Methoxychlor	1	mg/kg	0.0058	ND
p,p'-DDD	1	mg/kg	0.0029	ND
p,p'-DDE	1	**mg/kg**	**0.0029**	**0.0037d**
p,p'-DDT	1	mg/kg	0.0029	ND
Toxaphene	1	mg/kg	0.029	ND
PCB 8082				
Aroclor-1016	1	mg/kg	0.029	ND
Aroclor-1221	1	mg/kg	0.029	ND
Aroclor-1232	1	mg/kg	0.029	ND
Aroclor-1242	1	mg/kg	0.029	ND
Aroclor-1248	1	**mg/kg**	**0.029**	**0.077**
Aroclor-1254	1	mg/kg	0.029	ND
Aroclor-1260	1	**mg/kg**	**0.029**	**0.27**
Aroclor-1262	1	mg/kg	0.029	ND
Phenols (Soil/Waste) 9065				
Total Phenolics	1	mg/kg	1.5	ND
PP Metals 6010				
Antimony	100	mg/kg	2.3	ND
Arsenic	100	**mg/kg**	**2.3**	**2.6**
Barium	100	**mg/kg**	**12**	**58**
Beryllium	100	mg/kg	0.70	ND
Cadmium	100	mg/kg	0.70	ND
Chromium	100	**mg/kg**	**5.8**	**17**
Copper	100	**mg/kg**	**5.8**	**22**
Lead	100	**mg/kg**	**5.8**	**57**
Nickel	100	**mg/kg**	**5.8**	**14**
Selenium	100	mg/kg	2.1	ND
Silver	100	mg/kg	1.7	ND
Thallium	100	mg/kg	1.4	ND
Zinc	100	**mg/kg**	**12**	**59**

Lab#: AC35821-009	Collection Date: 2/14/2008
Sample ID: C-4F	

TestGroup/Analyte	DF	Units	RL	Result
Semivolatile Organics + 25 (8270)				
:TotalSemiVolatileTic	1	mg/kg	NA	36.17J
1,2,4-Trichlorobenzene	1	mg/kg	0.39	ND
1,2-Diphenylhydrazine	1	mg/kg	0.39	ND
2,4,5-Trichlorophenol	1	mg/kg	0.39	ND
2,4,6-Trichlorophenol	1	mg/kg	0.39	ND
2,4-Dichlorophenol	1	mg/kg	0.39	ND
2,4-Dimethylphenol	1	mg/kg	0.39	ND
2,4-Dinitrophenol	1	mg/kg	0.97	ND
2,4-Dinitrotoluene	1	mg/kg	0.39	ND
2,6-Dinitrotoluene	1	mg/kg	0.39	ND
2-Chloronaphthalene	1	mg/kg	0.39	ND
2-Chlorophenol	1	mg/kg	0.39	ND
2-Methylnaphthalene	1	mg/kg	0.39	ND
2-Methylphenol	1	mg/kg	0.39	ND
2-Nitroaniline	1	mg/kg	0.39	ND
2-Nitrophenol	1	mg/kg	0.39	ND
3&4-Methylphenol	1	mg/kg	0.39	ND
3,3'-Dichlorobenzidine	1	mg/kg	0.39	ND
3-Nitroaniline	1	mg/kg	0.39	ND
4,6-Dinitro-2-methylphenol	1	mg/kg	0.97	ND
4-Bromophenyl-phenylether	1	mg/kg	0.39	ND
4-Chloro-3-methylphenol	1	mg/kg	0.39	ND
4-Chloroaniline	1	mg/kg	0.39	ND
4-Chlorophenyl-phenylether	1	mg/kg	0.39	ND
4-Nitroaniline	1	mg/kg	0.39	ND
4-Nitrophenol	1	mg/kg	0.39	ND
Acenaphthene	1	mg/kg	0.39	ND
Acenaphthylene	1	mg/kg	0.39	ND
Anthracene	1	mg/kg	0.39	0.050J
Benzidine	1	mg/kg	0.39	ND
Benzo[a]anthracene	1	mg/kg	0.39	0.16J
Benzo[a]pyrene	1	mg/kg	0.39	0.14J
Benzo[b]fluoranthene	1	mg/kg	0.39	0.18J
Benzo[g,h,i]perylene	1	mg/kg	0.39	0.10J
Benzo[k]fluoranthene	1	mg/kg	0.39	0.070J
Bis(2-Chloroethoxy)methane	1	mg/kg	0.39	ND
Bis(2-Chloroethyl)ether	1	mg/kg	0.39	ND
Bis(2-Chloroisopropyl)ether	1	mg/kg	0.39	ND
Bis(2-Ethylhexyl)phthalate	1	mg/kg	0.39	0.051J
Butylbenzylphthalate	1	mg/kg	0.39	ND
Carbazole	1	mg/kg	0.39	ND
Chrysene	1	mg/kg	0.39	0.14J
Dibenzo[a,h]anthracene	1	mg/kg	0.39	ND
Dibenzofuran	1	mg/kg	0.39	ND
Diethylphthalate	1	mg/kg	0.39	ND
Dimethylphthalate	1	mg/kg	0.39	ND
Di-n-butylphthalate	1	mg/kg	0.39	ND
Di-n-octylphthalate	1	mg/kg	0.39	ND
Fluoranthene	1	mg/kg	0.39	0.28J
Fluorene	1	mg/kg	0.39	ND
Hexachlorobenzene	1	mg/kg	0.39	ND
Hexachlorobutadiene	1	mg/kg	0.39	ND
Hexachlorocyclopentadiene	1	mg/kg	0.97	ND
Hexachloroethane	1	mg/kg	0.39	ND
Indeno[1,2,3-cd]pyrene	1	mg/kg	0.39	0.090J
Isophorone	1	mg/kg	0.39	ND
Naphthalene	1	mg/kg	0.39	ND
Nitrobenzene	1	mg/kg	0.39	ND
N-Nitrosodimethylamine	1	mg/kg	0.39	ND
N-Nitroso-di-n-propylamine	1	mg/kg	0.39	ND
N-Nitrosodiphenylamine	1	mg/kg	0.39	ND
Pentachlorophenol	1	mg/kg	0.97	ND
Phenanthrene	1	mg/kg	0.39	0.13J
Phenol	1	mg/kg	0.39	ND
Pyrene	1	mg/kg	0.39	0.24J
TPH (NJ OQA-QAM-025-Rev6)				
Total Petroleum Hydrocarbons	1	mg/kg	70	71

Lab#: AC35821-009	Collection Date: 2/14/2008
Sample ID: C-4F	

TestGroup/Analyte	DF	Units	RL	Result
Volatile Organics + 15 (8260)				
:TotalVolatileTic	59.5	mg/kg	NA	ND
1,1,1-Trichloroethane	59.5	mg/kg	0.069	ND
1,1,2,2-Tetrachloroethane	59.5	mg/kg	0.069	ND
1,1,2-Trichloroethane	59.5	mg/kg	0.069	ND
1,1-Dichloroethane	59.5	mg/kg	0.069	ND
1,1-Dichloroethene	59.5	mg/kg	0.069	ND
1,2-Dichlorobenzene	59.5	mg/kg	0.069	ND
1,2-Dichloroethane	59.5	mg/kg	0.035	ND
1,2-Dichloropropane	59.5	mg/kg	0.069	ND
1,3-Dichlorobenzene	59.5	mg/kg	0.069	ND
1,4-Dichlorobenzene	59.5	mg/kg	0.069	ND
2-Butanone	59.5	mg/kg	0.069	ND
2-Chloroethylvinylether	59.5	mg/kg	0.35	ND
2-Hexanone	59.5	mg/kg	0.069	ND
4-Methyl-2-Pentanone	59.5	mg/kg	0.069	ND
Acetone	59.5	mg/kg	0.35	ND
Acrolein	59.5	mg/kg	0.35	ND
Acrylonitrile	59.5	mg/kg	0.069	ND
Benzene	59.5	mg/kg	0.035	ND
Bromodichloromethane	59.5	mg/kg	0.069	ND
Bromoform	59.5	mg/kg	0.069	ND
Bromomethane	59.5	mg/kg	0.069	ND
Carbon disulfide	59.5	mg/kg	0.069	ND
Carbon tetrachloride	59.5	mg/kg	0.069	ND
Chlorobenzene	59.5	mg/kg	0.069	ND
Chloroethane	59.5	mg/kg	0.069	ND
Chloroform	59.5	mg/kg	0.069	ND
Chloromethane	59.5	mg/kg	0.069	ND
cis-1,2-Dichloroethene	59.5	mg/kg	0.069	ND
cis-1,3-Dichloropropene	59.5	mg/kg	0.069	ND
Dibromochloromethane	59.5	mg/kg	0.069	ND
Ethylbenzene	59.5	mg/kg	0.069	ND
m&p-Xylenes	59.5	mg/kg	0.14	ND
Methylene chloride	59.5	mg/kg	0.069	ND
o-Xylene	59.5	mg/kg	0.069	ND
Styrene	59.5	mg/kg	0.069	ND
Tetrachloroethene	59.5	mg/kg	0.069	ND
Toluene	59.5	mg/kg	0.069	ND
trans-1,2-Dichloroethene	59.5	mg/kg	0.069	ND
trans-1,3-dichloropropene	59.5	mg/kg	0.069	ND
Trichloroethene	59.5	mg/kg	0.069	ND
Vinyl chloride	59.5	mg/kg	0.069	ND

Lab#: AC35821-010	Collection Date: 2/14/2008
Sample ID: C-4N	

TestGroup/Analyte	DF	Units	RL	Result
8015/QAM-025 Extract & Hold				
Extract and Hold	1			
Base Neutrals (Extract and Hold) 8270				
Extract and Hold	1			
PCB (Extract and Hold) 8082				
Extract and Hold	1			
Pesticides (Extract and Hold) 608/8081				
Extract and Hold	1			

RL = Reporting Limit
ND = Not Detected

RL Definitions: SW846 Organics reported to PQL; SW846 Inorganics reported to PQL; Clean Water Act Organics reported to PQL; Clean Water Act Inorganics reported to PQL; CLP Organics reported to CRQL; CLP Inorganics reported to CRQL

Lab#: AC35821-011 Collection Date: 2/14/2008 Sample ID: C-5F				
TestGroup/Analyte	**DF**	**Units**	**RL**	**Result**
% Solids SM2540G				
% Solids	1	percent		44
Cyanide (Soil/Waste)				
Cyanide	1	mg/kg	0.57	1.8
Mercury (Soil/Waste) 7471A				
Mercury	167	mg/kg	0.19	4.1
Organochlorine Pesticides 8081				
Aldrin	1	mg/kg	0.011	ND
Alpha-BHC	1	mg/kg	0.011	ND
beta-BHC	1	mg/kg	0.011	ND
Chlordane	1	mg/kg	0.023	ND
delta-BHC	1	mg/kg	0.011	ND
Dieldrin	1	mg/kg	0.011	ND
Endosulfan I	1	mg/kg	0.011	ND
Endosulfan II	1	mg/kg	0.011	ND
Endosulfan Sulfate	1	mg/kg	0.011	ND
Endrin	1	mg/kg	0.011	ND
Endrin Aldehyde	1	mg/kg	0.011	ND
Endrin Ketone	1	mg/kg	0.011	ND
Gamma-BHC	1	mg/kg	0.011	ND
Heptachlor	1	mg/kg	0.011	ND
Heptachlor Epoxide	1	mg/kg	0.011	ND
Methoxychlor	1	mg/kg	0.011	ND
p,p'-DDD	1	mg/kg	0.0057	0.050
p,p'-DDE	1	mg/kg	0.0057	0.049d
p,p'-DDT	1	mg/kg	0.0057	ND
Toxaphene	1	mg/kg	0.057	ND
PCB 8082				
Aroclor-1016	1	mg/kg	0.057	ND
Aroclor-1221	1	mg/kg	0.057	ND
Aroclor-1232	1	mg/kg	0.057	ND
Aroclor-1242	1	mg/kg	0.057	0.53
Aroclor-1248	1	mg/kg	0.057	ND
Aroclor-1254	1	mg/kg	0.057	ND
Aroclor-1260	1	mg/kg	0.057	0.090
Aroclor-1262	1	mg/kg	0.057	ND
Phenols (Soil/Waste) 9065				
Total Phenolics	1	mg/kg	2.8	4
PP Metals 6010				
Antimony	100	mg/kg	4.5	20
Arsenic	100	mg/kg	4.5	24
Barium	100	mg/kg	23	230
Beryllium	100	mg/kg	1.4	ND
Cadmium	100	mg/kg	1.4	3.9
Chromium	100	mg/kg	11	330
Copper	100	mg/kg	11	440
Lead	100	mg/kg	11	1400
Nickel	100	mg/kg	11	71
Selenium	100	mg/kg	4.1	ND
Silver	100	mg/kg	3.4	ND
Thallium	100	mg/kg	2.7	ND
Zinc	100	mg/kg	23	710

Lab#: AC35821-011 Collection Date: 2/14/2008 Sample ID: C-5F				
TestGroup/Analyte	**DF**	**Units**	**RL**	**Result**
Semivolatile Organics + 25 (8270)				
:TotalSemiVolatileTic	5	mg/kg	NA	627.6J
1,2,4-Trichlorobenzene	5	mg/kg	3.8	ND
1,2-Diphenylhydrazine	5	mg/kg	3.8	ND
2,4,5-Trichlorophenol	5	mg/kg	3.8	ND
2,4,6-Trichlorophenol	5	mg/kg	3.8	ND
2,4-Dichlorophenol	5	mg/kg	3.8	ND
2,4-Dimethylphenol	5	mg/kg	3.8	ND
2,4-Dinitrophenol	5	mg/kg	9.5	ND
2,4-Dinitrotoluene	5	mg/kg	3.8	ND
2,6-Dinitrotoluene	5	mg/kg	3.8	ND
2-Chloronaphthalene	5	mg/kg	3.8	ND
2-Chlorophenol	5	mg/kg	3.8	ND
2-Methylnaphthalene	5	mg/kg	3.8	ND
2-Methylphenol	5	mg/kg	3.8	ND
2-Nitroaniline	5	mg/kg	3.8	ND
2-Nitrophenol	5	mg/kg	3.8	ND
3&4-Methylphenol	5	mg/kg	3.8	ND
3,3'-Dichlorobenzidine	5	mg/kg	3.8	ND
3-Nitroaniline	5	mg/kg	3.8	ND
4,6-Dinitro-2-methylphenol	5	mg/kg	9.5	ND
4-Bromophenyl-phenylether	5	mg/kg	3.8	ND
4-Chloro-3-methylphenol	5	mg/kg	3.8	ND
4-Chloroaniline	5	mg/kg	3.8	ND
4-Chlorophenyl-phenylether	5	mg/kg	3.8	ND
4-Nitroaniline	5	mg/kg	3.8	ND
4-Nitrophenol	5	mg/kg	3.8	ND
Acenaphthene	5	mg/kg	3.8	4.8
Acenaphthylene	5	mg/kg	3.8	ND
Anthracene	5	mg/kg	3.8	ND
Benzidine	5	mg/kg	3.8	ND
Benzo[a]anthracene	5	mg/kg	3.8	ND
Benzo[a]pyrene	5	mg/kg	3.8	ND
Benzo[b]fluoranthene	5	mg/kg	3.8	ND
Benzo[g,h,i]perylene	5	mg/kg	3.8	ND
Benzo[k]fluoranthene	5	mg/kg	3.8	ND
Bis(2-Chloroethoxy)methane	5	mg/kg	3.8	ND
Bis(2-Chloroethyl)ether	5	mg/kg	3.8	ND
Bis(2-Chloroisopropyl)ether	5	mg/kg	3.8	ND
Bis(2-Ethylhexyl)phthalate	5	mg/kg	3.8	41
Butylbenzylphthalate	5	mg/kg	3.8	ND
Carbazole	5	mg/kg	3.8	ND
Chrysene	5	mg/kg	3.8	ND
Dibenzo[a,h]anthracene	5	mg/kg	3.8	ND
Dibenzofuran	5	mg/kg	3.8	ND
Diethylphthalate	5	mg/kg	3.8	0.54J
Dimethylphthalate	5	mg/kg	3.8	ND
Di-n-butylphthalate	5	mg/kg	3.8	1.9J
Di-n-octylphthalate	5	mg/kg	3.8	ND
Fluoranthene	5	mg/kg	3.8	ND
Fluorene	5	mg/kg	3.8	1.1J
Hexachlorobenzene	5	mg/kg	3.8	ND
Hexachlorobutadiene	5	mg/kg	3.8	ND
Hexachlorocyclopentadiene	5	mg/kg	9.5	ND
Hexachloroethane	5	mg/kg	3.8	ND
Indeno[1,2,3-cd]pyrene	5	mg/kg	3.8	ND
Isophorone	5	mg/kg	3.8	ND
Naphthalene	5	mg/kg	3.8	0.81J
Nitrobenzene	5	mg/kg	3.8	ND
N-Nitrosodimethylamine	5	mg/kg	3.8	ND
N-Nitroso-di-n-propylamine	5	mg/kg	3.8	ND
N-Nitrosodiphenylamine	5	mg/kg	3.8	ND
Pentachlorophenol	5	mg/kg	9.5	ND
Phenanthrene	5	mg/kg	3.8	ND
Phenol	5	mg/kg	3.8	ND
Pyrene	5	mg/kg	3.8	ND
TPH (NJ OQA-QAM-025-Rev6)				
Total Petroleum Hydrocarbons	1	mg/kg	140	2800

Lab#: AC35821-011 **Collection Date: 2/14/2008**
Sample ID: C-5F

TestGroup/Analyte	DF	Units	RL	Result
Volatile Organics + 15 (8260)				
:TotalVolatileTic	101	mg/kg	NA	101.4J
1,1,1-Trichloroethane	101	mg/kg	0.23	ND
1,1,2,2-Tetrachloroethane	101	mg/kg	0.23	ND
1,1,2-Trichloroethane	101	mg/kg	0.23	ND
1,1-Dichloroethane	101	mg/kg	0.23	ND
1,1-Dichloroethene	101	mg/kg	0.23	ND
1,2-Dichlorobenzene	**101**	**mg/kg**	**0.23**	**0.60**
1,2-Dichloroethane	101	mg/kg	0.11	ND
1,2-Dichloropropane	101	mg/kg	0.23	ND
1,3-Dichlorobenzene	**101**	**mg/kg**	**0.23**	**0.25**
1,4-Dichlorobenzene	**101**	**mg/kg**	**0.23**	**4.0**
2-Butanone	101	mg/kg	0.23	ND
2-Chloroethylvinylether	101	mg/kg	1.1	ND
2-Hexanone	101	mg/kg	0.23	ND
4-Methyl-2-Pentanone	101	mg/kg	0.23	ND
Acetone	101	mg/kg	1.1	ND
Acrolein	101	mg/kg	1.1	ND
Acrylonitrile	101	mg/kg	0.23	ND
Benzene	101	mg/kg	0.11	ND
Bromodichloromethane	101	mg/kg	0.23	ND
Bromoform	101	mg/kg	0.23	ND
Bromomethane	101	mg/kg	0.23	ND
Carbon disulfide	101	mg/kg	0.23	ND
Carbon tetrachloride	101	mg/kg	0.23	ND
Chlorobenzene	**101**	**mg/kg**	**0.23**	**0.63**
Chloroethane	101	mg/kg	0.23	ND
Chloroform	101	mg/kg	0.23	ND
Chloromethane	101	mg/kg	0.23	ND
cis-1,2-Dichloroethene	101	mg/kg	0.23	ND
cis-1,3-Dichloropropene	101	mg/kg	0.23	ND
Dibromochloromethane	101	mg/kg	0.23	ND
Ethylbenzene	101	mg/kg	0.23	ND
m&p-Xylenes	101	mg/kg	0.46	ND
Methylene chloride	101	mg/kg	0.23	ND
o-Xylene	101	mg/kg	0.23	ND
Styrene	101	mg/kg	0.23	ND
Tetrachloroethene	101	mg/kg	0.23	ND
Toluene	101	mg/kg	0.23	ND
trans-1,2-Dichloroethene	101	mg/kg	0.23	ND
trans-1,3-dichloropropene	101	mg/kg	0.23	ND
Trichloroethene	101	mg/kg	0.23	ND
Vinyl chloride	101	mg/kg	0.23	ND

Lab#: AC35821-012 **Collection Date: 2/14/2008**
Sample ID: C-5N

TestGroup/Analyte	DF	Units	RL	Result
% Solids SM2540G				
% Solids	1	percent		27
8015/QAM-025 Extract & Hold				
Extract and Hold	1			
Base Neutrals (Extract and Hold) 8270				
Extract and Hold	1			
Metals-Three 6010				
Antimony	100	mg/kg	7.4	ND
Arsenic	**100**	**mg/kg**	**7.4**	**20**
Lead	100	mg/kg	19	ND
PCB 8082				
Aroclor-1016	1	mg/kg	0.093	ND
Aroclor-1221	1	mg/kg	0.093	ND
Aroclor-1232	1	mg/kg	0.093	ND
Aroclor-1242	1	mg/kg	0.093	ND
Aroclor-1248	1	mg/kg	0.093	ND
Aroclor-1254	1	mg/kg	0.093	ND
Aroclor-1260	1	mg/kg	0.093	ND
Aroclor-1262	1	mg/kg	0.093	ND
Pesticides (Extract and Hold) 608/8081				
Extract and Hold	1			

Lab#: AC35821-013 **Collection Date: 2/14/2008**
Sample ID: C-6F

TestGroup/Analyte	DF	Units	RL	Result
% Solids SM2540G				
% Solids	1	percent		52
Cyanide (Soil/Waste)				
Cyanide	1	mg/kg	0.48	6
Mercury (Soil/Waste) 7471A				
Mercury	167	mg/kg	0.15	2.2
Organochlorine Pesticides 8081				
Aldrin	1	mg/kg	0.0096	ND
Alpha-BHC	1	mg/kg	0.0096	ND
beta-BHC	1	mg/kg	0.0096	ND
Chlordane	1	mg/kg	0.019	0.49
delta-BHC	1	mg/kg	0.0096	ND
Dieldrin	1	mg/kg	0.0096	ND
Endosulfan I	1	mg/kg	0.0096	ND
Endosulfan II	1	mg/kg	0.0096	ND
Endosulfan Sulfate	1	mg/kg	0.0096	ND
Endrin	1	mg/kg	0.0096	ND
Endrin Aldehyde	1	mg/kg	0.0096	ND
Endrin Ketone	1	mg/kg	0.0096	ND
Gamma-BHC	1	mg/kg	0.0096	ND
Heptachlor	1	mg/kg	0.0096	ND
Heptachlor Epoxide	1	mg/kg	0.0096	ND
Methoxychlor	1	mg/kg	0.0096	ND
p,p'-DDD	1	mg/kg	0.0048	0.051
p,p'-DDE	1	mg/kg	0.0048	0.056
p,p'-DDT	1	mg/kg	0.0048	ND
Toxaphene	1	mg/kg	0.048	ND
PCB 8082				
Aroclor-1016	1	mg/kg	0.048	ND
Aroclor-1221	1	mg/kg	0.048	ND
Aroclor-1232	1	mg/kg	0.048	ND
Aroclor-1242	1	mg/kg	0.048	ND
Aroclor-1248	1	mg/kg	0.048	0.66
Aroclor-1254	1	mg/kg	0.048	ND
Aroclor-1260	1	mg/kg	0.048	0.15
Aroclor-1262	1	mg/kg	0.048	ND
Phenols (Soil/Waste) 9065				
Total Phenolics	1	mg/kg	2.4	3.7
PP Metals 6010				
Antimony	100	mg/kg	3.8	63
Arsenic	100	mg/kg	3.8	16
Barium	100	mg/kg	19	410
Beryllium	100	mg/kg	1.2	ND
Cadmium	100	mg/kg	1.2	7.0
Chromium	100	mg/kg	9.6	1400
Copper	100	mg/kg	9.6	680
Lead	100	mg/kg	9.6	6300
Nickel	100	mg/kg	9.6	63
Selenium	100	mg/kg	3.5	ND
Silver	100	mg/kg	2.9	4.3
Thallium	100	mg/kg	2.3	ND
Zinc	100	mg/kg	19	1300

Lab#: AC35821-013 Collection Date: 2/14/2008 Sample ID: C-6F				
TestGroup/Analyte	**DF**	**Units**	**RL**	**Result**
Semivolatile Organics + 25 (8270)				
:TotalSemiVolatileTic	**3**	**mg/kg**	**NA**	**8817.3J**
1,2,4-Trichlorobenzene	3	mg/kg	1.9	ND
1,2-Diphenylhydrazine	3	mg/kg	1.9	ND
2,4,5-Trichlorophenol	3	mg/kg	1.9	ND
2,4,6-Trichlorophenol	3	mg/kg	1.9	ND
2,4-Dichlorophenol	3	mg/kg	1.9	ND
2,4-Dimethylphenol	3	mg/kg	1.9	ND
2,4-Dinitrophenol	3	mg/kg	4.8	ND
2,4-Dinitrotoluene	3	mg/kg	1.9	ND
2,6-Dinitrotoluene	3	mg/kg	1.9	ND
2-Chloronaphthalene	3	mg/kg	1.9	ND
2-Chlorophenol	3	mg/kg	1.9	ND
2-Methylnaphthalene	3	mg/kg	1.9	ND
2-Methylphenol	3	mg/kg	1.9	ND
2-Nitroaniline	3	mg/kg	1.9	ND
2-Nitrophenol	3	mg/kg	1.9	ND
3&4-Methylphenol	3	mg/kg	1.9	ND
3,3'-Dichlorobenzidine	3	mg/kg	1.9	ND
3-Nitroaniline	3	mg/kg	1.9	ND
4,6-Dinitro-2-methylphenol	3	mg/kg	4.8	ND
4-Bromophenyl-phenylether	3	mg/kg	1.9	ND
4-Chloro-3-methylphenol	3	mg/kg	1.9	ND
4-Chloroaniline	3	mg/kg	1.9	ND
4-Chlorophenyl-phenylether	3	mg/kg	1.9	ND
4-Nitroaniline	3	mg/kg	1.9	ND
4-Nitrophenol	3	mg/kg	1.9	ND
Acenaphthene	**3**	**mg/kg**	**1.9**	**0.63J**
Acenaphthylene	3	mg/kg	1.9	ND
Anthracene	**3**	**mg/kg**	**1.9**	**0.77J**
Benzidine	3	mg/kg	1.9	ND
Benzo[a]anthracene	**3**	**mg/kg**	**1.9**	**0.96J**
Benzo[a]pyrene	**3**	**mg/kg**	**1.9**	**0.34J**
Benzo[b]fluoranthene	**3**	**mg/kg**	**1.9**	**0.66J**
Benzo[g,h,i]perylene	**3**	**mg/kg**	**1.9**	**0.37J**
Benzo[k]fluoranthene	**3**	**mg/kg**	**1.9**	**0.25J**
Bis(2-Chloroethoxy)methane	3	mg/kg	1.9	ND
Bis(2-Chloroethyl)ether	3	mg/kg	1.9	ND
Bis(2-Chloroisopropyl)ether	3	mg/kg	1.9	ND
Bis(2-Ethylhexyl)phthalate	**3**	**mg/kg**	**1.9**	**11**
Butylbenzylphthalate	3	mg/kg	1.9	ND
Carbazole	3	mg/kg	1.9	ND
Chrysene	**3**	**mg/kg**	**1.9**	**2.0**
Dibenzo[a,h]anthracene	3	mg/kg	1.9	ND
Dibenzofuran	3	mg/kg	1.9	ND
Diethylphthalate	**3**	**mg/kg**	**1.9**	**1.7J**
Dimethylphthalate	3	mg/kg	1.9	ND
Di-n-butylphthalate	**3**	**mg/kg**	**1.9**	**1.2J**
Di-n-octylphthalate	3	mg/kg	1.9	ND
Fluoranthene	**3**	**mg/kg**	**1.9**	**4.3**
Fluorene	**3**	**mg/kg**	**1.9**	**0.93J**
Hexachlorobenzene	3	mg/kg	1.9	ND
Hexachlorobutadiene	3	mg/kg	1.9	ND
Hexachlorocyclopentadiene	3	mg/kg	4.8	ND
Hexachloroethane	3	mg/kg	1.9	ND
Indeno[1,2,3-cd]pyrene	**3**	**mg/kg**	**1.9**	**0.19J**
Isophorone	3	mg/kg	1.9	ND
Naphthalene	**3**	**mg/kg**	**1.9**	**1.9J**
Nitrobenzene	3	mg/kg	1.9	ND
N-Nitrosodimethylamine	3	mg/kg	1.9	ND
N-Nitroso-di-n-propylamine	3	mg/kg	1.9	ND
N-Nitrosodiphenylamine	3	mg/kg	1.9	ND
Pentachlorophenol	3	mg/kg	4.8	ND
Phenanthrene	**3**	**mg/kg**	**1.9**	**7.4**
Phenol	3	mg/kg	1.9	ND
Pyrene	**3**	**mg/kg**	**1.9**	**2.6**
TPH (NJ OQA-QAM-025-Rev6)				
Total Petroleum Hydrocarbons	**1**	**mg/kg**	**120**	**3800**

Lab#: AC35821-013 Collection Date: 2/14/2008 Sample ID: C-6F				
TestGroup/Analyte	**DF**	**Units**	**RL**	**Result**
Volatile Organics + 15 (8260)				
:TotalVolatileTic	**109**	**mg/kg**	**NA**	**9.06J**
1,1,1-Trichloroethane	109	mg/kg	0.21	ND
1,1,2,2-Tetrachloroethane	109	mg/kg	0.21	ND
1,1,2-Trichloroethane	109	mg/kg	0.21	ND
1,1-Dichloroethane	109	mg/kg	0.21	ND
1,1-Dichloroethene	109	mg/kg	0.21	ND
1,2-Dichlorobenzene	109	mg/kg	0.21	ND
1,2-Dichloroethane	109	mg/kg	0.10	ND
1,2-Dichloropropane	109	mg/kg	0.21	ND
1,3-Dichlorobenzene	109	mg/kg	0.21	ND
1,4-Dichlorobenzene	109	mg/kg	0.21	ND
2-Butanone	109	mg/kg	0.21	ND
2-Chloroethylvinylether	109	mg/kg	1.0	ND
2-Hexanone	109	mg/kg	0.21	ND
4-Methyl-2-Pentanone	109	mg/kg	0.21	ND
Acetone	109	mg/kg	1.0	ND
Acrolein	109	mg/kg	1.0	ND
Acrylonitrile	109	mg/kg	0.21	ND
Benzene	109	mg/kg	0.10	ND
Bromodichloromethane	109	mg/kg	0.21	ND
Bromoform	109	mg/kg	0.21	ND
Bromomethane	109	mg/kg	0.21	ND
Carbon disulfide	**109**	**mg/kg**	**0.21**	**0.26**
Carbon tetrachloride	109	mg/kg	0.21	ND
Chlorobenzene	**109**	**mg/kg**	**0.21**	**0.42**
Chloroethane	109	mg/kg	0.21	ND
Chloroform	109	mg/kg	0.21	ND
Chloromethane	109	mg/kg	0.21	ND
cis-1,2-Dichloroethene	109	mg/kg	0.21	ND
cis-1,3-Dichloropropene	109	mg/kg	0.21	ND
Dibromochloromethane	109	mg/kg	0.21	ND
Ethylbenzene	109	mg/kg	0.21	ND
m&p-Xylenes	109	mg/kg	0.42	ND
Methylene chloride	109	mg/kg	0.21	ND
o-Xylene	109	mg/kg	0.21	ND
Styrene	109	mg/kg	0.21	ND
Tetrachloroethene	109	mg/kg	0.21	ND
Toluene	109	mg/kg	0.21	ND
trans-1,2-Dichloroethene	109	mg/kg	0.21	ND
trans-1,3-dichloropropene	109	mg/kg	0.21	ND
Trichloroethene	109	mg/kg	0.21	ND
Vinyl chloride	109	mg/kg	0.21	ND

Lab#: AC35821-014 Collection Date: 2/14/2008 Sample ID: C-6N				
TestGroup/Analyte	**DF**	**Units**	**RL**	**Result**
% Solids SM2540G				
% Solids	1	percent		35
8015/QAM-025 Extract & Hold				
Extract and Hold	1			
Base Neutrals (no search) 8270				
1,2,4-Trichlorobenzene	1	mg/kg	0.95	ND
1,2-Diphenylhydrazine	1	mg/kg	0.95	ND
2,4-Dinitrotoluene	1	mg/kg	0.95	ND
2,6-Dinitrotoluene	1	mg/kg	0.95	ND
2-Chloronaphthalene	1	mg/kg	0.95	ND
2-Methylnaphthalene	1	mg/kg	0.95	ND
2-Nitroaniline	1	mg/kg	0.95	ND
3,3'-Dichlorobenzidine	1	mg/kg	0.95	ND
3-Nitroaniline	1	mg/kg	0.95	ND
4-Bromophenyl-phenylether	1	mg/kg	0.95	ND
4-Chloroaniline	1	mg/kg	0.95	ND
4-Chlorophenyl-phenylether	1	mg/kg	0.95	ND
4-Nitroaniline	1	mg/kg	0.95	ND
Acenaphthene	1	mg/kg	0.95	ND
Acenaphthylene	1	mg/kg	0.95	ND
Anthracene	1	mg/kg	0.95	ND
Benzidine	1	mg/kg	0.95	ND
Benzo[a]anthracene	1	mg/kg	0.95	ND
Benzo[a]pyrene	1	mg/kg	0.95	ND
Benzo[b]fluoranthene	1	mg/kg	0.95	ND
Benzo[g,h,i]perylene	1	mg/kg	0.95	ND
Benzo[k]fluoranthene	1	mg/kg	0.95	ND
Bis(2-Chloroethoxy)methane	1	mg/kg	0.95	ND
Bis(2-Chloroethyl)ether	1	mg/kg	0.95	ND
Bis(2-Chloroisopropyl)ether	1	mg/kg	0.95	ND
Bis(2-Ethylhexyl)phthalate	1	mg/kg	0.95	2.4
Butylbenzylphthalate	1	mg/kg	0.95	ND
Carbazole	1	mg/kg	0.95	ND
Chrysene	1	mg/kg	0.95	ND
Dibenzo[a,h]anthracene	1	mg/kg	0.95	ND
Dibenzofuran	1	mg/kg	0.95	ND
Diethylphthalate	1	mg/kg	0.95	ND
Dimethylphthalate	1	mg/kg	0.95	ND
Di-n-butylphthalate	1	mg/kg	0.95	ND
Di-n-octylphthalate	1	mg/kg	0.95	ND
Fluoranthene	1	mg/kg	0.95	ND
Fluorene	1	mg/kg	0.95	ND
Hexachlorobenzene	1	mg/kg	0.95	ND
Hexachlorobutadiene	1	mg/kg	0.95	ND
Hexachlorocyclopentadiene	1	mg/kg	2.4	ND
Hexachloroethane	1	mg/kg	0.95	ND
Indeno[1,2,3-cd]pyrene	1	mg/kg	0.95	ND
Isophorone	1	mg/kg	0.95	ND
Naphthalene	1	mg/kg	0.95	ND
Nitrobenzene	1	mg/kg	0.95	ND
N-Nitrosodimethylamine	1	mg/kg	0.95	ND
N-Nitroso-di-n-propylamine	1	mg/kg	0.95	ND
N-Nitrosodiphenylamine	1	mg/kg	0.95	ND
Phenanthrene	1	mg/kg	0.95	ND
Pyrene	1	mg/kg	0.95	ND
Metals-Three 6010				
Antimony	100	mg/kg	5.7	ND
Lead	100	mg/kg	14	66
Zinc	100	mg/kg	29	71
PCB 8082				
Aroclor-1016	1	mg/kg	0.071	ND
Aroclor-1221	1	mg/kg	0.071	ND
Aroclor-1232	1	mg/kg	0.071	ND
Aroclor-1242	1	mg/kg	0.071	ND
Aroclor-1248	1	mg/kg	0.071	ND
Aroclor-1254	1	mg/kg	0.071	ND
Aroclor-1260	1	mg/kg	0.071	ND
Aroclor-1262	1	mg/kg	0.071	ND
Pesticides (Extract and Hold) 608/8081				
Extract and Hold	1			

Lab#: AC35821-015 Collection Date: 2/14/2008 Sample ID: F-1F				
TestGroup/Analyte	**DF**	**Units**	**RL**	**Result**
% Solids SM2540G				
% Solids	1	percent		64
Cyanide (Soil/Waste)				
Cyanide	1	mg/kg	0.39	1.6
Mercury (Soil/Waste) 7471A				
Mercury	334	mg/kg	0.26	8.5
Organochlorine Pesticides 8081				
Aldrin	1	mg/kg	0.0078	ND
Alpha-BHC	1	mg/kg	0.0078	ND
beta-BHC	1	mg/kg	0.0078	ND
Chlordane	1	mg/kg	0.016	ND
delta-BHC	1	mg/kg	0.0078	ND
Dieldrin	1	mg/kg	0.0078	0.016
Endosulfan I	1	mg/kg	0.0078	ND
Endosulfan II	1	mg/kg	0.0078	ND
Endosulfan Sulfate	1	mg/kg	0.0078	ND
Endrin	1	mg/kg	0.0078	ND
Endrin Aldehyde	1	mg/kg	0.0078	ND
Endrin Ketone	1	mg/kg	0.0078	ND
Gamma-BHC	1	mg/kg	0.0078	ND
Heptachlor	1	mg/kg	0.0078	ND
Heptachlor Epoxide	1	mg/kg	0.0078	ND
Methoxychlor	1	mg/kg	0.0078	ND
p,p'-DDD	1	mg/kg	0.0039	0.039
p,p'-DDE	1	mg/kg	0.0039	0.038
p,p'-DDT	1	mg/kg	0.0039	ND
Toxaphene	1	mg/kg	0.039	ND
PCB 8082				
Aroclor-1016	1	mg/kg	0.039	ND
Aroclor-1221	1	mg/kg	0.039	ND
Aroclor-1232	1	mg/kg	0.039	ND
Aroclor-1242	1	mg/kg	0.039	2.9
Aroclor-1248	1	mg/kg	0.039	ND
Aroclor-1254	1	mg/kg	0.039	ND
Aroclor-1260	1	mg/kg	0.039	0.69
Aroclor-1262	1	mg/kg	0.039	ND
Phenols (Soil/Waste) 9065				
Total Phenolics	1	mg/kg	2	2.5
PP Metals 6010				
Antimony	100	mg/kg	3.1	21
Arsenic	100	mg/kg	3.1	18
Barium	100	mg/kg	16	980
Beryllium	100	mg/kg	0.94	ND
Cadmium	100	mg/kg	0.94	17
Chromium	100	mg/kg	7.8	190
Copper	100	mg/kg	7.8	810
Lead	100	mg/kg	7.8	1300
Nickel	100	mg/kg	7.8	130
Selenium	100	mg/kg	2.8	ND
Silver	100	mg/kg	2.3	12
Thallium	100	mg/kg	1.9	ND
Zinc	100	mg/kg	16	1700

Lab#: AC35821-015 Collection Date: 2/14/2008 Sample ID: F-1F				
TestGroup/Analyte	**DF**	**Units**	**RL**	**Result**
Semivolatile Organics + 25 (8270)				
:TotalSemiVolatileTic	15	mg/kg	NA	215.7J
1,2,4-Trichlorobenzene	15	mg/kg	7.8	ND
1,2-Diphenylhydrazine	15	mg/kg	7.8	ND
2,4,5-Trichlorophenol	15	mg/kg	7.8	ND
2,4,6-Trichlorophenol	15	mg/kg	7.8	ND
2,4-Dichlorophenol	15	mg/kg	7.8	ND
2,4-Dimethylphenol	15	mg/kg	7.8	ND
2,4-Dinitrophenol	15	mg/kg	20	ND
2,4-Dinitrotoluene	15	mg/kg	7.8	ND
2,6-Dinitrotoluene	15	mg/kg	7.8	ND
2-Chloronaphthalene	15	mg/kg	7.8	ND
2-Chlorophenol	15	mg/kg	7.8	ND
2-Methylnaphthalene	15	mg/kg	7.8	ND
2-Methylphenol	15	mg/kg	7.8	ND
2-Nitroaniline	15	mg/kg	7.8	ND
2-Nitrophenol	15	mg/kg	7.8	ND
3&4-Methylphenol	15	mg/kg	7.8	ND
3,3'-Dichlorobenzidine	15	mg/kg	7.8	ND
3-Nitroaniline	15	mg/kg	7.8	ND
4,6-Dinitro-2-methylphenol	15	mg/kg	20	ND
4-Bromophenyl-phenylether	15	mg/kg	7.8	ND
4-Chloro-3-methylphenol	15	mg/kg	7.8	ND
4-Chloroaniline	15	mg/kg	7.8	ND
4-Chlorophenyl-phenylether	15	mg/kg	7.8	ND
4-Nitroaniline	15	mg/kg	7.8	ND
4-Nitrophenol	15	mg/kg	7.8	ND
Acenaphthene	15	mg/kg	7.8	15
Acenaphthylene	15	mg/kg	7.8	ND
Anthracene	15	mg/kg	7.8	7.6J
Benzidine	15	mg/kg	7.8	ND
Benzo[a]anthracene	15	mg/kg	7.8	2.8J
Benzo[a]pyrene	15	mg/kg	7.8	2.1J
Benzo[b]fluoranthene	15	mg/kg	7.8	2.7J
Benzo[g,h,i]perylene	15	mg/kg	7.8	1.1J
Benzo[k]fluoranthene	15	mg/kg	7.8	ND
Bis(2-Chloroethoxy)methane	15	mg/kg	7.8	ND
Bis(2-Chloroethyl)ether	15	mg/kg	7.8	ND
Bis(2-Chloroisopropyl)ether	15	mg/kg	7.8	ND
Bis(2-Ethylhexyl)phthalate	15	mg/kg	7.8	74
Butylbenzylphthalate	15	mg/kg	7.8	ND
Carbazole	15	mg/kg	7.8	1.1J
Chrysene	15	mg/kg	7.8	2.0J
Dibenzo[a,h]anthracene	15	mg/kg	7.8	ND
Dibenzofuran	15	mg/kg	7.8	6.7J
Diethylphthalate	15	mg/kg	7.8	1.3J
Dimethylphthalate	15	mg/kg	7.8	ND
Di-n-butylphthalate	15	mg/kg	7.8	ND
Di-n-octylphthalate	15	mg/kg	7.8	3.5J
Fluoranthene	15	mg/kg	7.8	8.3
Fluorene	15	mg/kg	7.8	8.7
Hexachlorobenzene	15	mg/kg	7.8	ND
Hexachlorobutadiene	15	mg/kg	7.8	ND
Hexachlorocyclopentadiene	15	mg/kg	20	ND
Hexachloroethane	15	mg/kg	7.8	ND
Indeno[1,2,3-cd]pyrene	15	mg/kg	7.8	1.1J
Isophorone	15	mg/kg	7.8	ND
Naphthalene	15	mg/kg	7.8	2.1J
Nitrobenzene	15	mg/kg	7.8	ND
N-Nitrosodimethylamine	15	mg/kg	7.8	ND
N-Nitroso-di-n-propylamine	15	mg/kg	7.8	ND
N-Nitrosodiphenylamine	15	mg/kg	7.8	ND
Pentachlorophenol	15	mg/kg	20	ND
Phenanthrene	15	mg/kg	7.8	17
Phenol	15	mg/kg	7.8	ND
Pyrene	15	mg/kg	7.8	7.2J
TPH (NJ OQA-QAM-025-Rev6)				
Total Petroleum Hydrocarbons	6	mg/kg	470	5100

Lab#: AC35821-015 Collection Date: 2/14/2008 Sample ID: F-1F				
TestGroup/Analyte	**DF**	**Units**	**RL**	**Result**
Volatile Organics + 15 (8260)				
:TotalVolatileTic	82.5	mg/kg	NA	10.89J
1,1,1-Trichloroethane	82.5	mg/kg	0.13	ND
1,1,2,2-Tetrachloroethane	82.5	mg/kg	0.13	ND
1,1,2-Trichloroethane	82.5	mg/kg	0.13	ND
1,1-Dichloroethane	82.5	mg/kg	0.13	ND
1,1-Dichloroethene	82.5	mg/kg	0.13	ND
1,2-Dichlorobenzene	82.5	mg/kg	0.13	ND
1,2-Dichloroethane	82.5	mg/kg	0.064	ND
1,2-Dichloropropane	82.5	mg/kg	0.13	ND
1,3-Dichlorobenzene	82.5	mg/kg	0.13	ND
1,4-Dichlorobenzene	82.5	mg/kg	0.13	ND
2-Butanone	82.5	mg/kg	0.13	ND
2-Chloroethylvinylether	82.5	mg/kg	0.64	ND
2-Hexanone	82.5	mg/kg	0.13	ND
4-Methyl-2-Pentanone	82.5	mg/kg	0.13	ND
Acetone	82.5	mg/kg	0.64	ND
Acrolein	82.5	mg/kg	0.64	ND
Acrylonitrile	82.5	mg/kg	0.13	ND
Benzene	82.5	mg/kg	0.064	ND
Bromodichloromethane	82.5	mg/kg	0.13	ND
Bromoform	82.5	mg/kg	0.13	ND
Bromomethane	82.5	mg/kg	0.13	ND
Carbon disulfide	82.5	mg/kg	0.13	ND
Carbon tetrachloride	82.5	mg/kg	0.13	ND
Chlorobenzene	82.5	mg/kg	0.13	ND
Chloroethane	82.5	mg/kg	0.13	ND
Chloroform	82.5	mg/kg	0.13	ND
Chloromethane	82.5	mg/kg	0.13	ND
cis-1,2-Dichloroethene	82.5	mg/kg	0.13	ND
cis-1,3-Dichloropropene	82.5	mg/kg	0.13	ND
Dibromochloromethane	82.5	mg/kg	0.13	ND
Ethylbenzene	82.5	mg/kg	0.13	ND
m&p-Xylenes	82.5	mg/kg	0.26	ND
Methylene chloride	82.5	mg/kg	0.13	ND
o-Xylene	82.5	mg/kg	0.13	ND
Styrene	82.5	mg/kg	0.13	ND
Tetrachloroethene	82.5	mg/kg	0.13	ND
Toluene	82.5	mg/kg	0.13	ND
trans-1,2-Dichloroethene	82.5	mg/kg	0.13	ND
trans-1,3-dichloropropene	82.5	mg/kg	0.13	ND
Trichloroethene	82.5	mg/kg	0.13	ND
Vinyl chloride	82.5	mg/kg	0.13	ND

Lab#: AC35821-016 Collection Date: 2/14/2008 Sample ID: F-1N				
TestGroup/Analyte	**DF**	**Units**	**RL**	**Result**
% Solids SM2540G				
% Solids	1	percent		27
8015/QAM-025 Extract & Hold				
Extract and Hold	1			
Base Neutrals (no search) 8270				
1,2,4-Trichlorobenzene	1	mg/kg	1.2	ND
1,2-Diphenylhydrazine	1	mg/kg	1.2	ND
2,4-Dinitrotoluene	1	mg/kg	1.2	ND
2,6-Dinitrotoluene	1	mg/kg	1.2	ND
2-Chloronaphthalene	1	mg/kg	1.2	ND
2-Methylnaphthalene	1	mg/kg	1.2	ND
2-Nitroaniline	1	mg/kg	1.2	ND
3,3'-Dichlorobenzidine	1	mg/kg	1.2	ND
3-Nitroaniline	1	mg/kg	1.2	ND
4-Bromophenyl-phenylether	1	mg/kg	1.2	ND
4-Chloroaniline	1	mg/kg	1.2	ND
4-Chlorophenyl-phenylether	1	mg/kg	1.2	ND
4-Nitroaniline	1	mg/kg	1.2	ND
Acenaphthene	1	mg/kg	1.2	0.14J
Acenaphthylene	1	mg/kg	1.2	ND
Anthracene	1	mg/kg	1.2	ND
Benzidine	1	mg/kg	1.2	ND
Benzo[a]anthracene	1	mg/kg	1.2	ND
Benzo[a]pyrene	1	mg/kg	1.2	ND
Benzo[b]fluoranthene	1	mg/kg	1.2	ND
Benzo[g,h,i]perylene	1	mg/kg	1.2	ND
Benzo[k]fluoranthene	1	mg/kg	1.2	ND
Bis(2-Chloroethoxy)methane	1	mg/kg	1.2	ND
Bis(2-Chloroethyl)ether	1	mg/kg	1.2	ND
Bis(2-Chloroisopropyl)ether	1	mg/kg	1.2	ND
Bis(2-Ethylhexyl)phthalate	1	mg/kg	1.2	0.51J
Butylbenzylphthalate	1	mg/kg	1.2	ND
Carbazole	1	mg/kg	1.2	ND
Chrysene	1	mg/kg	1.2	ND
Dibenzo[a,h]anthracene	1	mg/kg	1.2	ND
Dibenzofuran	1	mg/kg	1.2	ND
Diethylphthalate	1	mg/kg	1.2	ND
Dimethylphthalate	1	mg/kg	1.2	ND
Di-n-butylphthalate	1	mg/kg	1.2	ND
Di-n-octylphthalate	1	mg/kg	1.2	ND
Fluoranthene	1	mg/kg	1.2	ND
Fluorene	1	mg/kg	1.2	0.13J
Hexachlorobenzene	1	mg/kg	1.2	ND
Hexachlorobutadiene	1	mg/kg	1.2	ND
Hexachlorocyclopentadiene	1	mg/kg	3.1	ND
Hexachloroethane	1	mg/kg	1.2	ND
Indeno[1,2,3-cd]pyrene	1	mg/kg	1.2	ND
Isophorone	1	mg/kg	1.2	ND
Naphthalene	1	mg/kg	1.2	4.1
Nitrobenzene	1	mg/kg	1.2	ND
N-Nitrosodimethylamine	1	mg/kg	1.2	ND
N-Nitroso-di-n-propylamine	1	mg/kg	1.2	ND
N-Nitrosodiphenylamine	1	mg/kg	1.2	ND
Phenanthrene	1	mg/kg	1.2	0.41J
Pyrene	1	mg/kg	1.2	0.17J
Metals-Five 6010				
Antimony	100	mg/kg	7.4	ND
Barium	100	mg/kg	37	82
Copper	100	mg/kg	19	76
Lead	100	mg/kg	19	73
Zinc	100	mg/kg	37	110
PCB 8082				
Aroclor-1016	1	mg/kg	0.093	ND
Aroclor-1221	1	mg/kg	0.093	ND
Aroclor-1232	1	mg/kg	0.093	ND
Aroclor-1242	1	mg/kg	0.093	ND
Aroclor-1248	1	mg/kg	0.093	ND
Aroclor-1254	1	mg/kg	0.093	ND
Aroclor-1260	1	mg/kg	0.093	ND
Aroclor-1262	1	mg/kg	0.093	ND

Lab#: AC35821-016 Collection Date: 2/14/2008 Sample ID: F-1N				
TestGroup/Analyte	**DF**	**Units**	**RL**	**Result**
Pesticides (Extract and Hold) 608/8081				
Extract and Hold	1			

RL = Reporting Limit
ND = Not Detected

RL Definitions: SW846 Organics reported to PQL
SW846 Inorganics reported to PQL
Clean Water Act Organics reported to PQL
Clean Water Act Inorganics reported to PQL
CLP Organics reported to CRQL
CLP Inorganics reported to CRQL

Lab#: AC35821-017 Collection Date: 2/14/2008 Sample ID: F-2F				
TestGroup/Analyte	**DF**	**Units**	**RL**	**Result**
% Solids SM2540G				
% Solids	1	percent		65
Cyanide (Soil/Waste)				
Cyanide	1	mg/kg	0.38	1.2
Mercury (Soil/Waste) 7471A				
Mercury	167	mg/kg	0.13	1.5
Organochlorine Pesticides 8081				
Aldrin	1	mg/kg	0.0077	ND
Alpha-BHC	1	mg/kg	0.0077	ND
beta-BHC	1	mg/kg	0.0077	ND
Chlordane	1	mg/kg	0.015	ND
delta-BHC	1	mg/kg	0.0077	ND
Dieldrin	1	mg/kg	0.0077	ND
Endosulfan I	1	mg/kg	0.0077	ND
Endosulfan II	1	mg/kg	0.0077	ND
Endosulfan Sulfate	1	mg/kg	0.0077	ND
Endrin	1	mg/kg	0.0077	ND
Endrin Aldehyde	1	mg/kg	0.0077	ND
Endrin Ketone	1	mg/kg	0.0077	ND
Gamma-BHC	1	mg/kg	0.0077	ND
Heptachlor	1	mg/kg	0.0077	ND
Heptachlor Epoxide	1	mg/kg	0.0077	ND
Methoxychlor	1	mg/kg	0.0077	ND
p,p'-DDD	1	mg/kg	0.0038	0.0074
p,p'-DDE	1	mg/kg	0.0038	0.019
p,p'-DDT	1	mg/kg	0.0038	ND
Toxaphene	1	mg/kg	0.038	ND
PCB 8082				
Aroclor-1016	1	mg/kg	0.038	ND
Aroclor-1221	1	mg/kg	0.038	ND
Aroclor-1232	1	mg/kg	0.038	ND
Aroclor-1242	1	mg/kg	0.038	ND
Aroclor-1248	1	mg/kg	0.038	0.54
Aroclor-1254	1	mg/kg	0.038	ND
Aroclor-1260	1	mg/kg	0.038	0.11
Aroclor-1262	1	mg/kg	0.038	ND
Phenols (Soil/Waste) 9065				
Total Phenolics	1	mg/kg	1.9	ND
PP Metals 6010				
Antimony	100	mg/kg	3.1	6.3
Arsenic	100	mg/kg	3.1	7.2
Barium	100	mg/kg	15	180
Beryllium	100	mg/kg	0.92	0.99
Cadmium	100	mg/kg	0.92	17
Chromium	100	mg/kg	7.7	75
Copper	100	mg/kg	7.7	130
Lead	100	mg/kg	7.7	250
Nickel	100	mg/kg	7.7	45
Selenium	100	mg/kg	2.8	ND
Silver	100	mg/kg	2.3	ND
Thallium	100	mg/kg	1.8	ND
Zinc	100	mg/kg	15	580

Lab#: AC35821-017 Collection Date: 2/14/2008 Sample ID: F-2F				
TestGroup/Analyte	**DF**	**Units**	**RL**	**Result**
Semivolatile Organics + 25 (8270)				
:TotalSemiVolatileTic	15	mg/kg	NA	190.9J
1,2,4-Trichlorobenzene	15	mg/kg	7.7	ND
1,2-Diphenylhydrazine	15	mg/kg	7.7	ND
2,4,5-Trichlorophenol	15	mg/kg	7.7	ND
2,4,6-Trichlorophenol	15	mg/kg	7.7	ND
2,4-Dichlorophenol	15	mg/kg	7.7	ND
2,4-Dimethylphenol	15	mg/kg	7.7	ND
2,4-Dinitrophenol	15	mg/kg	19	ND
2,4-Dinitrotoluene	15	mg/kg	7.7	ND
2,6-Dinitrotoluene	15	mg/kg	7.7	ND
2-Chloronaphthalene	15	mg/kg	7.7	ND
2-Chlorophenol	15	mg/kg	7.7	ND
2-Methylnaphthalene	15	mg/kg	7.7	ND
2-Methylphenol	15	mg/kg	7.7	ND
2-Nitroaniline	15	mg/kg	7.7	ND
2-Nitrophenol	15	mg/kg	7.7	ND
3&4-Methylphenol	15	mg/kg	7.7	ND
3,3'-Dichlorobenzidine	15	mg/kg	7.7	ND
3-Nitroaniline	15	mg/kg	7.7	ND
4,6-Dinitro-2-methylphenol	15	mg/kg	19	ND
4-Bromophenyl-phenylether	15	mg/kg	7.7	ND
4-Chloro-3-methylphenol	15	mg/kg	7.7	ND
4-Chloroaniline	15	mg/kg	7.7	ND
4-Chlorophenyl-phenylether	15	mg/kg	7.7	ND
4-Nitroaniline	15	mg/kg	7.7	ND
4-Nitrophenol	15	mg/kg	7.7	ND
Acenaphthene	15	mg/kg	7.7	ND
Acenaphthylene	15	mg/kg	7.7	ND
Anthracene	15	mg/kg	7.7	ND
Benzidine	15	mg/kg	7.7	ND
Benzo[a]anthracene	15	mg/kg	7.7	ND
Benzo[a]pyrene	15	mg/kg	7.7	ND
Benzo[b]fluoranthene	15	mg/kg	7.7	ND
Benzo[g,h,i]perylene	15	mg/kg	7.7	ND
Benzo[k]fluoranthene	15	mg/kg	7.7	ND
Bis(2-Chloroethoxy)methane	15	mg/kg	7.7	ND
Bis(2-Chloroethyl)ether	15	mg/kg	7.7	ND
Bis(2-Chloroisopropyl)ether	15	mg/kg	7.7	ND
Bis(2-Ethylhexyl)phthalate	15	mg/kg	7.7	51
Butylbenzylphthalate	15	mg/kg	7.7	ND
Carbazole	15	mg/kg	7.7	ND
Chrysene	15	mg/kg	7.7	ND
Dibenzo[a,h]anthracene	15	mg/kg	7.7	ND
Dibenzofuran	15	mg/kg	7.7	ND
Diethylphthalate	15	mg/kg	7.7	ND
Dimethylphthalate	15	mg/kg	7.7	ND
Di-n-butylphthalate	15	mg/kg	7.7	ND
Di-n-octylphthalate	15	mg/kg	7.7	ND
Fluoranthene	15	mg/kg	7.7	ND
Fluorene	15	mg/kg	7.7	ND
Hexachlorobenzene	15	mg/kg	7.7	ND
Hexachlorobutadiene	15	mg/kg	7.7	ND
Hexachlorocyclopentadiene	15	mg/kg	19	ND
Hexachloroethane	15	mg/kg	7.7	ND
Indeno[1,2,3-cd]pyrene	15	mg/kg	7.7	ND
Isophorone	15	mg/kg	7.7	ND
Naphthalene	15	mg/kg	7.7	ND
Nitrobenzene	15	mg/kg	7.7	ND
N-Nitrosodimethylamine	15	mg/kg	7.7	ND
N-Nitroso-di-n-propylamine	15	mg/kg	7.7	ND
N-Nitrosodiphenylamine	15	mg/kg	7.7	ND
Pentachlorophenol	15	mg/kg	19	ND
Phenanthrene	15	mg/kg	7.7	ND
Phenol	15	mg/kg	7.7	ND
Pyrene	15	mg/kg	7.7	ND
TPH (NJ OQA-QAM-025-Rev6)				
Total Petroleum Hydrocarbons	1	mg/kg	92	1600

RL = Reporting Limit
ND = Not Detected

RL Definitions: SW846 Organics reported to PQL; SW846 Inorganics reported to PQL; Clean Water Act Organics reported to PQL; Clean Water Act Inorganics reported to PQL; CLP Organics reported to CRQL; CLP Inorganics reported to CRQL

Lab#: AC35821-017 **Collection Date: 2/14/2008**
Sample ID: F-2F

TestGroup/Analyte	DF	Units	RL	Result
Volatile Organics + 15 (8260)				
:TotalVolatileTic	118	mg/kg	NA	ND
1,1,1-Trichloroethane	118	mg/kg	0.18	ND
1,1,2,2-Tetrachloroethane	118	mg/kg	0.18	ND
1,1,2-Trichloroethane	118	mg/kg	0.18	ND
1,1-Dichloroethane	118	mg/kg	0.18	ND
1,1-Dichloroethene	118	mg/kg	0.18	ND
1,2-Dichlorobenzene	118	mg/kg	0.18	ND
1,2-Dichloroethane	118	mg/kg	0.091	ND
1,2-Dichloropropane	118	mg/kg	0.18	ND
1,3-Dichlorobenzene	118	mg/kg	0.18	ND
1,4-Dichlorobenzene	118	mg/kg	0.18	ND
2-Butanone	118	mg/kg	0.18	ND
2-Chloroethylvinylether	118	mg/kg	0.91	ND
2-Hexanone	118	mg/kg	0.18	ND
4-Methyl-2-Pentanone	118	mg/kg	0.18	ND
Acetone	118	mg/kg	0.91	ND
Acrolein	118	mg/kg	0.91	ND
Acrylonitrile	118	mg/kg	0.18	ND
Benzene	118	mg/kg	0.091	ND
Bromodichloromethane	118	mg/kg	0.18	ND
Bromoform	118	mg/kg	0.18	ND
Bromomethane	118	mg/kg	0.18	ND
Carbon disulfide	118	mg/kg	0.18	ND
Carbon tetrachloride	118	mg/kg	0.18	ND
Chlorobenzene	118	mg/kg	0.18	ND
Chloroethane	118	mg/kg	0.18	ND
Chloroform	118	mg/kg	0.18	ND
Chloromethane	118	mg/kg	0.18	ND
cis-1,2-Dichloroethene	118	mg/kg	0.18	ND
cis-1,3-Dichloropropene	118	mg/kg	0.18	ND
Dibromochloromethane	118	mg/kg	0.18	ND
Ethylbenzene	118	mg/kg	0.18	ND
m&p-Xylenes	118	mg/kg	0.36	ND
Methylene chloride	118	mg/kg	0.18	ND
o-Xylene	118	mg/kg	0.18	ND
Styrene	118	mg/kg	0.18	0.56
Tetrachloroethene	118	mg/kg	0.18	ND
Toluene	118	mg/kg	0.18	ND
trans-1,2-Dichloroethene	118	mg/kg	0.18	ND
trans-1,3-dichloropropene	118	mg/kg	0.18	ND
Trichloroethene	118	mg/kg	0.18	ND
Vinyl chloride	118	mg/kg	0.18	ND

Lab#: AC35821-018 **Collection Date: 2/14/2008**
Sample ID: F-2N

TestGroup/Analyte	DF	Units	RL	Result
% Solids SM2540G				
% Solids	1	percent		30
8015/QAM-025 Extract & Hold				
Extract and Hold	1			
Base Neutrals (no search) 8270				
1,2,4-Trichlorobenzene	1	mg/kg	1.1	ND
1,2-Diphenylhydrazine	1	mg/kg	1.1	ND
2,4-Dinitrotoluene	1	mg/kg	1.1	ND
2,6-Dinitrotoluene	1	mg/kg	1.1	ND
2-Chloronaphthalene	1	mg/kg	1.1	ND
2-Methylnaphthalene	1	mg/kg	1.1	ND
2-Nitroaniline	1	mg/kg	1.1	ND
3,3'-Dichlorobenzidine	1	mg/kg	1.1	ND
3-Nitroaniline	1	mg/kg	1.1	ND
4-Bromophenyl-phenylether	1	mg/kg	1.1	ND
4-Chloroaniline	1	mg/kg	1.1	ND
4-Chlorophenyl-phenylether	1	mg/kg	1.1	ND
4-Nitroaniline	1	mg/kg	1.1	ND
Acenaphthene	1	mg/kg	1.1	ND
Acenaphthylene	1	mg/kg	1.1	ND
Anthracene	1	mg/kg	1.1	ND
Benzidine	1	mg/kg	1.1	ND
Benzo[a]anthracene	1	mg/kg	1.1	ND
Benzo[a]pyrene	1	mg/kg	1.1	ND
Benzo[b]fluoranthene	1	mg/kg	1.1	ND
Benzo[g,h,i]perylene	1	mg/kg	1.1	ND
Benzo[k]fluoranthene	1	mg/kg	1.1	ND
Bis(2-Chloroethoxy)methane	1	mg/kg	1.1	ND
Bis(2-Chloroethyl)ether	1	mg/kg	1.1	ND
Bis(2-Chloroisopropyl)ether	1	mg/kg	1.1	ND
Bis(2-Ethylhoxyl)phthalate	1	mg/kg	1.1	ND
Butylbenzylphthalate	1	mg/kg	1.1	ND
Carbazole	1	mg/kg	1.1	ND
Chrysene	1	mg/kg	1.1	ND
Dibenzo[a,h]anthracene	1	mg/kg	1.1	ND
Dibenzofuran	1	mg/kg	1.1	ND
Diethylphthalate	1	mg/kg	1.1	ND
Dimethylphthalate	1	mg/kg	1.1	ND
Di-n-butylphthalate	1	mg/kg	1.1	ND
Di-n-octylphthalate	1	mg/kg	1.1	ND
Fluoranthene	1	mg/kg	1.1	ND
Fluorene	1	mg/kg	1.1	ND
Hexachlorobenzene	1	mg/kg	1.1	ND
Hexachlorobutadiene	1	mg/kg	1.1	ND
Hexachlorocyclopentadiene	1	mg/kg	2.8	ND
Hexachloroethane	1	mg/kg	1.1	ND
Indeno[1,2,3-cd]pyrene	1	mg/kg	1.1	ND
Isophorone	1	mg/kg	1.1	ND
Naphthalene	1	mg/kg	1.1	ND
Nitrobenzene	1	mg/kg	1.1	ND
N-Nitrosodimethylamine	1	mg/kg	1.1	ND
N-Nitroso-di-n-propylamine	1	mg/kg	1.1	ND
N-Nitrosodiphenylamine	1	mg/kg	1.1	ND
Phenanthrene	1	mg/kg	1.1	ND
Pyrene	1	mg/kg	1.1	ND
PCB 8082				
Aroclor-1016	1	mg/kg	0.083	ND
Aroclor-1221	1	mg/kg	0.083	ND
Aroclor-1232	1	mg/kg	0.083	ND
Aroclor-1242	1	mg/kg	0.083	ND
Aroclor-1248	1	mg/kg	0.083	ND
Aroclor-1254	1	mg/kg	0.083	ND
Aroclor-1260	1	mg/kg	0.083	ND
Aroclor-1262	1	mg/kg	0.083	ND
Pesticides (Extract and Hold) 608/8081				
Extract and Hold	1			

Lab#: AC35821-019 Collection Date: 2/14/2008 Sample ID: F-3F				
TestGroup/Analyte	**DF**	**Units**	**RL**	**Result**
% Solids SM2540G				
% Solids	1	percent		83
Cyanide (Soil/Waste)				
Cyanide	1	mg/kg	0.3	ND
Mercury (Soil/Waste) 7471A				
Mercury	167	mg/kg	0.10	ND
Organochlorine Pesticides 8081				
Aldrin	1	mg/kg	0.0060	ND
Alpha-BHC	1	mg/kg	0.0060	ND
beta-BHC	1	mg/kg	0.0060	ND
Chlordane	1	mg/kg	0.012	ND
delta-BHC	1	mg/kg	0.0060	ND
Dieldrin	1	mg/kg	0.0060	ND
Endosulfan I	1	mg/kg	0.0060	ND
Endosulfan II	1	mg/kg	0.0060	ND
Endosulfan Sulfate	1	mg/kg	0.0060	ND
Endrin	1	mg/kg	0.0060	ND
Endrin Aldehyde	1	mg/kg	0.0060	ND
Endrin Ketone	1	mg/kg	0.0060	ND
Gamma-BHC	1	mg/kg	0.0060	ND
Heptachlor	1	mg/kg	0.0060	ND
Heptachlor Epoxide	1	mg/kg	0.0060	ND
Methoxychlor	1	mg/kg	0.0060	ND
p,p'-DDD	1	mg/kg	0.0030	ND
p,p'-DDE	1	mg/kg	0.0030	ND
p,p'-DDT	1	mg/kg	0.0030	ND
Toxaphene	1	mg/kg	0.030	ND
PCB 8082				
Aroclor-1016	1	mg/kg	0.030	ND
Aroclor-1221	1	mg/kg	0.030	ND
Aroclor-1232	1	mg/kg	0.030	ND
Aroclor-1242	1	mg/kg	0.030	ND
Aroclor-1248	1	mg/kg	0.030	ND
Aroclor-1254	1	mg/kg	0.030	ND
Aroclor-1260	1	mg/kg	0.030	ND
Aroclor-1262	1	mg/kg	0.030	ND
Phenols (Soil/Waste) 9065				
Total Phenolics	1	mg/kg	1.5	ND
PP Metals 6010				
Antimony	100	mg/kg	2.4	ND
Arsenic	**100**	**mg/kg**	**2.4**	**6.3**
Barium	**100**	**mg/kg**	**12**	**61**
Beryllium	100	mg/kg	0.72	ND
Cadmium	100	mg/kg	0.72	ND
Chromium	**100**	**mg/kg**	**6.0**	**14**
Copper	**100**	**mg/kg**	**6.0**	**24**
Lead	**100**	**mg/kg**	**6.0**	**35**
Nickel	**100**	**mg/kg**	**6.0**	**11**
Selenium	100	mg/kg	2.2	ND
Silver	100	mg/kg	1.8	ND
Thallium	100	mg/kg	1.4	ND
Zinc	**100**	**mg/kg**	**12**	**49**

Lab#: AC35821-019 Collection Date: 2/14/2008 Sample ID: F-3F				
TestGroup/Analyte	**DF**	**Units**	**RL**	**Result**
Semivolatile Organics + 25 (8270)				
:TotalSemiVolatileTic	1	mg/kg	NA	**49.8J**
1,2,4-Trichlorobenzene	1	mg/kg	0.40	ND
1,2-Diphenylhydrazine	1	mg/kg	0.40	ND
2,4,5-Trichlorophenol	1	mg/kg	0.40	ND
2,4,6-Trichlorophenol	1	mg/kg	0.40	ND
2,4-Dichlorophenol	1	mg/kg	0.40	ND
2,4-Dimethylphenol	1	mg/kg	0.40	ND
2,4-Dinitrophenol	1	mg/kg	1.0	ND
2,4-Dinitrotoluene	1	mg/kg	0.40	ND
2,6-Dinitrotoluene	1	mg/kg	0.40	ND
2-Chloronaphthalene	1	mg/kg	0.40	ND
2-Chlorophenol	1	mg/kg	0.40	ND
2-Methylnaphthalene	1	mg/kg	0.40	ND
2-Methylphenol	1	mg/kg	0.40	ND
2-Nitroaniline	1	mg/kg	0.40	ND
2-Nitrophenol	1	mg/kg	0.40	ND
3&4-Methylphenol	1	mg/kg	0.40	ND
3,3'-Dichlorobenzidine	1	mg/kg	0.40	ND
3-Nitroaniline	1	mg/kg	0.40	ND
4,6-Dinitro-2-methylphenol	1	mg/kg	1.0	ND
4-Bromophenyl-phenylether	1	mg/kg	0.40	ND
4-Chloro-3-methylphenol	1	mg/kg	0.40	ND
4-Chloroaniline	1	mg/kg	0.40	ND
4-Chlorophenyl-phenylether	1	mg/kg	0.40	ND
4-Nitroaniline	1	mg/kg	0.40	ND
4-Nitrophenol	1	mg/kg	0.40	ND
Acenaphthene	1	mg/kg	0.40	ND
Acenaphthylene	1	mg/kg	0.40	ND
Anthracene	1	mg/kg	0.40	ND
Benzidine	1	mg/kg	0.40	ND
Benzo[a]anthracene	1	mg/kg	0.40	ND
Benzo[a]pyrene	1	mg/kg	0.40	ND
Benzo[b]fluoranthene	1	mg/kg	0.40	ND
Benzo[g,h,i]perylene	1	mg/kg	0.40	ND
Benzo[k]fluoranthene	1	mg/kg	0.40	ND
Bis(2-Chloroethoxy)methane	1	mg/kg	0.40	ND
Bis(2-Chloroethyl)ether	1	mg/kg	0.40	ND
Bis(2-Chloroisopropyl)ether	1	mg/kg	0.40	ND
Bis(2-Ethylhexyl)phthalate	1	**mg/kg**	**0.40**	**0.087J**
Butylbenzylphthalate	1	mg/kg	0.40	ND
Carbazole	1	mg/kg	0.40	ND
Chrysene	1	mg/kg	0.40	ND
Dibenzo[a,h]anthracene	1	mg/kg	0.40	ND
Dibenzofuran	1	mg/kg	0.40	ND
Diethylphthalate	1	mg/kg	0.40	ND
Dimethylphthalate	1	mg/kg	0.40	ND
Di-n-butylphthalate	1	mg/kg	0.40	ND
Di-n-octylphthalate	1	mg/kg	0.40	ND
Fluoranthene	1	**mg/kg**	**0.40**	**0.051J**
Fluorene	1	mg/kg	0.40	ND
Hexachlorobenzene	1	mg/kg	0.40	ND
Hexachlorobutadiene	1	mg/kg	0.40	ND
Hexachlorocyclopentadiene	1	mg/kg	1.0	ND
Hexachloroethane	1	mg/kg	0.40	ND
Indeno[1,2,3-cd]pyrene	1	mg/kg	0.40	ND
Isophorone	1	mg/kg	0.40	ND
Naphthalene	1	mg/kg	0.40	ND
Nitrobenzene	1	mg/kg	0.40	ND
N-Nitrosodimethylamine	1	mg/kg	0.40	ND
N-Nitroso-di-n-propylamine	1	mg/kg	0.40	ND
N-Nitrosodiphenylamine	1	mg/kg	0.40	ND
Pentachlorophenol	1	mg/kg	1.0	ND
Phenanthrene	1	**mg/kg**	**0.40**	**0.041J**
Phenol	1	mg/kg	0.40	ND
Pyrene	1	**mg/kg**	**0.40**	**0.057J**
TPH (NJ OQA-QAM-025-Rev6)				
Total Petroleum Hydrocarbons	1	mg/kg	72	160

Lab#: AC35821-019 **Collection Date: 2/14/2008**
Sample ID: F-3F

TestGroup/Analyte	DF	Units	RL	Result
Volatile Organics + 15 (8260)				
:TotalVolatileTic	96.7	mg/kg	NA	ND
1,1,1-Trichloroethane	96.7	mg/kg	0.12	ND
1,1,2,2-Tetrachloroethane	96.7	mg/kg	0.12	ND
1,1,2-Trichloroethane	96.7	mg/kg	0.12	ND
1,1-Dichloroethane	96.7	mg/kg	0.12	ND
1,1-Dichloroethene	96.7	mg/kg	0.12	ND
1,2-Dichlorobenzene	96.7	mg/kg	0.12	ND
1,2-Dichloroethane	96.7	mg/kg	0.058	ND
1,2-Dichloropropane	96.7	mg/kg	0.12	ND
1,3-Dichlorobenzene	96.7	mg/kg	0.12	ND
1,4-Dichlorobenzene	96.7	mg/kg	0.12	ND
2-Butanone	96.7	mg/kg	0.12	ND
2-Chloroethylvinylether	96.7	mg/kg	0.58	ND
2-Hexanone	96.7	mg/kg	0.12	ND
4-Methyl-2-Pentanone	96.7	mg/kg	0.12	ND
Acetone	96.7	mg/kg	0.58	ND
Acrolein	96.7	mg/kg	0.58	ND
Acrylonitrile	96.7	mg/kg	0.12	ND
Benzene	96.7	mg/kg	0.058	ND
Bromodichloromethane	96.7	mg/kg	0.12	ND
Bromoform	96.7	mg/kg	0.12	ND
Bromomethane	96.7	mg/kg	0.12	ND
Carbon disulfide	96.7	mg/kg	0.12	ND
Carbon tetrachloride	96.7	mg/kg	0.12	ND
Chlorobenzene	96.7	mg/kg	0.12	ND
Chloroethane	96.7	mg/kg	0.12	ND
Chloroform	96.7	mg/kg	0.12	ND
Chloromethane	96.7	mg/kg	0.12	ND
cis-1,2-Dichloroethene	96.7	mg/kg	0.12	ND
cis-1,3-Dichloropropene	96.7	mg/kg	0.12	ND
Dibromochloromethane	96.7	mg/kg	0.12	ND
Ethylbenzene	96.7	mg/kg	0.12	ND
m&p-Xylenes	96.7	mg/kg	0.23	ND
Methylene chloride	96.7	mg/kg	0.12	ND
o-Xylene	96.7	mg/kg	0.12	ND
Styrene	96.7	mg/kg	0.12	ND
Tetrachloroethene	96.7	mg/kg	0.12	ND
Toluene	96.7	mg/kg	0.12	ND
trans-1,2-Dichloroethene	96.7	mg/kg	0.12	ND
trans-1,3-dichloropropene	96.7	mg/kg	0.12	ND
Trichloroethene	96.7	mg/kg	0.12	ND
Vinyl chloride	96.7	mg/kg	0.12	ND

Lab#: AC35821-020 **Collection Date: 2/14/2008**
Sample ID: F-3N

TestGroup/Analyte	DF	Units	RL	Result
8015/QAM-025 Extract & Hold				
Extract and Hold	1			
Base Neutrals (Extract and Hold) 8270				
Extract and Hold	1			
PCB (Extract and Hold) 8082				
Extract and Hold	1			
Pesticides (Extract and Hold) 608/8081				
Extract and Hold	1			

Lab#: AC35821-021 **Collection Date: 2/14/2008**
Sample ID: F-4F

TestGroup/Analyte	DF	Units	RL	Result
% Solids SM2540G				
% Solids	1	percent		83
Cyanide (Soil/Waste)				
Cyanide	1	mg/kg	0.3	0.38
Mercury (Soil/Waste) 7471A				
Mercury	167	mg/kg	0.10	ND
Organochlorine Pesticides 8081				
Aldrin	1	mg/kg	0.0060	ND
Alpha-BHC	1	mg/kg	0.0060	ND
beta-BHC	1	mg/kg	0.0060	ND
Chlordane	1	mg/kg	0.012	ND
delta-BHC	1	mg/kg	0.0060	ND
Dieldrin	1	mg/kg	0.0060	ND
Endosulfan I	1	mg/kg	0.0060	ND
Endosulfan II	1	mg/kg	0.0060	ND
Endosulfan Sulfate	1	mg/kg	0.0060	ND
Endrin	1	mg/kg	0.0060	ND
Endrin Aldehyde	1	mg/kg	0.0060	ND
Endrin Ketone	1	mg/kg	0.0060	ND
Gamma-BHC	1	mg/kg	0.0060	ND
Heptachlor	1	mg/kg	0.0060	ND
Heptachlor Epoxide	1	mg/kg	0.0060	ND
Methoxychlor	1	mg/kg	0.0060	ND
p,p'-DDD	1	mg/kg	0.0030	ND
p,p'-DDE	1	mg/kg	0.0030	ND
p,p'-DDT	1	mg/kg	0.0030	ND
Toxephene	1	mg/kg	0.030	ND
PCB 8082				
Aroclor-1016	1	mg/kg	0.030	ND
Aroclor-1221	1	mg/kg	0.030	ND
Aroclor-1232	1	mg/kg	0.030	ND
Aroclor-1242	1	mg/kg	0.030	ND
Aroclor-1248	1	mg/kg	0.030	ND
Aroclor-1254	1	mg/kg	0.030	ND
Aroclor-1260	1	mg/kg	0.030	ND
Aroclor-1262	1	mg/kg	0.030	ND
Phenols (Soil/Waste) 9065				
Total Phenolics	1	mg/kg	1.5	ND
PP Metals 6010				
Antimony	100	mg/kg	2.4	3.1
Arsenic	100	mg/kg	2.4	7.7
Barium	100	mg/kg	12	76
Beryllium	100	mg/kg	0.72	0.78
Cadmium	100	mg/kg	0.72	ND
Chromium	100	mg/kg	6.0	28
Copper	100	mg/kg	6.0	110
Lead	100	mg/kg	6.0	26
Nickel	100	mg/kg	6.0	37
Selenium	100	mg/kg	2.2	ND
Silver	100	mg/kg	1.8	ND
Thallium	100	mg/kg	1.4	ND
Zinc	100	mg/kg	12	43

Lab#: AC35821-021 **Collection Date: 2/14/2008**
Sample ID: F-4F

TestGroup/Analyte	DF	Units	RL	Result
Semivolatile Organics + 25 (8270)				
:TotalSemiVolatileTic	1	mg/kg	NA	36.98J
1,2,4-Trichlorobenzene	1	mg/kg	0.40	ND
1,2-Diphenylhydrazine	1	mg/kg	0.40	ND
2,4,5-Trichlorophenol	1	mg/kg	0.40	ND
2,4,6-Trichlorophenol	1	mg/kg	0.40	ND
2,4-Dichlorophenol	1	mg/kg	0.40	ND
2,4-Dimethylphenol	1	mg/kg	0.40	ND
2,4-Dinitrophenol	1	mg/kg	1.0	ND
2,4-Dinitrotoluene	1	mg/kg	0.40	ND
2,6-Dinitrotoluene	1	mg/kg	0.40	ND
2-Chloronaphthalene	1	mg/kg	0.40	ND
2-Chlorophenol	1	mg/kg	0.40	ND
2-Methylnaphthalene	1	mg/kg	0.40	ND
2-Methylphenol	1	mg/kg	0.40	ND
2-Nitroaniline	1	mg/kg	0.40	ND
2-Nitrophenol	1	mg/kg	0.40	ND
3&4-Methylphenol	1	mg/kg	0.40	ND
3,3'-Dichlorobenzidine	1	mg/kg	0.40	ND
3-Nitroaniline	1	mg/kg	0.40	ND
4,6-Dinitro-2-methylphenol	1	mg/kg	1.0	ND
4-Bromophenyl-phenylether	1	mg/kg	0.40	ND
4-Chloro-3-methylphenol	1	mg/kg	0.40	ND
4-Chloroaniline	1	mg/kg	0.40	ND
4-Chlorophenyl-phenylether	1	mg/kg	0.40	ND
4-Nitroaniline	1	mg/kg	0.40	ND
4-Nitrophenol	1	mg/kg	0.40	ND
Acenaphthene	1	mg/kg	0.40	ND
Acenaphthylene	1	mg/kg	0.40	ND
Anthracene	1	mg/kg	0.40	ND
Benzidine	1	mg/kg	0.40	ND
Benzo[a]anthracene	1	mg/kg	0.40	ND
Benzo[a]pyrene	1	mg/kg	0.40	ND
Benzo[b]fluoranthene	1	mg/kg	0.40	ND
Benzo[g,h,i]perylene	1	mg/kg	0.40	ND
Benzo[k]fluoranthene	1	mg/kg	0.40	ND
Bis(2-Chloroethoxy)methane	1	mg/kg	0.40	ND
Bis(2-Chloroethyl)ether	1	mg/kg	0.40	ND
Bis(2-Chloroisopropyl)ether	1	mg/kg	0.40	ND
Bis(2-Ethylhexyl)phthalate	1	mg/kg	0.40	ND
Butylbenzylphthalate	1	mg/kg	0.40	ND
Carbazole	1	mg/kg	0.40	ND
Chrysene	1	mg/kg	0.40	ND
Dibenzo[a,h]anthracene	1	mg/kg	0.40	ND
Dibenzofuran	1	mg/kg	0.40	ND
Diethylphthalate	1	mg/kg	0.40	ND
Dimethylphthalate	1	mg/kg	0.40	ND
Di-n-butylphthalate	1	mg/kg	0.40	ND
Di-n-octylphthalate	1	mg/kg	0.40	ND
Fluoranthene	1	mg/kg	0.40	0.056J
Fluorene	1	mg/kg	0.40	ND
Hexachlorobenzene	1	mg/kg	0.40	ND
Hexachlorobutadiene	1	mg/kg	0.40	ND
Hexachlorocyclopentadiene	1	mg/kg	1.0	ND
Hexachloroethane	1	mg/kg	0.40	ND
Indeno[1,2,3-cd]pyrene	1	mg/kg	0.40	ND
Isophorone	1	mg/kg	0.40	ND
Naphthalene	1	mg/kg	0.40	ND
Nitrobenzene	1	mg/kg	0.40	ND
N-Nitrosodimethylamine	1	mg/kg	0.40	ND
N-Nitroso-di-n-propylamine	1	mg/kg	0.40	ND
N-Nitrosodiphenylamine	1	mg/kg	0.40	ND
Pentachlorophenol	1	mg/kg	1.0	ND
Phenanthrene	1	mg/kg	0.40	ND
Phenol	1	mg/kg	0.40	ND
Pyrene	1	mg/kg	0.40	ND
TPH (NJ OQA-QAM-025-Rev6)				
Total Petroleum Hydrocarbons	1	mg/kg	72	97

Lab#: AC35821-021 **Collection Date: 2/14/2008**
Sample ID: F-4F

TestGroup/Analyte	DF	Units	RL	Result
Volatile Organics + 15 (8260)				
:TotalVolatileTic	95.8	mg/kg	NA	ND
1,1,1-Trichloroethane	95.8	mg/kg	0.12	ND
1,1,2,2-Tetrachloroethane	95.8	mg/kg	0.12	ND
1,1,2-Trichloroethane	95.8	mg/kg	0.12	ND
1,1-Dichloroethane	95.8	mg/kg	0.12	ND
1,1-Dichloroethene	95.8	mg/kg	0.12	ND
1,2-Dichlorobenzene	95.8	mg/kg	0.12	ND
1,2-Dichloroethane	95.8	mg/kg	0.058	ND
1,2-Dichloropropane	95.8	mg/kg	0.12	ND
1,3-Dichlorobenzene	95.8	mg/kg	0.12	ND
1,4-Dichlorobenzene	95.8	mg/kg	0.12	ND
2-Butanone	95.8	mg/kg	0.12	ND
2-Chloroethylvinylether	95.8	mg/kg	0.58	ND
2-Hexanone	95.8	mg/kg	0.12	ND
4-Methyl-2-Pentanone	95.8	mg/kg	0.12	ND
Acetone	95.8	mg/kg	0.58	ND
Acrolein	95.8	mg/kg	0.58	ND
Acrylonitrile	95.8	mg/kg	0.12	ND
Benzene	95.8	mg/kg	0.058	ND
Bromodichloromethane	95.8	mg/kg	0.12	ND
Bromoform	95.8	mg/kg	0.12	ND
Bromomethane	95.8	mg/kg	0.12	ND
Carbon disulfide	95.8	mg/kg	0.12	ND
Carbon tetrachloride	95.8	mg/kg	0.12	ND
Chlorobenzene	95.8	mg/kg	0.12	ND
Chloroethane	95.8	mg/kg	0.12	ND
Chloroform	95.8	mg/kg	0.12	ND
Chloromethane	95.8	mg/kg	0.12	ND
cis-1,2-Dichloroethene	95.8	mg/kg	0.12	ND
cis-1,3-Dichloropropene	95.8	mg/kg	0.12	ND
Dibromochloromethane	95.8	mg/kg	0.12	ND
Ethylbenzene	95.8	mg/kg	0.12	ND
m&p-Xylenes	95.8	mg/kg	0.23	ND
Methylene chloride	95.8	mg/kg	0.12	ND
o-Xylene	95.8	mg/kg	0.12	ND
Styrene	95.8	mg/kg	0.12	ND
Tetrachloroethene	95.8	mg/kg	0.12	ND
Toluene	95.8	mg/kg	0.12	ND
trans-1,2-Dichloroethene	95.8	mg/kg	0.12	ND
trans-1,3-dichloropropene	95.8	mg/kg	0.12	ND
Trichloroethene	95.8	mg/kg	0.12	ND
Vinyl chloride	95.8	mg/kg	0.12	ND

Lab#: AC35821-022 **Collection Date: 2/14/2008**
Sample ID: F-4N

TestGroup/Analyte	DF	Units	RL	Result
8015/QAM-025 Extract & Hold				
Extract and Hold	1			
Base Neutrals (Extract and Hold) 8270				
Extract and Hold	1			
PCB (Extract and Hold) 8082				
Extract and Hold	1			
Pesticides (Extract and Hold) 608/8081				
Extract and Hold	1			

Lab#: AC35821-023 Collection Date: 2/14/2008 Sample ID: F-5F				
TestGroup/Analyte	**DF**	**Units**	**RL**	**Result**
% Solids SM2540G				
% Solids	1	percent		65
Cyanide (Soil/Waste)				
Cyanide	1	mg/kg	0.38	0.44
Mercury (Soil/Waste) 7471A				
Mercury	167	mg/kg	0.13	0.25
Organochlorine Pesticides 8081				
Aldrin	1	mg/kg	0.0077	ND
Alpha-BHC	1	mg/kg	0.0077	ND
beta-BHC	1	mg/kg	0.0077	ND
Chlordane	1	mg/kg	0.015	ND
delta-BHC	1	mg/kg	0.0077	ND
Dieldrin	1	mg/kg	0.0077	ND
Endosulfan I	1	mg/kg	0.0077	ND
Endosulfan II	1	mg/kg	0.0077	ND
Endosulfan Sulfate	1	mg/kg	0.0077	ND
Endrin	1	mg/kg	0.0077	ND
Endrin Aldehyde	1	mg/kg	0.0077	ND
Endrin Ketone	1	mg/kg	0.0077	ND
Gamma-BHC	1	mg/kg	0.0077	ND
Heptachlor	1	mg/kg	0.0077	ND
Heptachlor Epoxide	1	mg/kg	0.0077	ND
Methoxychlor	1	mg/kg	0.0077	ND
p,p'-DDD	1	mg/kg	0.0038	0.0060
p,p'-DDE	1	mg/kg	0.0038	ND
p,p'-DDT	1	mg/kg	0.0038	ND
Toxaphene	1	mg/kg	0.038	ND
PCB 8082				
Aroclor-1016	1	mg/kg	0.038	ND
Aroclor-1221	1	mg/kg	0.038	ND
Aroclor-1232	1	mg/kg	0.038	ND
Aroclor-1242	1	mg/kg	0.038	ND
Aroclor-1248	1	mg/kg	0.038	ND
Aroclor-1254	1	mg/kg	0.038	ND
Aroclor-1260	1	mg/kg	0.038	ND
Aroclor-1262	1	mg/kg	0.038	ND
Phenols (Soil/Waste) 9065				
Total Phenolics	1	mg/kg	1.9	2.2
PP Metals 6010				
Antimony	100	mg/kg	3.1	ND
Arsenic	100	mg/kg	3.1	4.8
Barium	100	mg/kg	15	70
Beryllium	100	mg/kg	0.92	ND
Cadmium	100	mg/kg	0.92	ND
Chromium	100	mg/kg	7.7	22
Copper	100	mg/kg	7.7	37
Lead	100	mg/kg	7.7	62
Nickel	100	mg/kg	7.7	14
Selenium	100	mg/kg	2.8	ND
Silver	100	mg/kg	2.3	ND
Thallium	100	mg/kg	1.8	ND
Zinc	100	mg/kg	15	150

Lab#: AC35821-023 Collection Date: 2/14/2008 Sample ID: F-5F				
TestGroup/Analyte	**DF**	**Units**	**RL**	**Result**
Semivolatile Organics + 25 (8270)				
:TotalSemiVolatileTic	1	mg/kg	NA	100.57J
1,2,4-Trichlorobenzene	1	mg/kg	0.51	ND
1,2-Diphenylhydrazine	1	mg/kg	0.51	ND
2,4,5-Trichlorophenol	1	mg/kg	0.51	ND
2,4,6-Trichlorophenol	1	mg/kg	0.51	ND
2,4-Dichlorophenol	1	mg/kg	0.51	ND
2,4-Dimethylphenol	1	mg/kg	0.51	ND
2,4-Dinitrophenol	1	mg/kg	1.3	ND
2,4-Dinitrotoluene	1	mg/kg	0.51	ND
2,6-Dinitrotoluene	1	mg/kg	0.51	ND
2-Chloronaphthalene	1	mg/kg	0.51	ND
2-Chlorophenol	1	mg/kg	0.51	ND
2-Methylnaphthalene	1	mg/kg	0.51	ND
2-Methylphenol	1	mg/kg	0.51	ND
2-Nitroaniline	1	mg/kg	0.51	ND
2-Nitrophenol	1	mg/kg	0.51	ND
3&4-Methylphenol	1	mg/kg	0.51	ND
3,3'-Dichlorobenzidine	1	mg/kg	0.51	ND
3-Nitroaniline	1	mg/kg	0.51	ND
4,6-Dinitro-2-methylphenol	1	mg/kg	1.3	ND
4-Bromophenyl-phenylether	1	mg/kg	0.51	ND
4-Chloro-3-methylphenol	1	mg/kg	0.51	ND
4-Chloroaniline	1	mg/kg	0.51	ND
4-Chlorophenyl-phenylether	1	mg/kg	0.51	ND
4-Nitroaniline	1	mg/kg	0.51	ND
4-Nitrophenol	1	mg/kg	0.51	ND
Acenaphthene	1	mg/kg	0.51	0.16J
Acenaphthylene	1	mg/kg	0.51	ND
Anthracene	1	mg/kg	0.51	0.13J
Benzidine	1	mg/kg	0.51	ND
Benzo[a]anthracene	1	mg/kg	0.51	0.11J
Benzo[a]pyrene	1	mg/kg	0.51	0.11J
Benzo[b]fluoranthene	1	mg/kg	0.51	0.18J
Benzo[g,h,i]perylene	1	mg/kg	0.51	0.099J
Benzo[k]fluoranthene	1	mg/kg	0.51	ND
Bis(2-Chloroethoxy)methane	1	mg/kg	0.51	ND
Bis(2-Chloroethyl)ether	1	mg/kg	0.51	ND
Bis(2-Chloroisopropyl)ether	1	mg/kg	0.51	ND
Bis(2-Ethylhexyl)phthalate	1	mg/kg	0.51	0.13J
Butylbenzylphthalate	1	mg/kg	0.51	ND
Carbazole	1	mg/kg	0.51	ND
Chrysene	1	mg/kg	0.51	0.12J
Dibenzo[a,h]anthracene	1	mg/kg	0.51	ND
Dibenzofuran	1	mg/kg	0.51	ND
Diethylphthalate	1	mg/kg	0.51	ND
Dimethylphthalate	1	mg/kg	0.51	ND
Di-n-butylphthalate	1	mg/kg	0.51	ND
Di-n-octylphthalate	1	mg/kg	0.51	ND
Fluoranthene	1	mg/kg	0.51	0.39J
Fluorene	1	mg/kg	0.51	0.15J
Hexachlorobenzene	1	mg/kg	0.51	ND
Hexachlorobutadiene	1	mg/kg	0.51	ND
Hexachlorocyclopentadiene	1	mg/kg	1.3	ND
Hexachloroethane	1	mg/kg	0.51	ND
Indeno[1,2,3-cd]pyrene	1	mg/kg	0.51	0.066J
Isophorone	1	mg/kg	0.51	ND
Naphthalene	1	mg/kg	0.51	ND
Nitrobenzene	1	mg/kg	0.51	ND
N-Nitrosodimethylamine	1	mg/kg	0.51	ND
N-Nitroso-di-n-propylamine	1	mg/kg	0.51	ND
N-Nitrosodiphenylamine	1	mg/kg	0.51	ND
Pentachlorophenol	1	mg/kg	1.3	ND
Phenanthrene	1	mg/kg	0.51	0.56
Phenol	1	mg/kg	0.51	ND
Pyrene	1	mg/kg	0.51	0.27J
TPH (NJ OQA-QAM-025-Rev6)				
Total Petroleum Hydrocarbons	1	mg/kg	92	170

RL = Reporting Limit
ND = Not Detected

RL Definitions: SW846 Organics reported to PQL; SW846 Inorganics reported to PQL; Clean Water Act Organics reported to PQL; Clean Water Act Inorganics reported to PQL; CLP Organics reported to CRQL; CLP Inorganics reported to CRQL

Lab#: AC35821-023 **Collection Date: 2/14/2008**
Sample ID: F-5F

TestGroup/Analyte	DF	Units	RL	Result
Volatile Organics + 15 (8260)				
:TotalVolatileTic	97.3	mg/kg	NA	ND
1,1,1-Trichloroethane	97.3	mg/kg	0.15	ND
1,1,2,2-Tetrachloroethane	97.3	mg/kg	0.15	ND
1,1,2-Trichloroethane	97.3	mg/kg	0.15	ND
1,1-Dichloroethane	97.3	mg/kg	0.15	ND
1,1-Dichloroethene	97.3	mg/kg	0.15	ND
1,2-Dichlorobenzene	97.3	mg/kg	0.15	ND
1,2-Dichloroethane	97.3	mg/kg	0.075	ND
1,2-Dichloropropane	97.3	mg/kg	0.15	ND
1,3-Dichlorobenzene	97.3	mg/kg	0.15	ND
1,4-Dichlorobenzene	97.3	mg/kg	0.15	ND
2-Butanone	97.3	mg/kg	0.15	ND
2-Chloroethylvinylether	97.3	mg/kg	0.75	ND
2-Hexanone	97.3	mg/kg	0.15	ND
4-Methyl-2-Pentanone	97.3	mg/kg	0.15	ND
Acetone	97.3	mg/kg	0.75	ND
Acrolein	97.3	mg/kg	0.75	ND
Acrylonitrile	97.3	mg/kg	0.15	ND
Benzene	97.3	mg/kg	0.075	ND
Bromodichloromethane	97.3	mg/kg	0.15	ND
Bromoform	97.3	mg/kg	0.15	ND
Bromomethane	97.3	mg/kg	0.15	ND
Carbon disulfide	97.3	mg/kg	0.15	ND
Carbon tetrachloride	97.3	mg/kg	0.15	ND
Chlorobenzene	97.3	mg/kg	0.15	ND
Chloroethane	97.3	mg/kg	0.15	ND
Chloroform	97.3	mg/kg	0.15	ND
Chloromethane	97.3	mg/kg	0.15	ND
cis-1,2-Dichloroethene	97.3	mg/kg	0.15	ND
cis-1,3-Dichloropropene	97.3	mg/kg	0.15	ND
Dibromochloromethane	97.3	mg/kg	0.15	ND
Ethylbenzene	97.3	mg/kg	0.15	ND
m&p-Xylenes	97.3	mg/kg	0.30	ND
Methylene chloride	97.3	mg/kg	0.15	ND
o-Xylene	97.3	mg/kg	0.15	ND
Styrene	97.3	mg/kg	0.15	ND
Tetrachloroethene	97.3	mg/kg	0.15	ND
Toluene	97.3	mg/kg	0.15	ND
trans-1,2-Dichloroethene	97.3	mg/kg	0.15	ND
trans-1,3-dichloropropene	97.3	mg/kg	0.15	ND
Trichloroethene	97.3	mg/kg	0.15	ND
Vinyl chloride	97.3	mg/kg	0.15	ND

Lab#: AC35821-024 **Collection Date: 2/14/2008**
Sample ID: F-5N

TestGroup/Analyte	DF	Units	RL	Result
8015/QAM-025 Extract & Hold				
Extract and Hold	1			
Base Neutrals (Extract and Hold) 8270				
Extract and Hold	1			
PCB (Extract and Hold) 8082				
Extract and Hold	1			
Pesticides (Extract and Hold) 608/8081				
Extract and Hold	1			

Lab#: AC35821-025 **Collection Date: 2/14/2008**
Sample ID: F-6F

TestGroup/Analyte	DF	Units	RL	Result
% Solids SM2540G				
% Solids	1	**percent**		**81**
Cyanide (Soil/Waste)				
Cyanide	1	**mg/kg**	**0.31**	**0.46**
Mercury (Soil/Waste) 7471A				
Mercury	167	mg/kg	0.10	ND
Organochlorine Pesticides 8081				
Aldrin	1	mg/kg	0.0062	ND
Alpha-BHC	1	mg/kg	0.0062	ND
beta-BHC	1	mg/kg	0.0062	ND
Chlordane	1	mg/kg	0.012	ND
delta-BHC	1	mg/kg	0.0062	ND
Dieldrin	1	mg/kg	0.0062	ND
Endosulfan I	1	mg/kg	0.0062	ND
Endosulfan II	1	mg/kg	0.0062	ND
Endosulfan Sulfate	1	mg/kg	0.0062	ND
Endrin	1	mg/kg	0.0062	ND
Endrin Aldehyde	1	mg/kg	0.0062	ND
Endrin Ketone	1	mg/kg	0.0062	ND
Gamma-BHC	1	mg/kg	0.0062	ND
Heptachlor	1	mg/kg	0.0062	ND
Heptachlor Epoxide	1	mg/kg	0.0062	ND
Methoxychlor	1	mg/kg	0.0062	ND
p,p'-DDD	1	mg/kg	0.0031	ND
p,p'-DDE	1	mg/kg	0.0031	ND
p,p'-DDT	1	mg/kg	0.0031	ND
Toxaphene	1	mg/kg	0.031	ND
PCB 8082				
Aroclor-1016	1	mg/kg	0.031	ND
Aroclor-1221	1	mg/kg	0.031	ND
Aroclor-1232	1	mg/kg	0.031	ND
Aroclor-1242	1	mg/kg	0.031	ND
Aroclor-1248	1	mg/kg	0.031	ND
Aroclor-1254	1	mg/kg	0.031	ND
Aroclor-1260	1	mg/kg	0.031	ND
Aroclor-1262	1	mg/kg	0.031	ND
Phenols (Soil/Waste) 9065				
Total Phenolics	1	mg/kg	1.5	ND
PP Metals 6010				
Antimony	100	mg/kg	2.5	ND
Arsenic	**100**	**mg/kg**	**2.5**	**6.3**
Barium	**100**	**mg/kg**	**12**	**83**
Beryllium	100	mg/kg	0.74	ND
Cadmium	100	mg/kg	0.74	ND
Chromium	**100**	**mg/kg**	**6.2**	**12**
Copper	**100**	**mg/kg**	**6.2**	**24**
Lead	**100**	**mg/kg**	**6.2**	**29**
Nickel	**100**	**mg/kg**	**6.2**	**13**
Selenium	100	mg/kg	2.2	ND
Silver	100	mg/kg	1.9	ND
Thallium	100	mg/kg	1.5	ND
Zinc	**100**	**mg/kg**	**12**	**54**

Lab#: AC35821-025	Collection Date: 2/14/2008
Sample ID: F-6F	

TestGroup/Analyte	DF	Units	RL	Result
Semivolatile Organics + 25 (8270)				
:TotalSemiVolatileTic	1	mg/kg	NA	38.76J
1,2,4-Trichlorobenzene	1	mg/kg	0.41	ND
1,2-Diphenylhydrazine	1	mg/kg	0.41	ND
2,4,5-Trichlorophenol	1	mg/kg	0.41	ND
2,4,6-Trichlorophenol	1	mg/kg	0.41	ND
2,4-Dichlorophenol	1	mg/kg	0.41	ND
2,4-Dimethylphenol	1	mg/kg	0.41	ND
2,4-Dinitrophenol	1	mg/kg	1.0	ND
2,4-Dinitrotoluene	1	mg/kg	0.41	ND
2,6-Dinitrotoluene	1	mg/kg	0.41	ND
2-Chloronaphthalene	1	mg/kg	0.41	ND
2-Chlorophenol	1	mg/kg	0.41	ND
2-Methylnaphthalene	1	mg/kg	0.41	ND
2-Methylphenol	1	mg/kg	0.41	ND
2-Nitroaniline	1	mg/kg	0.41	ND
2-Nitrophenol	1	mg/kg	0.41	ND
3&4-Methylphenol	1	mg/kg	0.41	ND
3,3'-Dichlorobenzidine	1	mg/kg	0.41	ND
3-Nitroaniline	1	mg/kg	0.41	ND
4,6-Dinitro-2-methylphenol	1	mg/kg	1.0	ND
4-Bromophenyl-phenylether	1	mg/kg	0.41	ND
4-Chloro-3-methylphenol	1	mg/kg	0.41	ND
4-Chloroaniline	1	mg/kg	0.41	ND
4-Chlorophenyl-phenylether	1	mg/kg	0.41	ND
4-Nitroaniline	1	mg/kg	0.41	ND
4-Nitrophenol	1	mg/kg	0.41	ND
Acenaphthene	1	mg/kg	0.41	ND
Acenaphthylene	1	mg/kg	0.41	ND
Anthracene	1	mg/kg	0.41	ND
Benzidine	1	mg/kg	0.41	ND
Benzo[a]anthracene	1	mg/kg	0.41	ND
Benzo[a]pyrene	1	mg/kg	0.41	ND
Benzo[b]fluoranthene	1	mg/kg	0.41	0.069J
Benzo[g,h,i]perylene	1	mg/kg	0.41	ND
Benzo[k]fluoranthene	1	mg/kg	0.41	ND
Bis(2-Chloroethoxy)methane	1	mg/kg	0.41	ND
Bis(2-Chloroethyl)ether	1	mg/kg	0.41	ND
Bis(2-Chloroisopropyl)ether	1	mg/kg	0.41	ND
Bis(2-Ethylhexyl)phthalate	1	mg/kg	0.41	0.063J
Butylbenzylphthalate	1	mg/kg	0.41	ND
Carbazole	1	mg/kg	0.41	ND
Chrysene	1	mg/kg	0.41	0.042J
Dibenzo[a,h]anthracene	1	mg/kg	0.41	ND
Dibenzofuran	1	mg/kg	0.41	ND
Diethylphthalate	1	mg/kg	0.41	ND
Dimethylphthalate	1	mg/kg	0.41	ND
Di-n-butylphthalate	1	mg/kg	0.41	ND
Di-n-octylphthalate	1	mg/kg	0.41	ND
Fluoranthene	1	mg/kg	0.41	0.070J
Fluorene	1	mg/kg	0.41	ND
Hexachlorobenzene	1	mg/kg	0.41	ND
Hexachlorobutadiene	1	mg/kg	0.41	ND
Hexachlorocyclopentadiene	1	mg/kg	1.0	ND
Hexachloroethane	1	mg/kg	0.41	ND
Indeno[1,2,3-cd]pyrene	1	mg/kg	0.41	ND
Isophorone	1	mg/kg	0.41	ND
Naphthalene	1	mg/kg	0.41	ND
Nitrobenzene	1	mg/kg	0.41	ND
N-Nitrosodimethylamine	1	mg/kg	0.41	ND
N-Nitroso-di-n-propylamine	1	mg/kg	0.41	ND
N-Nitrosodiphenylamine	1	mg/kg	0.41	ND
Pentachlorophenol	1	mg/kg	1.0	ND
Phenanthrene	1	mg/kg	0.41	0.048J
Phenol	1	mg/kg	0.41	ND
Pyrene	1	mg/kg	0.41	0.062J
TPH (NJ OQA-QAM-025-Rev6)				
Total Petroleum Hydrocarbons	1	mg/kg	74	200

Lab#: AC35821-025	Collection Date: 2/14/2008
Sample ID: F-6F	

TestGroup/Analyte	DF	Units	RL	Result
Volatile Organics + 15 (8260)				
:TotalVolatileTic	106	mg/kg	NA	ND
1,1,1-Trichloroethane	106	mg/kg	0.13	ND
1,1,2,2-Tetrachloroethane	106	mg/kg	0.13	ND
1,1,2-Trichloroethane	106	mg/kg	0.13	ND
1,1-Dichloroethane	106	mg/kg	0.13	ND
1,1-Dichloroethene	106	mg/kg	0.13	ND
1,2-Dichlorobenzene	106	mg/kg	0.13	ND
1,2-Dichloroethane	106	mg/kg	0.065	ND
1,2-Dichloropropane	106	mg/kg	0.13	ND
1,3-Dichlorobenzene	106	mg/kg	0.13	ND
1,4-Dichlorobenzene	106	mg/kg	0.13	ND
2-Butanone	106	mg/kg	0.13	ND
2-Chloroethylvinylether	106	mg/kg	0.13	ND
2-Hexanone	106	mg/kg	0.13	ND
4-Methyl-2-Pentanone	106	mg/kg	0.13	ND
Acetone	106	mg/kg	0.65	ND
Acrolein	106	mg/kg	3.3	ND
Acrylonitrile	106	mg/kg	0.13	ND
Benzene	106	mg/kg	0.065	ND
Bromodichloromethane	106	mg/kg	0.13	ND
Bromoform	106	mg/kg	0.13	ND
Bromomethane	106	mg/kg	0.13	ND
Carbon disulfide	106	mg/kg	0.13	ND
Carbon tetrachloride	106	mg/kg	0.13	ND
Chlorobenzene	106	mg/kg	0.13	ND
Chloroethane	106	mg/kg	0.13	ND
Chloroform	106	mg/kg	0.13	ND
Chloromethane	106	mg/kg	0.13	ND
cis-1,2-Dichloroethene	106	mg/kg	0.13	ND
cis-1,3-Dichloropropene	106	mg/kg	0.13	ND
Dibromochloromethane	106	mg/kg	0.13	ND
Ethylbenzene	106	mg/kg	0.13	ND
m&p-Xylenes	106	mg/kg	0.26	ND
Methylene chloride	106	mg/kg	0.13	ND
o-Xylene	106	mg/kg	0.13	ND
Styrene	106	mg/kg	0.13	ND
Tetrachloroethene	106	mg/kg	0.13	ND
Toluene	106	mg/kg	0.13	ND
trans-1,2-Dichloroethene	106	mg/kg	0.13	ND
trans-1,3-dichloropropene	106	mg/kg	0.13	ND
Trichloroethene	106	mg/kg	0.13	ND
Vinyl chloride	106	mg/kg	0.13	ND

Lab#: AC35821-026	Collection Date: 2/14/2008
Sample ID: F-6N	

TestGroup/Analyte	DF	Units	RL	Result
8015/QAM-025 Extract & Hold				
Extract and Hold	1			
Base Neutrals (Extract and Hold) 8270				
Extract and Hold	1			
PCB (Extract and Hold) 8082				
Extract and Hold	1			
Pesticides (Extract and Hold) 608/8081				
Extract and Hold	1			

RL = Reporting Limit
ND = Not Detected

RL Definitions: SW846 Organics reported to PQL
SW846 Inorganics reported to PQL
Clean Water Act Organics reported to PQL
Clean Water Act Inorganics reported to PQL
CLP Organics reported to CRQL
CLP Inorganics reported to CRQL

Lab#: AC35821-027 Collection Date: 2/14/2008
Sample ID: D-1

TestGroup/Analyte	DF	Units	RL	Result
% Solids SM2540G				
% Solids	1	percent		73
PCB 8082				
Aroclor-1016	1	mg/kg	0.034	ND
Aroclor-1221	1	mg/kg	0.034	ND
Aroclor-1232	1	mg/kg	0.034	ND
Aroclor-1242	1	mg/kg	0.034	ND
Aroclor-1248	1	mg/kg	0.034	ND
Aroclor-1254	1	mg/kg	0.034	ND
Aroclor-1260	1	mg/kg	0.034	0.45
Aroclor-1262	1	mg/kg	0.034	ND

Lab#: AC35821-028 Collection Date: 2/14/2008
Sample ID: D-2

TestGroup/Analyte	DF	Units	RL	Result
% Solids SM2540G				
% Solids	1	percent		85
PCB 8082				
Aroclor-1016	1	mg/kg	0.029	ND
Aroclor-1221	1	mg/kg	0.029	ND
Aroclor-1232	1	mg/kg	0.029	ND
Aroclor-1242	1	mg/kg	0.029	ND
Aroclor-1248	1	mg/kg	0.029	ND
Aroclor-1254	1	mg/kg	0.029	ND
Aroclor-1260	1	mg/kg	0.029	0.098
Aroclor-1262	1	mg/kg	0.029	ND

Lab#: AC35821-029 Collection Date: 2/14/2008
Sample ID: D-3

TestGroup/Analyte	DF	Units	RL	Result
% Solids SM2540G				
% Solids	1	percent		91
PCB 8082				
Aroclor-1016	1	mg/kg	0.027	ND
Aroclor-1221	1	mg/kg	0.027	ND
Aroclor-1232	1	mg/kg	0.027	ND
Aroclor-1242	1	mg/kg	0.027	ND
Aroclor-1248	1	mg/kg	0.027	ND
Aroclor-1254	1	mg/kg	0.027	ND
Aroclor-1260	1	mg/kg	0.027	0.045
Aroclor-1262	1	mg/kg	0.027	ND

Lab#: AC35821-030 Collection Date: 2/14/2008
Sample ID: D-4

TestGroup/Analyte	DF	Units	RL	Result
% Solids SM2540G				
% Solids	1	percent		92
PCB 8082				
Aroclor-1016	1	mg/kg	0.027	ND
Aroclor-1221	1	mg/kg	0.027	ND
Aroclor-1232	1	mg/kg	0.027	ND
Aroclor-1242	1	mg/kg	0.027	ND
Aroclor-1248	1	mg/kg	0.027	ND
Aroclor-1254	1	mg/kg	0.027	ND
Aroclor-1260	1	mg/kg	0.027	ND
Aroclor-1262	1	mg/kg	0.027	ND

Lab#: AC35821-031 Collection Date: 2/14/2008
Sample ID: D-5

TestGroup/Analyte	DF	Units	RL	Result
% Solids SM2540G				
% Solids	1	percent		92
PCB 8082				
Aroclor-1016	1	mg/kg	0.027	ND
Aroclor-1221	1	mg/kg	0.027	ND
Aroclor-1232	1	mg/kg	0.027	ND
Aroclor-1242	1	mg/kg	0.027	ND
Aroclor-1248	1	mg/kg	0.027	ND
Aroclor-1254	1	mg/kg	0.027	ND
Aroclor-1260	1	mg/kg	0.027	ND
Aroclor-1262	1	mg/kg	0.027	ND

Lab#: AC35821-032 Collection Date: 2/14/2008
Sample ID: DC-1

TestGroup/Analyte	DF	Units	RL	Result
% Solids SM2540G				
% Solids	1	percent		95
PCB 8082				
Aroclor-1016	1	mg/kg	0.026	ND
Aroclor-1221	1	mg/kg	0.026	ND
Aroclor-1232	1	mg/kg	0.026	ND
Aroclor-1242	1	mg/kg	0.026	ND
Aroclor-1248	1	mg/kg	0.026	ND
Aroclor-1254	1	mg/kg	0.026	0.070
Aroclor-1260	1	mg/kg	0.026	ND
Aroclor-1262	1	mg/kg	0.026	ND

Lab#: AC35821-033 Collection Date: 2/14/2008
Sample ID: DC-2

TestGroup/Analyte	DF	Units	RL	Result
% Solids SM2540G				
% Solids	1	percent		93
PCB 8082				
Aroclor-1016	1	mg/kg	0.027	ND
Aroclor-1221	1	mg/kg	0.027	ND
Aroclor-1232	1	mg/kg	0.027	ND
Aroclor-1242	1	mg/kg	0.027	ND
Aroclor-1248	1	mg/kg	0.027	ND
Aroclor-1254	1	mg/kg	0.027	ND
Aroclor-1260	1	mg/kg	0.027	0.12
Aroclor-1262	1	mg/kg	0.027	ND

Lab#: AC35821-034 Collection Date: 2/14/2008
Sample ID: BC

TestGroup/Analyte	DF	Units	RL	Result
% Solids SM2540G				
% Solids	1	percent		93
PAH Compounds 8270				
Acenaphthene	1	mg/kg	0.36	ND
Acenaphthylene	1	mg/kg	0.36	ND
Anthracene	1	mg/kg	0.36	ND
Benzo[a]anthracene	1	mg/kg	0.36	ND
Benzo[a]pyrene	1	mg/kg	0.36	ND
Benzo[b]fluoranthene	1	mg/kg	0.36	ND
Benzo[g,h,i]perylene	1	mg/kg	0.36	ND
Benzo[k]fluoranthene	1	mg/kg	0.36	ND
Chrysene	1	mg/kg	0.36	ND
Dibenzo[a,h]anthracene	1	mg/kg	0.36	ND
Fluoranthene	1	mg/kg	0.36	ND
Fluorene	1	mg/kg	0.36	ND
Indeno[1,2,3-cd]pyrene	1	mg/kg	0.36	ND
Naphthalene	1	mg/kg	0.36	ND
Phenanthrene	1	mg/kg	0.36	ND
Pyrene	1	mg/kg	0.36	ND
PCB 8082				
Aroclor-1016	1	mg/kg	0.027	ND
Aroclor-1221	1	mg/kg	0.027	ND
Aroclor-1232	1	mg/kg	0.027	ND
Aroclor-1242	1	mg/kg	0.027	ND
Aroclor-1248	1	mg/kg	0.027	ND
Aroclor-1254	1	mg/kg	0.027	ND
Aroclor-1260	1	mg/kg	0.027	0.036
Aroclor-1262	1	mg/kg	0.027	ND
TPH (NJ OQA-QAM-025-Rev6)				
Total Petroleum Hydrocarbons	1	mg/kg	65	ND

Lab#: AC35821-035 Collection Date: 2/14/2008
Sample ID: BB

TestGroup/Analyte	DF	Units	RL	Result
% Solids SM2540G				
% Solids	1	percent		96
PAH Compounds 8270				
Acenaphthene	1	mg/kg	0.35	ND
Acenaphthylene	1	mg/kg	0.35	ND
Anthracene	1	mg/kg	0.35	ND
Benzo[a]anthracene	1	mg/kg	0.35	ND
Benzo[a]pyrene	1	mg/kg	0.35	ND
Benzo[b]fluoranthene	1	mg/kg	0.35	ND
Benzo[g,h,i]perylene	1	mg/kg	0.35	ND
Benzo[k]fluoranthene	1	mg/kg	0.35	ND
Chrysene	1	mg/kg	0.35	ND
Dibenzo[a,h]anthracene	1	mg/kg	0.35	ND
Fluoranthene	1	mg/kg	0.35	ND
Fluorene	1	mg/kg	0.35	ND
Indeno[1,2,3-cd]pyrene	1	mg/kg	0.35	ND
Naphthalene	1	mg/kg	0.35	ND
Phenanthrene	1	mg/kg	0.35	ND
Pyrene	1	mg/kg	0.35	ND
PCB 8082				
Aroclor-1016	1	mg/kg	0.026	ND
Aroclor-1221	1	mg/kg	0.026	ND
Aroclor-1232	1	mg/kg	0.026	ND
Aroclor-1242	1	mg/kg	0.026	ND
Aroclor-1248	1	mg/kg	0.026	ND
Aroclor-1254	1	mg/kg	0.026	ND
Aroclor-1260	1	mg/kg	0.026	ND
Aroclor-1262	1	mg/kg	0.026	ND
TPH (NJ OQA-QAM-025-Rev6)				
Total Petroleum Hydrocarbons	1	mg/kg	63	ND

Lab#: AC35821-036 Collection Date: 2/14/2008
Sample ID: FB

TestGroup/Analyte	DF	Units	RL	Result
Cyanide (Water) 9010				
Cyanide	1	mg/l	0.01	ND
Mercury (Water) 7470A				
Mercury	1	ug/l	0.50	ND
Organochlorine Pesticides 8081				
Aldrin	1	ug/l	0.052	ND
Alpha-BHC	1	ug/l	0.052	ND
beta-BHC	1	ug/l	0.052	ND
Chlordane	1	ug/l	0.10	ND
delta-BHC	1	ug/l	0.052	ND
Dieldrin	1	ug/l	0.052	ND
Endosulfan I	1	ug/l	0.052	ND
Endosulfan II	1	ug/l	0.052	ND
Endosulfan Sulfate	1	ug/l	0.052	ND
Endrin	1	ug/l	0.052	ND
Endrin Aldehyde	1	ug/l	0.052	ND
Endrin Ketone	1	ug/l	0.052	ND
Gamma-BHC	1	ug/l	0.052	ND
Heptachlor	1	ug/l	0.052	ND
Heptachlor Epoxide	1	ug/l	0.052	ND
Methoxychlor	1	ug/l	0.052	ND
p,p'-DDD	1	ug/l	0.026	ND
p,p'-DDE	1	ug/l	0.026	ND
p,p'-DDT	1	ug/l	0.026	ND
Toxaphene	1	ug/l	0.26	ND
PCB 8082				
Aroclor-1016	1	ug/l	0.26	ND
Aroclor-1221	1	ug/l	0.26	ND
Aroclor-1232	1	ug/l	0.26	ND
Aroclor-1242	1	ug/l	0.26	ND
Aroclor-1248	1	ug/l	0.26	ND
Aroclor-1254	1	ug/l	0.26	ND
Aroclor-1260	1	ug/l	0.26	ND
Aroclor-1262	1	ug/l	0.26	ND
Phenols (Water) 420.1				
Total Phenolics	1	mg/l	0.05	ND
PP Metals 6010				
Antimony	1	ug/l	20	ND
Arsenic	1	ug/l	20	ND
Barium	1	ug/l	100	ND
Beryllium	1	ug/l	6.0	ND
Cadmium	1	ug/l	6.0	ND
Chromium	1	ug/l	50	ND
Copper	1	ug/l	50	ND
Lead	1	ug/l	50	ND
Nickel	1	ug/l	50	ND
Selenium	1	ug/l	18	ND
Silver	1	ug/l	15	ND
Thallium	1	ug/l	12	ND
Zinc	1	ug/l	100	ND

RL = Reporting Limit
ND = Not Detected

RL Definitions: SW846 Organics reported to PQL; SW846 Inorganics reported to PQL; Clean Water Act Organics reported to PQL; Clean Water Act Inorganics reported to PQL; CLP Organics reported to CRQL; CLP Inorganics reported to CRQL

Lab#: AC35821-036 Collection Date: 2/14/2008 Sample ID: FB				
TestGroup/Analyte	**DF**	**Units**	**RL**	**Result**
Semivolatile Organics + 25 (8270)				
:TotalSemiVolatileTic	1	ug/l	NA	ND
1,2,4-Trichlorobenzene	1	ug/l	10	ND
1,2-Diphenylhydrazine	1	ug/l	10	ND
2,4,5-Trichlorophenol	1	ug/l	10	ND
2,4,6-Trichlorophenol	1	ug/l	10	ND
2,4-Dichlorophenol	1	ug/l	10	ND
2,4-Dimethylphenol	1	ug/l	10	ND
2,4-Dinitrophenol	1	ug/l	25	ND
2,4-Dinitrotoluene	1	ug/l	10	ND
2,6-Dinitrotoluene	1	ug/l	10	ND
2-Chloronaphthalene	1	ug/l	10	ND
2-Chlorophenol	1	ug/l	10	ND
2-Methylnaphthalene	1	ug/l	10	ND
2-Methylphenol	1	ug/l	10	ND
2-Nitroaniline	1	ug/l	10	ND
2-Nitrophenol	1	ug/l	10	ND
3&4-Methylphenol	1	ug/l	10	ND
3,3'-Dichlorobenzidine	1	ug/l	10	ND
3-Nitroaniline	1	ug/l	10	ND
4,6-Dinitro-2-methylphenol	1	ug/l	25	ND
4-Bromophenyl-phenylether	1	ug/l	10	ND
4-Chloro-3-methylphenol	1	ug/l	10	ND
4-Chloroaniline	1	ug/l	10	ND
4-Chlorophenyl-phenylether	1	ug/l	10	ND
4-Nitroaniline	1	ug/l	10	ND
4-Nitrophenol	1	ug/l	10	ND
Acenaphthene	1	ug/l	10	ND
Acenaphthylene	1	ug/l	10	ND
Anthracene	1	ug/l	10	ND
Benzidine	1	ug/l	25	ND
Benzo[a]anthracene	1	ug/l	10	ND
Benzo[a]pyrene	1	ug/l	10	ND
Benzo[b]fluoranthene	1	ug/l	10	ND
Benzo[g,h,i]perylene	1	ug/l	10	ND
Benzo[k]fluoranthene	1	ug/l	10	ND
Bis(2-Chloroethoxy)methane	1	ug/l	10	ND
Bis(2-Chloroethyl)ether	1	ug/l	10	ND
Bis(2-Chloroisopropyl)ether	1	ug/l	10	ND
Bis(2-Ethylhexyl)phthalate	1	ug/l	10	ND
Butylbenzylphthalate	1	ug/l	10	ND
Carbazole	1	ug/l	10	ND
Chrysene	1	ug/l	10	ND
Dibenzo[a,h]anthracene	1	ug/l	10	ND
Dibenzofuran	1	ug/l	10	ND
Diethylphthalate	1	ug/l	10	ND
Dimethylphthalate	1	ug/l	10	ND
Di-n-butylphthalate	1	ug/l	10	ND
Di-n-octylphthalate	1	ug/l	10	ND
Fluoranthene	1	ug/l	10	ND
Fluorene	1	ug/l	10	ND
Hexachlorobenzene	1	ug/l	10	ND
Hexachlorobutadiene	1	ug/l	10	ND
Hexachlorocyclopentadiene	1	ug/l	10	ND
Hexachloroethane	1	ug/l	10	ND
Indeno[1,2,3-cd]pyrene	1	ug/l	10	ND
Isophorone	1	ug/l	10	ND
Naphthalene	1	ug/l	10	ND
Nitrobenzene	1	ug/l	10	ND
N-Nitrosodimethylamine	1	ug/l	10	ND
N-Nitroso-di-n-propylamine	1	ug/l	10	ND
N-Nitrosodiphenylamine	1	ug/l	10	ND
Pentachlorophenol	1	ug/l	25	ND
Phenanthrene	1	ug/l	10	ND
Phenol	1	ug/l	10	ND
Pyrene	1	ug/l	10	ND
TPH (NJ OQA-QAM-025-Rev6)				
Total Petroleum Hydrocarbons	1	ug/l	300	ND

Lab#: AC35821-036 Collection Date: 2/14/2008 Sample ID: FB				
TestGroup/Analyte	**DF**	**Units**	**RL**	**Result**
Volatile Organics + 15 (8260)				
:TotalVolatileTic	1	ug/l	NA	ND
1,1,1-Trichloroethane	1	ug/l	1.0	ND
1,1,2,2-Tetrachloroethane	1	ug/l	1.0	ND
1,1,2-Trichloroethane	1	ug/l	1.0	ND
1,1-Dichloroethane	1	ug/l	1.0	ND
1,1-Dichloroethene	1	ug/l	1.0	ND
1,2-Dichlorobenzene	1	ug/l	1.0	ND
1,2-Dichloroethane	1	ug/l	0.50	ND
1,2-Dichloropropane	1	ug/l	1.0	ND
1,3-Dichlorobenzene	1	ug/l	1.0	ND
1,4-Dichlorobenzene	1	ug/l	1.0	ND
2-Butanone	1	ug/l	1.0	ND
2-Chloroethylvinylether	1	ug/l	1.0	ND
2-Hexanone	1	ug/l	1.0	ND
4-Methyl-2-Pentanone	1	ug/l	1.0	ND
Acetone	1	ug/l	5.0	ND
Acrolein	1	ug/l	5.0	ND
Acrylonitrile	1	ug/l	1.0	ND
Benzene	1	ug/l	0.50	ND
Bromodichloromethane	1	ug/l	1.0	ND
Bromoform	1	ug/l	1.0	ND
Bromomethane	1	ug/l	1.0	ND
Carbon disulfide	1	ug/l	1.0	ND
Carbon tetrachloride	1	ug/l	1.0	ND
Chlorobenzene	1	ug/l	1.0	ND
Chloroethane	1	ug/l	1.0	ND
Chloroform	1	ug/l	1.0	ND
Chloromethane	1	ug/l	1.0	ND
cis-1,2-Dichloroethene	1	ug/l	1.0	ND
cis-1,3-Dichloropropene	1	ug/l	1.0	ND
Dibromochloromethane	1	ug/l	1.0	ND
Ethylbenzene	1	ug/l	1.0	ND
m&p-Xylenes	1	ug/l	2.0	ND
Methylene chloride	1	ug/l	1.0	ND
o-Xylene	1	ug/l	1.0	ND
Styrene	1	ug/l	1.0	ND
Tetrachloroethene	1	ug/l	1.0	ND
Toluene	1	ug/l	1.0	ND
trans-1,2-Dichloroethene	1	ug/l	1.0	ND
trans-1,3-dichloropropene	1	ug/l	1.0	ND
Trichloroethene	1	ug/l	1.0	ND
Vinyl chloride	1	ug/l	1.0	ND

Lab#: AC35821-037 Collection Date: 2/14/2008 Sample ID: TB				
TestGroup/Analyte	**DF**	**Units**	**RL**	**Result**
Volatile Organics + 15 (8260)				
:TotalVolatileTic	100	mg/kg	NA	ND
1,1,1-Trichloroethane	100	mg/kg	0.10	ND
1,1,2,2-Tetrachloroethane	100	mg/kg	0.10	ND
1,1,2-Trichloroethane	100	mg/kg	0.10	ND
1,1-Dichloroethane	100	mg/kg	0.10	ND
1,1-Dichloroethene	100	mg/kg	0.10	ND
1,2-Dichlorobenzene	100	mg/kg	0.10	ND
1,2-Dichloroethane	100	mg/kg	0.050	ND
1,2-Dichloropropane	100	mg/kg	0.10	ND
1,3-Dichlorobenzene	100	mg/kg	0.10	ND
1,4-Dichlorobenzene	100	mg/kg	0.10	ND
2-Butanone	100	mg/kg	0.10	ND
2-Chloroethylvinylether	100	mg/kg	0.50	ND
2-Hexanone	100	mg/kg	0.10	ND
4-Methyl-2-Pentanone	100	mg/kg	0.10	ND
Acetone	100	mg/kg	0.50	ND
Acrolein	100	mg/kg	0.50	ND
Acrylonitrile	100	mg/kg	0.10	ND
Benzene	100	mg/kg	0.050	ND
Bromodichloromethane	100	mg/kg	0.10	ND
Bromoform	100	mg/kg	0.10	ND
Bromomethane	100	mg/kg	0.10	ND
Carbon disulfide	100	mg/kg	0.10	ND
Carbon tetrachloride	100	mg/kg	0.10	ND
Chlorobenzene	100	mg/kg	0.10	ND
Chloroethane	100	mg/kg	0.10	ND
Chloroform	100	mg/kg	0.10	ND
Chloromethane	100	mg/kg	0.10	ND
cis-1,2-Dichloroethene	100	mg/kg	0.10	ND
cis-1,3-Dichloropropene	100	mg/kg	0.10	ND
Dibromochloromethane	100	mg/kg	0.10	ND
Ethylbenzene	100	mg/kg	0.10	ND
m&p-Xylenes	100	mg/kg	0.20	ND
Methylene chloride	100	mg/kg	0.10	ND
o-Xylene	100	mg/kg	0.10	ND
Styrene	100	mg/kg	0.10	ND
Tetrachloroethene	100	mg/kg	0.10	ND
Toluene	100	mg/kg	0.10	ND
trans-1,2-Dichloroethene	100	mg/kg	0.10	ND
trans-1,3-dichloropropene	100	mg/kg	0.10	ND
Trichloroethene	100	mg/kg	0.10	ND
Vinyl chloride	100	mg/kg	0.10	ND

YORK

ANALYTICAL LABORATORIES, INC.

Technical Report

prepared for:

Langan Engineering & Environmental Services (NJ)
619 River Drive Center 1
Elmwood Park NJ, 07407-1338
Attention: Michael Bator

Report Date: 09/02/2011
Client Project ID: Block 107.02, Lot 3
York Project (SDG) No.: 11H0862

CT License No PH-0723 | New Jersey License No CT-005 | New York License No 10854 | PA License No. 68-04440

120 RESEARCH DRIVE | STRATFORD, CT 06615 | (203) 325-1371 | FAX (203) 357-0166

Report Date: 09/02/2011
Client Project ID: Block 107.02, Lot 3
York Project (SDG) No.: 11H0862

Langan Engineering & Environmental Services (NJ)
619 River Drive Center 1
Elmwood Park NJ, 07407-1338
Attention: Michael Bator

Purpose and Results

This report contains the analytical data for the sample(s) identified on the attached chain-of-custody received in our laboratory on August 24, 2011 and listed below. The project was identified as your project: **Block 107.02, Lot 3.**

The analyses were conducted utilizing appropriate EPA, Standard Methods, and ASTM methods as detailed in the data summary tables.

All samples were received in proper condition meeting the customary acceptance requirements for environmental samples except those indicated under the Notes section of this report.

All analyses met the method and laboratory standard operating procedure requirements except as indicated by any data flags, the meaning of which are explained in the attachment to this report, and case narrative if applicable.

The results of the analyses, which are all reported on dry weight basis (soils) unless otherwise noted, are detailed in the following pages.

Please contact Client Services at 203.325.1371 with any questions regarding this report.

York Sample ID	Client Sample ID	Matrix	Date Collected	Date Received
11H0862-01	S-5A	Soil	08/22/2011	08/24/2011
11H0862-02	S-5B	Soil	08/22/2011	08/24/2011
11H0862-03	S-5C	Soil	08/22/2011	08/24/2011
11H0862-04	S-5D	Soil	08/22/2011	08/24/2011
11H0862-05	S-4A	Soil	08/22/2011	08/24/2011
11H0862-06	S-4B	Soil	08/22/2011	08/24/2011
11H0862-07	S-4C	Soil	08/22/2011	08/24/2011
11H0862-08	S-4D	Soil	08/22/2011	08/24/2011
11H0862-09	S-4E	Soil	08/22/2011	08/24/2011
11H0862-10	C-1	Solid	08/23/2011	08/24/2011
11H0862-11	B-1	Solid	08/23/2011	08/24/2011
11H0862-12	C-2	Solid	08/23/2011	08/24/2011
11H0862-13	C-3	Solid	08/23/2011	08/24/2011
11H0862-14	C-4	Solid	08/23/2011	08/24/2011
11H0862-15	C-5	Solid	08/23/2011	08/24/2011
11H0862-16	C-6	Solid	08/23/2011	08/24/2011
11H0862-17	DC-1	Caulk	08/23/2011	08/24/2011
11H0862-18	WC-1	Caulk	08/23/2011	08/24/2011

General Notes for York Project (SDG) No.: 11H0862

1. The RLs and MDLs (Reporting Limit and Method Detection Limit respectively) reported are adjusted for any dilution necessary due to the levels of target and/or non-target analytes and matrix interference. The RL(REPORTING LIMIT) is based upon the lowest standard utilized for the calibration where applicable.
2. Samples are retained for a period of thirty days after submittal of report, unless other arrangements are made.
3. York's liability for the above data is limited to the dollar value paid to York for the referenced project
4. This report shall not be reproduced without the written approval of York Analytical Laboratories, Inc.
5. All samples were received in proper condition for analysis with proper documentation, unless otherwise noted.
6. All analyses conducted met method or Laboratory SOP requirements. See the Qualifiers and/or Narrative sections for further information.
7. It is noted that no analyses reported herein were subcontracted to another laboratory, unless noted in the report.
8. This report reflects results that relate only to the samples submitted on the attached chain-of-custody form(s) received by York.

Approved By: Robert Q. Bradley **Date:** 09/02/2011

Robert Q. Bradley
Executive Vice President / Laboratory Director

YORK

Sample Information

Client Sample ID: S-5A **York Sample ID:** 11H0862-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
11H0862	Block 107 02, Lot 3	Soil	August 22, 2011 3:00 pm	08/24/2011

Chlordane, total

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
57-74-9	**Chlordane, total**	**8.90**		ug/kg dry	1.32	1.32	1	EPA SW 846-8081	08/30/2011 09:18	08/30/2011 15:30	JW

Polychlorinated Biphenyls (PCB)

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
12674-11-2	Aroclor 1016	ND		mg/kg dry	0.0105	0.0227	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 20:25	JW
11104-28-2	Aroclor 1221	ND		mg/kg dry	0.0105	0.0227	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 20:25	JW
11141-16-5	Aroclor 1232	ND		mg/kg dry	0.0105	0.0227	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 20:25	JW
53469-21-9	Aroclor 1242	ND		mg/kg dry	0.0105	0.0227	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 20:25	JW
12672-29-6	Aroclor 1248	ND		mg/kg dry	0.0105	0.0227	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 20:25	JW
11097-69-1	**Aroclor 1254**	**0.0296**		mg/kg dry	0.00908	0.0227	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 20:25	JW
11096-82-5	Aroclor 1260	ND		mg/kg dry	0.00908	0.0227	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 20:25	JW
37324-23-5	**Aroclor 1262**	**0.0710**		mg/kg dry	0.00908	0.0227	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 20:25	JW
11100-14-4	Aroclor 1268	ND		mg/kg dry	0.00908	0.0227	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 20:25	JW
1336-36-3	**Total PCBs**	**0.101**		mg/kg dry	0.00908	0.0227	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 20:25	JW

Total Solids

Log-in Notes:

Sample Notes:

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	**% Solids**	**74.9**		%	0.100	0.100	1	SM 2540G	08/30/2011 08:49	08/30/2011 08:49	AMC

Sample Information

Client Sample ID: S-5B **York Sample ID:** 11H0862-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
11H0862	Block 107 02, Lot 3	Soil	August 22, 2011 3:00 pm	08/24/2011

Chlordane, total

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
57-74-9	Chlordane, total	ND		ug/kg dry	1.32	1.32	1	EPA SW 846-8081	09/01/2011 10:39	09/01/2011 12:10	JW

Polychlorinated Biphenyls (PCB)

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
12674-11-2	Aroclor 1016	ND		mg/kg dry	0.0579	0.125	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 16:08	JW
11104-28-2	Aroclor 1221	ND		mg/kg dry	0.0579	0.125	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 16:08	JW
11141-16-5	Aroclor 1232	ND		mg/kg dry	0.0579	0.125	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 16:08	JW

Sample Information

Client Sample ID: S-5B

York Sample ID: 11H0862-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
11H0862	Block 107.02, Lot 3	Soil	August 22, 2011 3:00 pm	08/24/2011

Polychlorinated Biphenyls (PCB)

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
53469-21-9	Aroclor 1242	ND		mg/kg dry	0.0579	0.125	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 16:08	JW
12672-29-6	Aroclor 1248	ND		mg/kg dry	0.0579	0.125	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 16:08	JW
11097-69-1	Aroclor 1254	ND		mg/kg dry	0.0498	0.125	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 16:08	JW
11096-82-5	Aroclor 1260	ND		mg/kg dry	0.0498	0.125	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 16:08	JW
37324-23-5	Aroclor 1262	ND		mg/kg dry	0.0498	0.125	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 16:08	JW
11100-14-4	Aroclor 1268	ND		mg/kg dry	0.0498	0.125	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 16:08	JW
1336-36-3	Total PCBs	ND		mg/kg dry	0.0498	0.125	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 16:08	JW

Total Solids

Log-in Notes:

Sample Notes:

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	% Solids	13.6		%	0.100	0.100	1	SM 2540G	08/30/2011 08:49	08/30/2011 08:49	AMC

Sample Information

Client Sample ID: S-5C

York Sample ID: 11H0862-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
11H0862	Block 107.02, Lot 3	Soil	August 22, 2011 3:00 pm	08/24/2011

Chlordane, total

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
57-74-9	Chlordane, total	1040		ug/kg dry	1.32	1.32	1	EPA SW 846-8081	09/01/2011 10:39	09/01/2011 12:10	JW

Polychlorinated Biphenyls (PCB)

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
12674-11-2	Aroclor 1016	ND		mg/kg dry	0.0200	0.0430	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 16:40	JW
11104-28-2	Aroclor 1221	ND		mg/kg dry	0.0200	0.0430	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 16:40	JW
11141-16-5	Aroclor 1232	ND		mg/kg dry	0.0200	0.0430	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 16:40	JW
53469-21-9	Aroclor 1242	ND		mg/kg dry	0.0200	0.0430	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 16:40	JW
12672-29-6	Aroclor 1248	ND		mg/kg dry	0.0200	0.0430	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 16:40	JW
11097-69-1	Aroclor 1254	2.16		mg/kg dry	0.0172	0.0430	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 16:40	JW
11096-82-5	Aroclor 1260	0.965		mg/kg dry	0.0172	0.0430	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 16:40	JW
37324-23-5	Aroclor 1262	ND		mg/kg dry	0.0172	0.0430	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 16:40	JW
11100-14-4	Aroclor 1268	ND		mg/kg dry	0.0172	0.0430	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 16:40	JW
1336-36-3	Total PCBs	3.12		mg/kg dry	0.0172	0.0430	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 16:40	JW

Sample Information

Client Sample ID: S-5C **York Sample ID:** 11H0862-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
11H0862	Block 107.02, Lot 3	Soil	August 22, 2011 3:00 pm	08/24/2011

Total Solids **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	% Solids	39.6		%	0.100	0.100	1	SM 2540G	08/30/2011 08:49	08/30/2011 08:49	AMC

Sample Information

Client Sample ID: S-5D **York Sample ID:** 11H0862-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
11H0862	Block 107.02, Lot 3	Soil	August 22, 2011 3:00 pm	08/24/2011

Chlordane, total **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
57-74-9	Chlordane, total	ND		ug/kg dry	1.32	1.32	1	EPA SW 846-8081	09/01/2011 10:39	09/01/2011 12:10	JW

Polychlorinated Biphenyls (PCB) **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
12674-11-2	Aroclor 1016	ND		mg/kg dry	0.0203	0.0438	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 17:12	JW
11104-28-2	Aroclor 1221	ND		mg/kg dry	0.0203	0.0438	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 17:12	JW
11141-16-5	Aroclor 1232	ND		mg/kg dry	0.0203	0.0438	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 17:12	JW
53469-21-9	Aroclor 1242	ND		mg/kg dry	0.0203	0.0438	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 17:12	JW
12672-29-6	Aroclor 1248	ND		mg/kg dry	0.0203	0.0438	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 17:12	JW
11097-69-1	Aroclor 1254	2.19		mg/kg dry	0.0175	0.0438	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 17:12	JW
11096-82-5	Aroclor 1260	0.709		mg/kg dry	0.0175	0.0438	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 17:12	JW
37324-23-5	Aroclor 1262	ND		mg/kg dry	0.0175	0.0438	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 17:12	JW
11100-14-4	Aroclor 1268	ND		mg/kg dry	0.0175	0.0438	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 17:12	JW
1336-36-3	Total PCBs	2.90		mg/kg dry	0.0175	0.0438	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 17:12	JW

Total Solids **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	% Solids	38.8		%	0.100	0.100	1	SM 2540G	08/30/2011 08:49	08/30/2011 08:49	AMC

Sample Information

Client Sample ID: S-4A **York Sample ID:** 11H0862-05

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
11H0862	Block 107.02, Lot 3	Soil	August 22, 2011 3:00 pm	08/24/2011

Sample Information

Client Sample ID: S-4A | **York Sample ID:** 11H0862-05

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
11H0862	Block 107.02, Lot 3	Soil	August 22, 2011 3:00 pm	08/24/2011

Polychlorinated Biphenyls (PCB) — Log-in Notes: — Sample Notes:

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
12674-11-2	Aroclor 1016	ND		mg/kg dry	0.0138	0.0296	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 17:44	JW
11104-28-2	Aroclor 1221	ND		mg/kg dry	0.0138	0.0296	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 17:44	JW
11141-16-5	Aroclor 1232	ND		mg/kg dry	0.0138	0.0296	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 17:44	JW
53469-21-9	Aroclor 1242	ND		mg/kg dry	0.0138	0.0296	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 17:44	JW
12672-29-6	**Aroclor 1248**	**0.199**		mg/kg dry	0.0138	0.0296	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 17:44	JW
11097-69-1	**Aroclor 1254**	**0.232**		mg/kg dry	0.0119	0.0296	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 17:44	JW
11096-82-5	Aroclor 1260	ND		mg/kg dry	0.0119	0.0296	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 17:44	JW
37324-23-5	**Aroclor 1262**	**0.345**		mg/kg dry	0.0119	0.0296	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 17:44	JW
11100-14-4	Aroclor 1268	ND		mg/kg dry	0.0119	0.0296	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 17:44	JW
1336-36-3	**Total PCBs**	**0.776**		mg/kg dry	0.0119	0.0296	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 17:44	JW

Total Solids — Log-in Notes: — Sample Notes:

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	**% Solids**	**57.4**		%	0.100	0.100	1	SM 2540G	08/30/2011 08:49	08/30/2011 08:49	AMC

Sample Information

Client Sample ID: S-4B | **York Sample ID:** 11H0862-06

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
11H0862	Block 107.02, Lot 3	Soil	August 22, 2011 3:00 pm	08/24/2011

Polychlorinated Biphenyls (PCB) — Log-in Notes: — Sample Notes:

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
12674-11-2	Aroclor 1016	ND		mg/kg dry	0.0109	0.0234	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 18:16	JW
11104-28-2	Aroclor 1221	ND		mg/kg dry	0.0109	0.0234	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 18:16	JW
11141-16-5	Aroclor 1232	ND		mg/kg dry	0.0109	0.0234	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 18:16	JW
53469-21-9	Aroclor 1242	ND		mg/kg dry	0.0109	0.0234	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 18:16	JW
12672-29-6	**Aroclor 1248**	**0.0683**		mg/kg dry	0.0109	0.0234	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 18:16	JW
11097-69-1	**Aroclor 1254**	**0.0975**		mg/kg dry	0.00935	0.0234	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 18:16	JW
11096-82-5	Aroclor 1260	ND		mg/kg dry	0.00935	0.0234	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 18:16	JW
37324-23-5	**Aroclor 1262**	**0.0870**		mg/kg dry	0.00935	0.0234	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 18:16	JW
11100-14-4	Aroclor 1268	ND		mg/kg dry	0.00935	0.0234	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 18:16	JW
1336-36-3	**Total PCBs**	**0.253**		mg/kg dry	0.00935	0.0234	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 18:16	JW

Sample Information

Client Sample ID: S-4B **York Sample ID:** 11H0862-06

York Project (SDG) No	Client Project ID	Matrix	Collection Date/Time	Date Received
11H0862	Block 107.02, Lot 3	Soil	August 22, 2011 3:00 pm	08/24/2011

Total Solids **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	% Solids	72.7		%	0.100	0.100	1	SM 2540G	08/30/2011 08:49	08/30/2011 08:49	AMC

Sample Information

Client Sample ID: S-4C **York Sample ID:** 11H0862-07

York Project (SDG) No	Client Project ID	Matrix	Collection Date/Time	Date Received
11H0862	Block 107.02, Lot 3	Soil	August 22, 2011 3:00 pm	08/24/2011

Polychlorinated Biphenyls (PCB) **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
12674-11-2	Aroclor 1016	ND		mg/kg dry	0.0139	0.0300	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 18:48	JW
11104-28-2	Aroclor 1221	ND		mg/kg dry	0.0139	0.0300	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 18:48	JW
11141-16-5	Aroclor 1232	ND		mg/kg dry	0.0139	0.0300	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 18:48	JW
53469-21-9	Aroclor 1242	ND		mg/kg dry	0.0139	0.0300	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 18:48	JW
12672-29-6	**Aroclor 1248**	**0.190**		mg/kg dry	0.0139	0.0300	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 18:48	JW
11097-69-1	**Aroclor 1254**	**0.410**		mg/kg dry	0.0120	0.0300	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 18:48	JW
11096-82-5	Aroclor 1260	ND		mg/kg dry	0.0120	0.0300	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 18:48	JW
37324-23-5	**Aroclor 1262**	**0.493**		mg/kg dry	0.0120	0.0300	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 18:48	JW
11100-14-4	Aroclor 1268	ND		mg/kg dry	0.0120	0.0300	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 18:48	JW
1336-36-3	**Total PCBs**	**1.09**		mg/kg dry	0.0120	0.0300	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 18:48	JW

Total Solids **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	% Solids	56.7		%	0.100	0.100	1	SM 2540G	08/30/2011 08:49	08/30/2011 08:49	AMC

Sample Information

Client Sample ID: S-4D **York Sample ID:** 11H0862-08

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
11H0862	Block 107.02, Lot 3	Soil	August 22, 2011 3:00 pm	08/24/2011

Polychlorinated Biphenyls (PCB) **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
12674-11-2	Aroclor 1016	ND		mg/kg dry	0.0140	0.0301	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 19:20	JW
11104-28-2	Aroclor 1221	ND		mg/kg dry	0.0140	0.0301	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 19:20	JW
11141-16-5	Aroclor 1232	ND		mg/kg dry	0.0140	0.0301	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 19:20	JW

Sample Information

Client Sample ID: S-4D **York Sample ID:** 11H0862-08

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
11H0862	Block 107.02, Lot 3	Soil	August 22, 2011 3:00 pm	08/24/2011

Polychlorinated Biphenyls (PCB) **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
53469-21-9	Aroclor 1242	ND		mg/kg dry	0.0140	0.0301	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 19:20	JW
12672-29-6	Aroclor 1248	ND		mg/kg dry	0.0140	0.0301	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 19:20	JW
11097-69-1	Aroclor 1254	ND		mg/kg dry	0.0121	0.0301	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 19:20	JW
11096-82-5	Aroclor 1260	ND		mg/kg dry	0.0121	0.0301	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 19:20	JW
37324-23-5	Aroclor 1262	ND		mg/kg dry	0.0121	0.0301	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 19:20	JW
11100-14-4	Aroclor 1268	ND		mg/kg dry	0.0121	0.0301	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 19:20	JW
1336-36-3	Total PCBs	ND		mg/kg dry	0.0121	0.0301	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 19:20	JW

Total Solids **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	% Solids	56.4		%	0.100	0.100	1	SM 2540G	08/30/2011 14:40	08/30/2011 14:40	AMC

Sample Information

Client Sample ID: S-4E **York Sample ID:** 11H0862-09

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
11H0862	Block 107.02, Lot 3	Soil	August 22, 2011 3:00 pm	08/24/2011

Polychlorinated Biphenyls (PCB) **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
12674-11-2	Aroclor 1016	ND		mg/kg dry	0.147	0.317	10	EPA SW 846-8082	08/30/2011 09:18	08/31/2011 10:49	JW
11104-28-2	Aroclor 1221	ND		mg/kg dry	0.147	0.317	10	EPA SW 846-8082	08/30/2011 09:18	08/31/2011 10:49	JW
11141-16-5	Aroclor 1232	ND		mg/kg dry	0.147	0.317	10	EPA SW 846-8082	08/30/2011 09:18	08/31/2011 10:49	JW
53469-21-9	Aroclor 1242	ND		mg/kg dry	0.147	0.317	10	EPA SW 846-8082	08/30/2011 09:18	08/31/2011 10:49	JW
12672-29-6	**Aroclor 1248**	**4.71**		mg/kg dry	0.147	0.317	10	EPA SW 846-8082	08/30/2011 09:18	08/31/2011 10:49	JW
11097-69-1	**Aroclor 1254**	**2.36**		mg/kg dry	0.127	0.317	10	EPA SW 846-8082	08/30/2011 09:18	08/31/2011 10:49	JW
11096-82-5	Aroclor 1260	ND		mg/kg dry	0.127	0.317	10	EPA SW 846-8082	08/30/2011 09:18	08/31/2011 10:49	JW
37324-23-5	**Aroclor 1262**	**5.65**		mg/kg dry	0.127	0.317	10	EPA SW 846-8082	08/30/2011 09:18	08/31/2011 10:49	JW
11100-14-4	Aroclor 1268	ND		mg/kg dry	0.127	0.317	10	EPA SW 846-8082	08/30/2011 09:18	08/31/2011 10:49	JW
1336-36-3	**Total PCBs**	**12.7**		mg/kg dry	0.127	0.317	10	EPA SW 846-8082	08/30/2011 09:18	08/31/2011 10:49	JW

Total Solids **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	% Solids	53.7		%	0.100	0.100	1	SM 2540G	08/30/2011 14:40	08/30/2011 14:40	AMC

YORK

ANALYTICAL LABORATORIES, INC.

Sample Information

Client Sample ID: C-1 | York Sample ID: 11H0862-10

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
11H0862	Block 107.02, Lot 3	Solid	August 23, 2011 3:00 pm	08/24/2011

Semi-Volatiles, PAH Target List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
83-32-9	Acenaphthene	ND		ug/kg wet	290	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 02:14	TD
208-96-8	Acenaphthylene	ND		ug/kg wet	140	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 02:14	TD
120-12-7	Anthracene	ND		ug/kg wet	124	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 02:14	TD
56-55-3	Benzo(a)anthracene	ND		ug/kg wet	193	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 02:14	TD
50-32-8	Benzo(a)pyrene	ND		ug/kg wet	130	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 02:14	TD
205-99-2	Benzo(b)fluoranthene	ND		ug/kg wet	190	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 02:14	TD
191-24-2	Benzo(g,h,i)perylene	ND		ug/kg wet	150	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 02:14	TD
207-08-9	Benzo(k)fluoranthene	ND		ug/kg wet	194	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 02:14	TD
218-01-9	Chrysene	ND		ug/kg wet	202	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 02:14	TD
53-70-3	Dibenzo(a,h)anthracene	ND		ug/kg wet	126	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 02:14	TD
206-44-0	Fluoranthene	ND		ug/kg wet	290	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 02:14	TD
86-73-7	Fluorene	ND		ug/kg wet	140	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 02:14	TD
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ug/kg wet	184	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 02:14	TD
91-20-3	Naphthalene	ND		ug/kg wet	149	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 02:14	TD
85-01-8	Phenanthrene	ND		ug/kg wet	184	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 02:14	TD
129-00-0	Pyrene	ND		ug/kg wet	179	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 02:14	TD

Polychlorinated Biphenyls (PCB)

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
12674-11-2	Aroclor 1016	ND		mg/kg wet	0.0237	0.0510	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 19:58	JW
[illegible]	Aroclor 1221	ND		mg/kg wet	0.0237	0.0510	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 19:58	JW
11141-16-5	Aroclor 1232	ND		mg/kg wet	0.0237	0.0510	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 19:58	JW
53469-21-9	Aroclor 1242	ND		mg/kg wet	0.0237	0.0510	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 19:58	JW
12672-29-6	Aroclor 1248	ND		mg/kg wet	0.0237	0.0510	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 19:58	JW
11097-69-1	Aroclor 1254	ND		mg/kg wet	0.0204	0.0510	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 19:58	JW
11096-82-5	Aroclor 1260	ND		mg/kg wet	0.0204	0.0510	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 19:58	JW
37324-23-5	Aroclor 1262	ND		mg/kg wet	0.0204	0.0510	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 19:58	JW
11100-14-4	Aroclor 1268	ND		mg/kg wet	0.0204	0.0510	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 19:58	JW
1336-36-3	Total PCBs	ND		mg/kg wet	0.0204	0.0510	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 19:58	JW

York Sample ID:

Matrix	Collection Date/Time
Solid	August 23, 2011 3:00 pm

Sample Information

Client Sample ID: B-1 **York Sample ID:** 11H0862-11

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
11H0862	Block 107.02, Lot 3	Solid	August 23, 2011 3:00 pm	08/24/2011

Semi-Volatiles, PAH Target List **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
83-32-9	Acenaphthene	ND		ug/kg wet	290	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 02:46	TD
208-96-8	Acenaphthylene	ND		ug/kg wet	140	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 02:46	TD
120-12-7	Anthracene	ND		ug/kg wet	124	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 02:46	TD
56-55-3	Benzo(a)anthracene	ND		ug/kg wet	193	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 02:46	TD
50-32-8	Benzo(a)pyrene	ND		ug/kg wet	130	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 02:46	TD
205-99-2	Benzo(b)fluoranthene	ND		ug/kg wet	190	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 02:46	TD
191-24-2	Benzo(g,h,i)perylene	ND		ug/kg wet	150	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 02:46	TD
207-08-9	Benzo(k)fluoranthene	ND		ug/kg wet	194	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 02:46	TD
218-01-9	Chrysene	ND		ug/kg wet	202	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 02:46	TD
53-70-3	Dibenzo(a,h)anthracene	ND		ug/kg wet	126	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 02:46	TD
206-44-0	Fluoranthene	ND		ug/kg wet	290	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 02:46	TD
86-73-7	Fluorene	ND		ug/kg wet	140	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 02:46	TD
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ug/kg wet	184	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 02:46	TD
91-20-3	Naphthalene	ND		ug/kg wet	149	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 02:46	TD
85-01-8	Phenanthrene	ND		ug/kg wet	184	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 02:46	TD
129-00-0	Pyrene	ND		ug/kg wet	179	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 02:46	TD

Polychlorinated Biphenyls (PCB) **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
12674-11-2	Aroclor 1016	ND		mg/kg wet	0.0237	0.0510	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 20:36	JW
11104-28-2	Aroclor 1221	ND		mg/kg wet	0.0237	0.0510	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 20:36	JW
11141-16-5	Aroclor 1232	ND		mg/kg wet	0.0237	0.0510	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 20:36	JW
53469-21-9	Aroclor 1242	ND		mg/kg wet	0.0237	0.0510	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 20:36	JW
12672-29-6	Aroclor 1248	ND		mg/kg wet	0.0237	0.0510	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 20:36	JW
11097-69-1	Aroclor 1254	ND		mg/kg wet	0.0204	0.0510	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 20:36	JW
11096-82-5	Aroclor 1260	ND		mg/kg wet	0.0204	0.0510	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 20:36	JW
37324-23-5	Aroclor 1262	ND		mg/kg wet	0.0204	0.0510	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 20:36	JW
11100-14-4	Aroclor 1268	ND		mg/kg wet	0.0204	0.0510	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 20:36	JW
1336-36-3	Total PCBs	ND		mg/kg wet	0.0204	0.0510	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 20:36	JW

Sample Information

Client Sample ID: C-2 **York Sample ID:** 11H0862-12

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
11H0862	Block 107.02, Lot 3	Solid	August 23, 2011 3:00 pm	08/24/2011

Sample Information

Client Sample ID:	C-2			York Sample ID:	11H0862-12
York Project (SDG) No.	Client Project ID		Matrix	Collection Date/Time	Date Received
11H0862	Block 107 02, Lot 3		Solid	August 23, 2011 3:00 pm	08/24/2011

Semi-Volatiles, PAH Target List — **Log-in Notes:** — **Sample Notes:**

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
83-32-9	Acenaphthene	ND		ug/kg dry	290	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 03:17	TD
208-96-8	Acenaphthylene	ND		ug/kg dry	140	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 03:17	TD
120-12-7	Anthracene	ND		ug/kg dry	124	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 03:17	TD
56-55-3	Benzo(a)anthracene	ND		ug/kg dry	193	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 03:17	TD
50-32-8	Benzo(a)pyrene	ND		ug/kg dry	130	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 03:17	TD
205-99-2	Benzo(b)fluoranthene	ND		ug/kg dry	190	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 03:17	TD
191-24-2	Benzo(g,h,i)perylene	ND		ug/kg dry	150	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 03:17	TD
207-08-9	Benzo(k)fluoranthene	ND		ug/kg dry	194	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 03:17	TD
218-01-9	Chrysene	ND		ug/kg dry	202	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 03:17	TD
53-70-3	Dibenzo(a,h)anthracene	ND		ug/kg dry	126	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 03:17	TD
206-44-0	Fluoranthene	ND		ug/kg dry	290	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 03:17	TD
86-73-7	Fluorene	ND		ug/kg dry	140	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 03:17	TD
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ug/kg dry	184	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 03:17	TD
91-20-3	Naphthalene	ND		ug/kg dry	149	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 03:17	TD
85-01-8	Phenanthrene	ND		ug/kg dry	184	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 03:17	TD
129-00-0	Pyrene	ND		ug/kg dry	179	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 03:17	TD

Total Solids — **Log-in Notes:** — **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	% Solids	100		%	0.100	0.100	1	SM 2540G	08/30/2011 14:40	08/30/2011 14:40	AMC

Sample Information

Client Sample ID:	C-3			York Sample ID:	11H0862-13
York Project (SDG) No.	Client Project ID		Matrix	Collection Date/Time	Date Received
11H0862	Block 107 02, Lot 3		Solid	August 23, 2011 3:00 pm	08/24/2011

Semi-Volatiles, PAH Target List — **Log-in Notes:** — **Sample Notes:**

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
83-32-9	Acenaphthene	ND		ug/kg dry	290	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 03:48	TD
208-96-8	Acenaphthylene	ND		ug/kg dry	140	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 03:48	TD
120-12-7	Anthracene	ND		ug/kg dry	124	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 03:48	TD
56-55-3	Benzo(a)anthracene	ND		ug/kg dry	193	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 03:48	TD
50-32-8	Benzo(a)pyrene	ND		ug/kg dry	130	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 03:48	TD
205-99-2	Benzo(b)fluoranthene	ND		ug/kg dry	190	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 03:48	TD

Sample Information

Client Sample ID: C-3 **York Sample ID:** 11H0862-13

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
11H0862	Block 107.02, Lot 3	Solid	August 23, 2011 3:00 pm	08/24/2011

Semi-Volatiles, PAH Target List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
191-24-2	Benzo(g,h,i)perylene	ND		ug/kg dry	150	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 03:48	TD
207-08-9	Benzo(k)fluoranthene	ND		ug/kg dry	194	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 03:48	TD
218-01-9	Chrysene	ND		ug/kg dry	202	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 03:48	TD
53-70-3	Dibenzo(a,h)anthracene	ND		ug/kg dry	126	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 03:48	TD
206-44-0	Fluoranthene	ND		ug/kg dry	290	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 03:48	TD
86-73-7	Fluorene	ND		ug/kg dry	140	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 03:48	TD
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ug/kg dry	184	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 03:48	TD
91-20-3	Naphthalene	ND		ug/kg dry	149	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 03:48	TD
85-01-8	Phenanthrene	ND		ug/kg dry	184	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 03:48	TD
129-00-0	Pyrene	ND		ug/kg dry	179	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 03:48	TD

Polychlorinated Biphenyls (PCB)

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
12674-11-2	Aroclor 1016	ND		mg/kg dry	0.0237	0.0510	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 21:15	JW
11104-28-2	Aroclor 1221	ND		mg/kg dry	0.0237	0.0510	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 21:15	JW
11141-16-5	Aroclor 1232	ND		mg/kg dry	0.0237	0.0510	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 21:15	JW
53469-21-9	Aroclor 1242	ND		mg/kg dry	0.0237	0.0510	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 21:15	JW
12672-29-6	Aroclor 1248	ND		mg/kg dry	0.0237	0.0510	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 21:15	JW
11097-69-1	Aroclor 1254	ND		mg/kg dry	0.0204	0.0510	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 21:15	JW
11096-82-5	Aroclor 1260	ND		mg/kg dry	0.0204	0.0510	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 21:15	JW
37324-23-5	Aroclor 1262	ND		mg/kg dry	0.0204	0.0510	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 21:15	JW
11100-14-4	Aroclor 1268	ND		mg/kg dry	0.0204	0.0510	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 21:15	JW
1336-36-3	Total PCBs	ND		mg/kg dry	0.0204	0.0510	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 21:15	JW

Sample Information

Client Sample ID: C-3 **York Sample ID:** 11H0862-13

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
11H0862	Block 107 02, Lot 3	Solid	August 23, 2011 3:00 pm	08/24/2011

Total Solids

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	% Solids	100		%	0.100	0.100	1	SM 2540G	08/31/2011 13:09	08/31/2011 13:09	SC

EPH NJ CC

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: SW846 3545A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
AROH(10-12)	C10-C12 Aromatic Hydrocarbons	BRL		mg/kg	0.252	15.3	1	EPH NJ CC	09/01/2011 09:03	09/02/2011 03:38	MM
ALIH(12-16)	C12-C16 Aliphatic Hydrocarbons	BRL		mg/kg	0.321	15.3	1	EPH NJ CC	09/01/2011 09:03	09/02/2011 03:38	MM
AROH(12-16)	C12-C16 Aromatic Hydrocarbons	BRL		mg/kg	0.878	15.3	1	EPH NJ CC	09/01/2011 09:03	09/02/2011 03:38	MM
ALIH(16-21)	C16-C21 Aliphatic Hydrocarbons	BRL		mg/kg	0.307	15.3	1	EPH NJ CC	09/01/2011 09:03	09/02/2011 03:38	MM
AROH(16-21)	C16-C21 Aromatic Hydrocarbons	BRL		mg/kg	0.460	15.3	1	EPH NJ CC	09/01/2011 09:03	09/02/2011 03:38	MM
AROH(21-36)	**C21-C36 Aromatic Hydrocarbons**	**18.4**		mg/kg	6.90	15.3	1	EPH NJ CC	09/01/2011 09:03	09/02/2011 03:38	MM
ALIH(21-40)	**C21-C40 Aliphatic Hydrocarbons**	**104**		mg/kg	2.11	15.3	1	EPH NJ CC	09/01/2011 09:03	09/02/2011 03:38	MM
ALIH(9-12)	C9-C12 Aliphatic Hydrocarbons	BRL		mg/kg	1.46	15.3	1	EPH NJ CC	09/01/2011 09:03	09/02/2011 03:38	MM
	Total Aliphatics	**119**		mg/kg	2.11	15.3	1	EPH NJ CC	09/01/2011 09:03	09/02/2011 03:38	MM
	Total Aromatics	**18.4**		mg/kg	6.90	15.3	1	EPH NJ CC	09/01/2011 09:03	09/02/2011 03:38	MM
	Total EPH Hydrocarbons	**137**		mg/kg	12.7	123	1	EPH NJ CC	09/01/2011 09:03	09/02/2011 03:38	MM

EPH NJ Targets

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: SW846 3545A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
526-73-8	1,2,3-Trimethylbenzene	BRL		mg/kg	0.216	0.614	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 03:38	MM
91-57-6	2-Methylnaphthalene	BRL		mg/kg	0.155	0.614	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 03:38	MM
83-32-9	Acenaphthene	BRL		mg/kg	0.606	0.614	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 03:38	MM
208-96-8	Acenaphthylene	BRL		mg/kg	0.536	0.614	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 03:38	MM
120-12-7	Anthracene	BRL		mg/kg	0.158	0.614	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 03:38	MM
56-55-3	Benzo (a) anthracene	BRL		mg/kg	0.198	0.614	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 03:38	MM
50-32-8	Benzo (a) pyrene	BRL		mg/kg	0.257	0.614	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 03:38	MM
205-99-2	Benzo (b) fluoranthene	BRL		mg/kg	0.224	0.614	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 03:38	MM
191-24-2	Benzo (g,h,i) perylene	BRL		mg/kg	0.269	0.614	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 03:38	MM
207-08-9	Benzo (k) fluoranthene	BRL		mg/kg	0.221	0.614	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 03:38	MM
218-01-9	Chrysene	BRL		mg/kg	0.225	0.614	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 03:38	MM
53-70-3	Dibenzo (a,h) anthracene	BRL		mg/kg	0.155	0.614	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 03:38	MM
206-44-0	Fluoranthene	BRL		mg/kg	0.170	0.614	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 03:38	MM
86-73-7	Fluorene	BRL		mg/kg	0.602	0.614	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 03:38	MM
193-39-5	Indeno (1,2,3-cd) pyrene	BRL		mg/kg	0.219	0.614	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 03:38	MM
91-20-3	Naphthalene	BRL		mg/kg	0.144	0.614	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 03:38	MM

Sample Information

Client Sample ID: C-3 **York Sample ID:** 11H0862-13

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
11H0862	Block 107.02, Lot 3	Solid	August 23, 2011 3:00 pm	08/24/2011

EPH NJ Targets **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: SW846 3515A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
85-01-8	Phenanthrene	BRL		mg/kg	0.139	0.614	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 03:38	MM
129-00-0	Pyrene	BRL		mg/kg	0.155	0.614	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 03:38	MM

Solid, Dry Weight **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: General Preparation

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	% Solids	97.7		%			1	Solid, Dry Weight	08/29/2011 15:32	08/29/2011 15:48	JLH

Sample Information

Client Sample ID: C-4 **York Sample ID:** 11H0862-14

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
11H0862	Block 107.02, Lot 3	Solid	August 23, 2011 3:00 pm	08/24/2011

Semi-Volatiles, PAH Target List **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
83-32-9	Acenaphthene	ND		ug/kg dry	290	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 04:20	TD
208-96-8	Acenaphthylene	ND		ug/kg dry	140	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 04:20	TD
120-12-7	Anthracene	ND		ug/kg dry	124	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 04:20	TD
56-55-3	Benzo(a)anthracene	ND		ug/kg dry	193	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 04:20	TD
50-32-8	Benzo(a)pyrene	ND		ug/kg dry	130	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 04:20	TD
205-99-2	Benzo(b)fluoranthene	ND		ug/kg dry	190	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 04:20	TD
191-24-2	Benzo(g,h,i)perylene	ND		ug/kg dry	150	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 04:20	TD
207-08-9	Benzo(k)fluoranthene	ND		ug/kg dry	194	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 04:20	TD
218-01-9	Chrysene	ND		ug/kg dry	202	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 04:20	TD
53-70-3	Dibenzo(a,h)anthracene	ND		ug/kg dry	126	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 04:20	TD
206-44-0	Fluoranthene	ND		ug/kg dry	290	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 04:20	TD
86-73-7	Fluorene	ND		ug/kg dry	140	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 04:20	TD
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ug/kg dry	184	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 04:20	TD
91-20-3	Naphthalene	ND		ug/kg dry	149	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 04:20	TD
85-01-8	Phenanthrene	623		ug/kg dry	184	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 04:20	TD
129-00-0	Pyrene	ND		ug/kg dry	179	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 04:20	TD

Polychlorinated Biphenyls (PCB) **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst

Sample Information

Client Sample ID: C-4 **York Sample ID:** 11H0862-14

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
11H0862	Block 107.02, Lot 3	Solid	August 23, 2011 3:00 pm	08/24/2011

Polychlorinated Biphenyls (PCB)

Log-in Notes: Sample Notes:

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
12674-11-2	Aroclor 1016	ND		mg/kg dry	0.0237	0.0510	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 21:54	JW
11104-28-2	Aroclor 1221	ND		mg/kg dry	0.0237	0.0510	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 21:54	JW
11141-16-5	Aroclor 1232	ND		mg/kg dry	0.0237	0.0510	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 21:54	JW
53469-21-9	Aroclor 1242	ND		mg/kg dry	0.0237	0.0510	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 21:54	JW
12672-29-6	Aroclor 1248	ND		mg/kg dry	0.0237	0.0510	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 21:54	JW
11097-69-1	**Aroclor 1254**	**0.128**		mg/kg dry	0.0204	0.0510	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 21:54	JW
11096-82-5	**Aroclor 1260**	**0.112**		mg/kg dry	0.0204	0.0510	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 21:54	JW
37324-23-5	Aroclor 1262	ND		mg/kg dry	0.0204	0.0510	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 21:54	JW
11100-14-4	Aroclor 1268	ND		mg/kg dry	0.0204	0.0510	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 21:54	JW
1336-36-3	**Total PCBs**	**0.240**		mg/kg dry	0.0204	0.0510	1	EPA SW 846-8082	08/30/2011 09:18	08/30/2011 21:54	JW

Total Solids

Log-in Notes: Sample Notes:

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	**% Solids**	**100**		%	0.100	0.100	1	SM 2540G	08/31/2011 13:09	08/31/2011 13:09	SC

EPH NJ CC

Log-in Notes: Sample Notes:

Sample Prepared by Method: SW846 3545A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
AROH(10-12)	C10-C12 Aromatic Hydrocarbons	BRL		mg/kg	0.242	14.7	1	EPH NJ CC	09/01/2011 09:03	09/02/2011 04:10	MM
ALIH(12-16)	**C12-C16 Aliphatic Hydrocarbons**	**37.3**		mg/kg	0.308	14.7	1	EPH NJ CC	09/01/2011 09:03	09/02/2011 04:10	MM
AROH(12-16)	C12-C16 Aromatic Hydrocarbons	BRL		mg/kg	0.843	14.7	1	EPH NJ CC	09/01/2011 09:03	09/02/2011 04:10	MM
ALIH(16-21)	**C16-C21 Aliphatic Hydrocarbons**	**55.2**		mg/kg	0.295	14.7	1	EPH NJ CC	09/01/2011 09:03	09/02/2011 04:10	MM
AROH(16-21)	**C16-C21 Aromatic Hydrocarbons**	**45.2**		mg/kg	0.442	14.7	1	EPH NJ CC	09/01/2011 09:03	09/02/2011 04:10	MM
AROH(21-36)	C21-C36 Aromatic Hydrocarbons	BRL		mg/kg	6.63	14.7	1	EPH NJ CC	09/01/2011 09:03	09/02/2011 04:10	MM
ALIH(21-40)	**C21-C40 Aliphatic Hydrocarbons**	**21.2**		mg/kg	2.02	14.7	1	EPH NJ CC	09/01/2011 09:03	09/02/2011 04:10	MM
ALIH(9-12)	C9-C12 Aliphatic Hydrocarbons	BRL		mg/kg	1.40	14.7	1	EPH NJ CC	09/01/2011 09:03	09/02/2011 04:10	MM
	Total Aliphatics	**114**		mg/kg	2.02	14.7	1	EPH NJ CC	09/01/2011 09:03	09/02/2011 04:10	MM
	Total Aromatics	**62.9**		mg/kg	6.63	14.7	1	EPH NJ CC	09/01/2011 09:03	09/02/2011 04:10	MM
	Total EPH Hydrocarbons	**177**		mg/kg	12.2	118	1	EPH NJ CC	09/01/2011 09:03	09/02/2011 04:10	MM

EPH NJ Targets

Log-in Notes: Sample Notes:

Sample Prepared by Method: SW846 3545A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
526-73-8	1,2,3-Trimethylbenzene	BRL		mg/kg	0.208	0.590	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 04:10	MM
91-57-6	2-Methylnaphthalene	BRL		mg/kg	0.149	0.590	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 04:10	MM
83-32-9	Acenaphthene	BRL		mg/kg	0.582	0.590	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 04:10	MM

Sample Information

Client Sample ID: C-4 **York Sample ID:** 11H0862-14

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
11H0862	Block 107.02, Lot 3	Solid	August 23, 2011 3:00 pm	08/24/2011

EPH NJ Targets **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: SW846 3545A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
208-96-8	Acenaphthylene	BRL		mg/kg	0.514	0.590	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 04:10	MM
120-12-7	Anthracene	BRL		mg/kg	0.152	0.590	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 04:10	MM
56-55-3	Benzo (a) anthracene	BRL		mg/kg	0.190	0.590	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 04:10	MM
50-32-8	Benzo (a) pyrene	BRL		mg/kg	0.247	0.590	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 04:10	MM
205-99-2	Benzo (b) fluoranthene	BRL		mg/kg	0.215	0.590	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 04:10	MM
191-24-2	Benzo (g,h,i) perylene	BRL		mg/kg	0.258	0.590	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 04:10	MM
207-08-9	Benzo (k) fluoranthene	BRL		mg/kg	0.212	0.590	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 04:10	MM
218-01-9	Chrysene	BRL		mg/kg	0.216	0.590	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 04:10	MM
53-70-3	Dibenzo (a,h) anthracene	BRL		mg/kg	0.148	0.590	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 04:10	MM
206-44-0	Fluoranthene	BRL		mg/kg	0.163	0.590	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 04:10	MM
86-73-7	Fluorene	BRL		mg/kg	0.578	0.590	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 04:10	MM
193-39-5	Indeno (1,2,3-cd) pyrene	BRL		mg/kg	0.210	0.590	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 04:10	MM
91-20-3	Naphthalene	BRL		mg/kg	0.138	0.590	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 04:10	MM
85-01-8	Phenanthrene	BRL		mg/kg	0.133	0.590	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 04:10	MM
129-00-0	Pyrene	BRL		mg/kg	0.149	0.590	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 04:10	MM

Solid, Dry Weight **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: General Preparation

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	% Solids	97.1		%			1	Solid, Dry Weight	08/29/2011 15:32	08/29/2011 15:48	JLH

Sample Information

Client Sample ID: C-5 **York Sample ID:** 11H0862-15

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
11H0862	Block 107.02, Lot 3	Solid	August 23, 2011 3:00 pm	08/24/2011

Volatile Organics, TCL (Target Compound List) **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5035B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
71-55-6	1,1,1-Trichloroethane	ND		ug/kg dry	2.1	10	2	EPA SW846-8260B	09/01/2011 14:45	09/01/2011 14:45	SS
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/kg dry	1.3	10	2	EPA SW846-8260B	09/01/2011 14:45	09/01/2011 14:45	SS
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		ug/kg dry	1.3	10	2	EPA SW846-8260B	09/01/2011 14:45	09/01/2011 14:45	SS
79-00-5	1,1,2-Trichloroethane	ND		ug/kg dry	1.3	10	2	EPA SW846-8260B	09/01/2011 14:45	09/01/2011 14:45	SS
75-34-3	1,1-Dichloroethane	ND		ug/kg dry	1.5	10	2	EPA SW846-8260B	09/01/2011 14:45	09/01/2011 14:45	SS
75-35-4	1,1-Dichloroethylene	ND		ug/kg dry	2.9	10	2	EPA SW846-8260B	09/01/2011 14:45	09/01/2011 14:45	SS

Sample Information

Client Sample ID: C-5 **York Sample ID:** 11H0862-15

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
11H0862	Block 107 02, Lot 3	Solid	August 23, 2011 3:00 pm	08/24/2011

Volatile Organics, TCL (Target Compound List) **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method EPA 5035B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
120-82-1	1,2,4-Trichlorobenzene	ND		ug/kg dry	1.1	20	2	EPA SW846-8260B	09/01/2011 14:45	09/01/2011 14:45	SS
96-12-8	1,2-Dibromo-3-chloropropane	ND		ug/kg dry	2.9	20	2	EPA SW846-8260B	09/01/2011 14:45	09/01/2011 14:45	SS
106-93-4	1,2-Dibromoethane	ND		ug/kg dry	1.5	10	2	EPA SW846-8260B	09/01/2011 14:45	09/01/2011 14:45	SS
107-06-2	1,2-Dichloroethane	ND		ug/kg dry	1.4	10	2	EPA SW846-8260B	09/01/2011 14:45	09/01/2011 14:45	SS
78-87-5	1,2-Dichloropropane	ND		ug/kg dry	0.48	10	2	EPA SW846-8260B	09/01/2011 14:45	09/01/2011 14:45	SS
78-93-3	2-Butanone	ND		ug/kg dry	5.7	20	2	EPA SW846-8260B	09/01/2011 14:45	09/01/2011 14:45	SS
591-78-6	2-Hexanone	ND		ug/kg dry	1.9	10	2	EPA SW846-8260B	09/01/2011 14:45	09/01/2011 14:45	SS
108-10-1	4-Methyl-2-pentanone	ND		ug/kg dry	5.8	10	2	EPA SW846-8260B	09/01/2011 14:45	09/01/2011 14:45	SS
67-64-1	Acetone	ND		ug/kg dry	6.8	20	2	EPA SW846-8260B	09/01/2011 14:45	09/01/2011 14:45	SS
71-43-2	Benzene	ND		ug/kg dry	1.1	10	2	EPA SW846-8260B	09/01/2011 14:45	09/01/2011 14:45	SS
75-27-4	Bromodichloromethane	ND		ug/kg dry	1.4	10	2	EPA SW846-8260B	09/01/2011 14:45	09/01/2011 14:45	SS
75-25-2	Bromoform	ND		ug/kg dry	1.3	10	2	EPA SW846-8260B	09/01/2011 14:45	09/01/2011 14:45	SS
74-83-9	Bromomethane	ND		ug/kg dry	2.7	10	2	EPA SW846-8260B	09/01/2011 14:45	09/01/2011 14:45	SS
75-15-0	Carbon disulfide	ND		ug/kg dry	1.4	10	2	EPA SW846-8260B	09/01/2011 14:45	09/01/2011 14:45	SS
56-23-5	Carbon tetrachloride	ND		ug/kg dry	2.3	10	2	EPA SW846-8260B	09/01/2011 14:45	09/01/2011 14:45	SS
108-90-7	Chlorobenzene	ND		ug/kg dry	0.77	10	2	EPA SW846-8260B	09/01/2011 14:45	09/01/2011 14:45	SS
75-00-3	Chloroethane	ND		ug/kg dry	1.7	10	2	EPA SW846-8260B	09/01/2011 14:45	09/01/2011 14:45	SS
67-66-3	Chloroform	ND		ug/kg dry	0.79	10	2	EPA SW846-8260B	09/01/2011 14:45	09/01/2011 14:45	SS
74-87-3	Chloromethane	ND		ug/kg dry	2.0	10	2	EPA SW846-8260B	09/01/2011 14:45	09/01/2011 14:45	SS
156-59-2	cis-1,2-Dichloroethylene	ND		ug/kg dry	2.1	10	2	EPA SW846-8260B	09/01/2011 14:45	09/01/2011 14:45	SS
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/kg dry	0.77	10	2	EPA SW846-8260B	09/01/2011 14:45	09/01/2011 14:45	SS
124-48-1	Dibromochloromethane	ND		ug/kg dry	1.5	10	2	EPA SW846-8260B	09/01/2011 14:45	09/01/2011 14:45	SS
75-71-8	Dichlorodifluoromethane	ND		ug/kg dry	1.8	10	2	EPA SW846-8260B	09/01/2011 14:45	09/01/2011 14:45	SS
100-41-4	Ethyl Benzene	ND		ug/kg dry	0.77	10	2	EPA SW846-8260B	09/01/2011 14:45	09/01/2011 14:45	SS
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	0.83	10	2	EPA SW846-8260B	09/01/2011 14:45	09/01/2011 14:45	SS
75-09-2	**Methylene chloride**	**23**	**B**	ug/kg dry	2.3	20	2	EPA SW846-8260B	09/01/2011 14:45	09/01/2011 14:45	SS
95-47-6	o-Xylene	ND		ug/kg dry	1.1	10	2	EPA SW846-8260B	09/01/2011 14:45	09/01/2011 14:45	SS
1330-20-7P/M	**p- & m- Xylenes**	**2.3**	**J**	ug/kg dry	1.2	20	2	EPA SW846-8260B	09/01/2011 14:45	09/01/2011 14:45	SS
100-42-5	Styrene	ND		ug/kg dry	0.94	10	2	EPA SW846-8260B	09/01/2011 14:45	09/01/2011 14:45	SS
127-18-4	Tetrachloroethylene	ND		ug/kg dry	1.1	10	2	EPA SW846-8260B	09/01/2011 14:45	09/01/2011 14:45	SS
108-88-3	Toluene	ND		ug/kg dry	0.51	10	2	EPA SW846-8260B	09/01/2011 14:45	09/01/2011 14:45	SS
156-60-5	trans-1,2-Dichloroethylene	ND		ug/kg dry	1.4	10	2	EPA SW846-8260B	09/01/2011 14:45	09/01/2011 14:45	SS
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/kg dry	1.5	10	2	EPA SW846-8260B	09/01/2011 14:45	09/01/2011 14:45	SS
79-01-6	Trichloroethylene	ND		ug/kg dry	1.3	10	2	EPA SW846-8260B	09/01/2011 14:45	09/01/2011 14:45	SS
75-69-4	Trichlorofluoromethane	ND		ug/kg dry	2.0	10	2	EPA SW846-8260B	09/01/2011 14:45	09/01/2011 14:45	SS

Sample Information

Client Sample ID: C-5 **York Sample ID:** 11H0862-15

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
11H0862	Block 107.02, Lot 3	Solid	August 23, 2011 3:00 pm	08/24/2011

Volatile Organics, TCL (Target Compound List)

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
75-01-4	Vinyl Chloride	ND		ug/kg dry	2.1	10	2	EPA SW846-8260B	09/01/2011 14:45	09/01/2011 14:45	SS
1330-20-7	Xylenes, Total	ND		ug/kg dry	2.3	31	2	EPA SW846-8260B	09/01/2011 14:45	09/01/2011 14:45	SS

Semi-Volatiles, EPA TCL List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
120-82-1	1,2,4-Trichlorobenzene	ND		ug/kg dry	277	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	223	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	242	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
106-46-7	1,4-Dichlorobenzene	ND		ug/kg dry	174	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
95-95-4	2,4,5-Trichlorophenol	ND		ug/kg dry	138	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
88-06-2	2,4,6-Trichlorophenol	ND		ug/kg dry	249	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
120-83-2	2,4-Dichlorophenol	ND		ug/kg dry	208	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
105-67-9	2,4-Dimethylphenol	ND		ug/kg dry	163	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
51-28-5	2,4-Dinitrophenol	ND		ug/kg dry	427	1020	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
121-14-2	2,4-Dinitrotoluene	ND		ug/kg dry	223	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
606-20-2	2,6-Dinitrotoluene	ND		ug/kg dry	242	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
91-58-7	2-Chloronaphthalene	ND		ug/kg dry	155	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
95-57-8	2-Chlorophenol	ND		ug/kg dry	296	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
91-57-6	2-Methylnaphthalene	ND		ug/kg dry	177	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
95-48-7	2-Methylphenol	ND		ug/kg dry	187	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
88-74-4	2-Nitroaniline	ND		ug/kg dry	264	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
88-75-5	2-Nitrophenol	ND		ug/kg dry	174	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
100-01-6	3- & 4-Methylphenols	ND		ug/kg dry	229	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
91-94-1	3,3'-Dichlorobenzidine	ND		ug/kg dry	128	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
99-09-2	3-Nitroaniline	ND		ug/kg dry	184	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
534-52-1	4,6-Dinitro-2-methylphenol	ND		ug/kg dry	385	1020	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
101-55-3	4-Bromophenyl phenyl ether	ND		ug/kg dry	212	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
59-50-7	4-Chloro-3-methylphenol	ND		ug/kg dry	54.8	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
106-47-8	4-Chloroaniline	ND		ug/kg dry	201	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
7005-72-3	4-Chlorophenyl phenyl ether	ND		ug/kg dry	147	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
100-02-7	4-Nitroaniline	ND		ug/kg dry	169	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
56-57-5	4-Nitrophenol	ND		ug/kg dry	184	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
83-32-9	Acenaphthene	ND		ug/kg dry	295	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
208-96-8	Acenaphthylene	ND		ug/kg dry	143	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD

YORK

ANALYTICAL LABORATORIES, INC.

Sample Information

Client Sample ID: C-5 **York Sample ID:** 11H0862-15

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
11H0862	Block 107 02, Lot 3	Solid	August 23, 2011 3:00 pm	08/24/2011

Semi-Volatiles, EPA TCL List **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
120-12-7	Anthracene	ND		ug/kg dry	126	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
56-55-3	Benzo(a)anthracene	ND		ug/kg dry	197	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
50-32-8	Benzo(a)pyrene	ND		ug/kg dry	133	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
205-99-2	Benzo(b)fluoranthene	ND		ug/kg dry	194	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
191-24-2	Benzo(g,h,i)perylene	ND		ug/kg dry	153	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
207-08-9	Benzo(k)fluoranthene	ND		ug/kg dry	197	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
65-85-0	Benzoic acid	ND		ug/kg dry	348	1020	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
100-51-6	Benzyl alcohol	ND		ug/kg dry	165	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
85-68-7	Benzyl butyl phthalate	ND		ug/kg dry	212	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
111-91-1	Bis(2-chloroethoxy)methane	ND		ug/kg dry	188	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
111-44-4	Bis(2-chloroethyl)ether	ND		ug/kg dry	173	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
108-60-1	Bis(2-chloroisopropyl)ether	ND		ug/kg dry	189	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
117-81-7	**Bis(2-ethylhexyl)phthalate**	**628**		ug/kg dry	170	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
218-01-9	Chrysene	ND		ug/kg dry	205	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
53-70-3	Dibenzo(a,h)anthracene	ND		ug/kg dry	129	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
132-64-9	Dibenzofuran	ND		ug/kg dry	164	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
84-66-2	Diethyl phthalate	ND		ug/kg dry	267	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
131-11-3	Dimethyl phthalate	ND		ug/kg dry	147	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
84-74-2	Di-n-butyl phthalate	ND		ug/kg dry	152	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
117-84-0	Di-n-octyl phthalate	ND		ug/kg dry	229	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
206-44-0	Fluoranthene	ND		ug/kg dry	295	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
86-73-7	Fluorene	ND		ug/kg dry	143	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
118-74-1	Hexachlorobenzene	ND		ug/kg dry	82.9	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
87-68-3	Hexachlorobutadiene	ND		ug/kg dry	204	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
77-47-4	Hexachlorocyclopentadiene	ND		ug/kg dry	378	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
67-72-1	Hexachloroethane	ND		ug/kg dry	183	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ug/kg dry	188	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
78-59-1	Isophorone	ND		ug/kg dry	189	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
91-20-3	Naphthalene	ND		ug/kg dry	152	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
98-95-3	Nitrobenzene	ND		ug/kg dry	229	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
621-64-7	N-nitroso-di-n-propylamine	ND		ug/kg dry	133	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
86-30-6	N-Nitrosodiphenylamine	ND		ug/kg dry	295	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
87-86-5	Pentachlorophenol	ND		ug/kg dry	143	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
85-01-8	Phenanthrene	ND		ug/kg dry	188	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD
108-95-2	Phenol	ND		ug/kg dry	204	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD

Sample Information

Client Sample ID: C-5 **York Sample ID:** 11H0862-15

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
11H0862	Block 107.02, Lot 3	Solid	August 23, 2011 3:00 pm	08/24/2011

Semi-Volatiles, EPA TCL List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
129-00-0	Pyrene	ND		ug/kg dry	182	509	1	EPA SW846-8270C	08/30/2011 11:08	08/31/2011 04:51	TD

Pesticides/PCBs, EPA TCL List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
72-54-8	4,4'-DDD	ND		ug/kg dry	1.50	3.36	10	EPA SW 846-8081/8082	08/30/2011 17:25	08/31/2011 08:28	JW
72-55-9	4,4'-DDE	ND		ug/kg dry	1.92	3.36	10	EPA SW 846-8081/8082	08/30/2011 17:25	08/31/2011 08:28	JW
50-29-3	4,4'-DDT	ND		ug/kg dry	1.51	3.36	10	EPA SW 846-8081/8082	08/30/2011 17:25	08/31/2011 08:28	JW
309-00-2	Aldrin	ND		ug/kg dry	2.15	3.36	10	EPA SW 846-8081/8082	08/30/2011 17:25	08/31/2011 08:28	JW
319-84-6	alpha-BHC	ND		ug/kg dry	2.53	3.36	10	EPA SW 846-8081/8082	08/30/2011 17:25	08/31/2011 08:28	JW
12674-11-2	Aroclor 1016	ND		ug/kg dry	8.03	17.3	1	EPA SW 846-8081/8082	08/30/2011 17:25	08/31/2011 08:36	JW
11104-28-2	Aroclor 1221	ND		ug/kg dry	8.03	17.3	1	EPA SW 846-8081/8082	08/30/2011 17:25	08/31/2011 08:36	JW
11141-16-5	Aroclor 1232	ND		ug/kg dry	8.03	17.3	1	EPA SW 846-8081/8082	08/30/2011 17:25	08/31/2011 08:36	JW
53469-21-9	Aroclor 1242	ND		ug/kg dry	8.04	17.3	1	EPA SW 846-8081/8082	08/30/2011 17:25	08/31/2011 08:36	JW
12672-29-6	Aroclor 1248	ND		ug/kg dry	8.04	17.3	1	EPA SW 846-8081/8082	08/30/2011 17:25	08/31/2011 08:36	JW
11097-69-1	Aroclor 1254	ND		ug/kg dry	6.92	17.3	1	EPA SW 846-8081/8082	08/30/2011 17:25	08/31/2011 08:36	JW
11096-82-5	Aroclor 1260	ND		ug/kg dry	6.92	17.3	1	EPA SW 846-8081/8082	08/30/2011 17:25	08/31/2011 08:36	JW
319-85-7	beta-BHC	ND		ug/kg dry	2.12	3.36	10	EPA SW 846-8081/8082	08/30/2011 17:25	08/31/2011 08:28	JW
57-74-9	Chlordane, total	ND		ug/kg dry	13.4	13.4	10	EPA SW 846-8081/8082	08/30/2011 17:25	08/31/2011 08:28	JW
319-86-8	delta-BHC	ND		ug/kg dry	1.83	3.36	10	EPA SW 846-8081/8082	08/30/2011 17:25	08/31/2011 08:28	JW
60-57-1	Dieldrin	ND		ug/kg dry	1.98	3.36	10	EPA SW 846-8081/8082	08/30/2011 17:25	08/31/2011 08:28	JW
959-98-8	Endosulfan I	ND		ug/kg dry	1.63	3.36	10	EPA SW 846-8081/8082	08/30/2011 17:25	08/31/2011 08:28	JW
33213-65-9	Endosulfan II	ND		ug/kg dry	2.05	3.36	10	EPA SW 846-8081/8082	08/30/2011 17:25	08/31/2011 08:28	JW
1031-07-8	Endosulfan sulfate	ND		ug/kg dry	1.72	3.36	10	EPA SW 846-8081/8082	08/30/2011 17:25	08/31/2011 08:28	JW
72-20-8	Endrin	ND		ug/kg dry	2.03	3.36	10	EPA SW 846-8081/8082	08/30/2011 17:25	08/31/2011 08:28	JW
7421-93-4	Endrin aldehyde	ND		ug/kg dry	2.26	3.36	10	EPA SW 846-8081/8082	08/30/2011 17:25	08/31/2011 08:28	JW
53494-70-5	Endrin ketone	ND		ug/kg dry	1.47	3.36	10	EPA SW 846-8081/8082	08/30/2011 17:25	08/31/2011 08:28	JW
58-89-9	gamma-BHC (Lindane)	ND		ug/kg dry	2.33	3.36	10	EPA SW 846-8081/8082	08/30/2011 17:25	08/31/2011 08:28	JW
76-44-8	Heptachlor	ND		ug/kg dry	2.68	3.36	10	EPA SW 846-8081/8082	08/30/2011 17:25	08/31/2011 08:28	JW
1024-57-3	Heptachlor epoxide	ND		ug/kg dry	1.47	3.36	10	EPA SW 846-8081/8082	08/30/2011 17:25	08/31/2011 08:28	JW
72-43-5	Methoxychlor	ND		ug/kg dry	8.66	16.8	10	EPA SW 846-8081/8082	08/30/2011 17:25	08/31/2011 08:28	JW
1336-36-3	Total PCBs	32.8		ug/kg dry	6.92	17.3	1	EPA SW 846-8081/8082	08/30/2011 17:25	08/31/2011 08:36	JW
8001-35-2	Toxaphene	ND		ug/kg dry	336	336	10	EPA SW 846-8081/8082	08/30/2011 17:25	08/31/2011 08:28	JW

Sample Information

Client Sample ID: C-5 **York Sample ID:** 11H0862-15

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
11H0862	Block 107.02, Lot 3	Solid	August 23, 2011 3:00 pm	08/24/2011

Metals, Target Analyte **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA SW 846-3050B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7429-90-5	Aluminum	11000		mg/kg dry	1.28	2.03	1	EPA SW846-6010B	08/29/2011 09:33	08/29/2011 13:49	MW
7440-36-0	Antimony	0.975		mg/kg dry	0.142	0.509	1	EPA SW846-6010B	08/29/2011 09:33	08/29/2011 13:49	MW
7440-38-2	Arsenic	5.46		mg/kg dry	0.193	0.509	1	EPA SW846-6010B	08/29/2011 09:33	08/29/2011 13:49	MW
7440-39-3	Barium	72.8		mg/kg dry	0.244	0.509	1	EPA SW846-6010B	08/29/2011 09:33	08/29/2011 13:49	MW
7440-41-7	Beryllium	ND		mg/kg dry	0.008	0.010	1	EPA SW846-6010B	08/29/2011 09:33	08/29/2011 13:49	MW
7440-43-9	Cadmium	ND		mg/kg dry	0.132	0.509	1	EPA SW846-6010B	08/29/2011 09:33	08/29/2011 13:49	MW
7440-70-2	Calcium	64900		mg/kg dry	0.044	2.03	1	EPA SW846-6010B	08/29/2011 09:33	08/29/2011 13:49	MW
7440-47-3	Chromium	25.7		mg/kg dry	0.081	0.509	1	EPA SW846-6010B	08/29/2011 09:33	08/29/2011 13:49	MW
7440-48-4	Cobalt	13.1		mg/kg dry	0.081	0.509	1	EPA SW846-6010B	08/29/2011 09:33	08/29/2011 13:49	MW
7440-50-8	Copper	62.3		mg/kg dry	0.142	0.509	1	EPA SW846-6010B	08/29/2011 09:33	08/29/2011 13:49	MW
7439-89-6	Iron	20000		mg/kg dry	0.559	1.02	1	EPA SW846-6010B	08/29/2011 09:33	08/29/2011 13:49	MW
7439-92-1	Lead	5.68		mg/kg dry	0.102	0.305	1	EPA SW846-6010B	08/29/2011 09:33	08/29/2011 13:49	MW
7439-95-4	Magnesium	7790		mg/kg dry	0.834	2.03	1	EPA SW846-6010B	08/29/2011 09:33	08/29/2011 13:49	MW
7439-96-5	Manganese	400		mg/kg dry	0.081	1.02	1	EPA SW846-6010B	08/29/2011 09:33	08/29/2011 13:49	MW
7440-02-0	Nickel	20.4		mg/kg dry	0.071	0.509	1	EPA SW846-6010B	08/29/2011 09:33	08/29/2011 13:49	MW
7440-09-7	Potassium	1480		mg/kg dry	2.77	10.2	1	EPA SW846-6010B	08/29/2011 09:33	08/29/2011 13:49	MW
7782-49-2	Selenium	2.67		mg/kg dry	0.215	0.509	1	EPA SW846-6010B	08/29/2011 09:33	08/29/2011 13:49	MW
7440-22-4	Silver	ND		mg/kg dry	0.092	0.509	1	EPA SW846-6010B	08/29/2011 09:33	08/29/2011 13:49	MW
7440-23-5	Sodium	2260		mg/kg dry	6.84	10.2	1	EPA SW846-6010B	08/29/2011 09:33	08/29/2011 13:49	MW
7440-28-0	Thallium	ND		mg/kg dry	0.193	0.509	1	EPA SW846-6010B	08/29/2011 09:33	08/29/2011 13:49	MW
7440-62-2	Vanadium	39.6		mg/kg dry	0.081	0.509	1	EPA SW846-6010B	08/29/2011 09:33	08/29/2011 13:49	MW
7440-66-6	Zinc	97.9		mg/kg dry	0.071	0.509	1	EPA SW846-6010B	08/29/2011 09:33	08/29/2011 13:49	MW

Mercury by 7470/7471 **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA SW846-7471

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7439-97-6	Mercury	ND		mg/kg dry	0.0987	0.102	1	EPA SW846-7471	08/29/2011 15:54	08/29/2011 15:54	AA

Sample Information

Client Sample ID: C-5 **York Sample ID:** 11H0862-15

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
11H0862	Block 107.02, Lot 3	Solid	August 23, 2011 3:00 pm	08/24/2011

Total Solids

Log-in Notes: Sample Notes:

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	% Solids	98.3		%	0.100	0.100	1	SM 2540G	08/30/2011 14:40	08/30/2011 14:40	AMC

EPH NJ CC

Log-in Notes: Sample Notes:

Sample Prepared by Method: SW846 3545A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
AROH(10-12)	C10-C12 Aromatic Hydrocarbons	BRL		mg/kg	0.247	15.0	1	EPH NJ CC	09/01/2011 09:03	09/02/2011 04:43	MM
ALIH(12-16)	C12-C16 Aliphatic Hydrocarbons	BRL		mg/kg	0.314	15.0	1	EPH NJ CC	09/01/2011 09:03	09/02/2011 04:43	MM
AROH(12-16)	C12-C16 Aromatic Hydrocarbons	BRL		mg/kg	0.860	15.0	1	EPH NJ CC	09/01/2011 09:03	09/02/2011 04:43	MM
ALIH(16-21)	C16-C21 Aliphatic Hydrocarbons	30.3		mg/kg	0.301	15.0	1	EPH NJ CC	09/01/2011 09:03	09/02/2011 04:43	MM
AROH(16-21)	C16-C21 Aromatic Hydrocarbons	BRL		mg/kg	0.451	15.0	1	EPH NJ CC	09/01/2011 09:03	09/02/2011 04:43	MM
AROH(21-36)	C21-C36 Aromatic Hydrocarbons	34.1		mg/kg	6.76	15.0	1	EPH NJ CC	09/01/2011 09:03	09/02/2011 04:43	MM
ALIH(21-40)	C21-C40 Aliphatic Hydrocarbons	415		mg/kg	2.06	15.0	1	EPH NJ CC	09/01/2011 09:03	09/02/2011 04:43	MM
ALIH(9-12)	C9-C12 Aliphatic Hydrocarbons	BRL		mg/kg	1.43	15.0	1	EPH NJ CC	09/01/2011 09:03	09/02/2011 04:43	MM
	Total Aliphatics	450		mg/kg	2.06	15.0	1	EPH NJ CC	09/01/2011 09:03	09/02/2011 04:43	MM
	Total Aromatics	46.1		mg/kg	6.76	15.0	1	EPH NJ CC	09/01/2011 09:03	09/02/2011 04:43	MM
	Total EPH Hydrocarbons	496		mg/kg	12.4	120	1	EPH NJ CC	09/01/2011 09:03	09/02/2011 04:43	MM

EPH NJ Targets

Log-in Notes: Sample Notes:

Sample Prepared by Method: SW846 3545A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
526-73-8	1,2,3-Trimethylbenzene	BRL		mg/kg	0.212	0.601	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 04:43	MM
91-57-6	2-Methylnaphthalene	BRL		mg/kg	0.152	0.601	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 04:43	MM
83-32-9	Acenaphthene	BRL		mg/kg	0.594	0.601	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 04:43	MM
208-96-8	Acenaphthylene	BRL		mg/kg	0.525	0.601	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 04:43	MM
120-12-7	Anthracene	BRL		mg/kg	0.155	0.601	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 04:43	MM
56-55-3	Benzo (a) anthracene	BRL		mg/kg	0.194	0.601	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 04:43	MM
50-32-8	Benzo (a) pyrene	BRL		mg/kg	0.251	0.601	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 04:43	MM
205-99-2	Benzo (b) fluoranthene	BRL		mg/kg	0.220	0.601	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 04:43	MM
191-24-2	Benzo (g,h,i) perylene	BRL		mg/kg	0.264	0.601	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 04:43	MM
207-08-9	Benzo (k) fluoranthene	BRL		mg/kg	0.216	0.601	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 04:43	MM
218-01-9	Chrysene	BRL		mg/kg	0.220	0.601	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 04:43	MM
53-70-3	Dibenzo (a,h) anthracene	BRL		mg/kg	0.151	0.601	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 04:43	MM
206-44-0	Fluoranthene	BRL		mg/kg	0.166	0.601	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 04:43	MM
86-73-7	Fluorene	BRL		mg/kg	0.590	0.601	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 04:43	MM
193-39-5	Indeno (1,2,3-cd) pyrene	BRL		mg/kg	0.214	0.601	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 04:43	MM
91-20-3	Naphthalene	BRL		mg/kg	0.141	0.601	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 04:43	MM

Sample Information

Client Sample ID: C-5 **York Sample ID:** 11H0862-15

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
11H0862	Block 107.02, Lot 3	Solid	August 23, 2011 3:00 pm	08/24/2011

EPH NJ Targets **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: SW846 3545A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
85-01-8	Phenanthrene	BRL		mg/kg	0.136	0.601	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 04:43	MM
129-00-0	Pyrene	BRL		mg/kg	0.152	0.601	1	EPH NJ Targets	09/01/2011 09:03	09/02/2011 04:43	MM

Solid, Dry Weight **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: General Preparation

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	% Solids	97.9		%			1	Solid, Dry Weight	08/29/2011 15:32	08/29/2011 15:48	JLH

Sample Information

Client Sample ID: C-6 **York Sample ID:** 11H0862-16

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
11H0862	Block 107.02, Lot 3	Solid	August 23, 2011 3:00 pm	08/24/2011

Semi-Volatiles, PAH Target List **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
83-32-9	Acenaphthene	ND		ug/kg dry	290	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 05:23	TD
208-96-8	Acenaphthylene	ND		ug/kg dry	140	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 05:23	TD
120-12-7	Anthracene	ND		ug/kg dry	124	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 05:23	TD
56-55-3	Benzo(a)anthracene	ND		ug/kg dry	193	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 05:23	TD
50-32-8	Benzo(a)pyrene	ND		ug/kg dry	130	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 05:23	TD
205-99-2	Benzo(b)fluoranthene	ND		ug/kg dry	190	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 05:23	TD
191-24-2	Benzo(g,h,i)perylene	ND		ug/kg dry	150	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 05:23	TD
207-08-9	Benzo(k)fluoranthene	ND		ug/kg dry	194	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 05:23	TD
218-01-9	Chrysene	ND		ug/kg dry	202	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 05:23	TD
53-70-3	Dibenzo(a,h)anthracene	ND		ug/kg dry	126	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 05:23	TD
206-44-0	Fluoranthene	ND		ug/kg dry	290	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 05:23	TD
86-73-7	Fluorene	ND		ug/kg dry	140	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 05:23	TD
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ug/kg dry	184	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 05:23	TD
91-20-3	Naphthalene	ND		ug/kg dry	149	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 05:23	TD
85-01-8	Phenanthrene	ND		ug/kg dry	184	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 05:23	TD
129-00-0	Pyrene	ND		ug/kg dry	179	500	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 05:23	TD

Polychlorinated Biphenyls (PCB) **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst

Sample Information

Client Sample ID: C-6 **York Sample ID:** 11H0862-16

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
11H0862	Block 107.02, Lot 3	Solid	August 23, 2011 3:00 pm	08/24/2011

Polychlorinated Biphenyls (PCB) **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
12674-11-2	Aroclor 1016	ND		mg/kg dry	0.0237	0.0510	1	EPA SW 846-8082	08/30/2011 09:18	08/31/2011 09:13	JW
11104-28-2	Aroclor 1221	ND		mg/kg dry	0.0237	0.0510	1	EPA SW 846-8082	08/30/2011 09:18	08/31/2011 09:13	JW
11141-16-5	Aroclor 1232	ND		mg/kg dry	0.0237	0.0510	1	EPA SW 846-8082	08/30/2011 09:18	08/31/2011 09:13	JW
53469-21-9	Aroclor 1242	ND		mg/kg dry	0.0237	0.0510	1	EPA SW 846-8082	08/30/2011 09:18	08/31/2011 09:13	JW
12672-29-6	Aroclor 1248	ND		mg/kg dry	0.0237	0.0510	1	EPA SW 846-8082	08/30/2011 09:18	08/31/2011 09:13	JW
11097-69-1	Aroclor 1254	ND		mg/kg dry	0.0204	0.0510	1	EPA SW 846-8082	08/30/2011 09:18	08/31/2011 09:13	JW
11096-82-5	Aroclor 1260	ND		mg/kg dry	0.0204	0.0510	1	EPA SW 846-8082	08/30/2011 09:18	08/31/2011 09:13	JW
37324-23-5	Aroclor 1262	ND		mg/kg dry	0.0204	0.0510	1	EPA SW 846-8082	08/30/2011 09:18	08/31/2011 09:13	JW
11100-14-4	Aroclor 1268	ND		mg/kg dry	0.0204	0.0510	1	EPA SW 846-8082	08/30/2011 09:18	08/31/2011 09:13	JW
1336-36-3	Total PCBs	ND		mg/kg dry	0.0204	0.0510	1	EPA SW 846-8082	08/30/2011 09:18	08/31/2011 09:13	JW

Total Solids **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	% Solids	100		%	0.100	0.100	1	SM 2540G	08/31/2011 13:09	08/31/2011 13:09	SC

Sample Information

Client Sample ID: DC-1 **York Sample ID:** 11H0862-17

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
11H0862	Block 107.02, Lot 3	Caulk	August 23, 2011 3:00 pm	08/24/2011

Semi-Volatiles, PAH Target List **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
83-32-9	Acenaphthene	ND		ug/kg dry	2900	5000	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 05:54	TD
208-96-8	Acenaphthylene	ND		ug/kg dry	1400	5000	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 05:54	TD
120-12-7	Anthracene	ND		ug/kg dry	1240	5000	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 05:54	TD
56-55-3	Benzo(a)anthracene	ND		ug/kg dry	1930	5000	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 05:54	TD
50-32-8	Benzo(a)pyrene	ND		ug/kg dry	1300	5000	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 05:54	TD
205-99-2	Benzo(b)fluoranthene	ND		ug/kg dry	1900	5000	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 05:54	TD
191-24-2	Benzo(g,h,i)perylene	ND		ug/kg dry	1500	5000	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 05:54	TD
207-08-9	Benzo(k)fluoranthene	ND		ug/kg dry	1940	5000	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 05:54	TD
218-01-9	Chrysene	ND		ug/kg dry	2020	5000	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 05:54	TD
53-70-3	Dibenzo(a,h)anthracene	ND		ug/kg dry	1260	5000	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 05:54	TD
206-44-0	Fluoranthene	ND		ug/kg dry	2900	5000	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 05:54	TD
86-73-7	Fluorene	ND		ug/kg dry	1400	5000	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 05:54	TD

Sample Information

Client Sample ID: DC-1 **York Sample ID:** 11H0862-17

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
11H0862	Block 107 02, Lot 3	Caulk	August 23, 2011 3:00 pm	08/24/2011

Semi-Volatiles, PAH Target List

Log-in Notes: Sample Notes:

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ug/kg dry	1840	5000	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 05:54	TD
91-20-3	Naphthalene	ND		ug/kg dry	1490	5000	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 05:54	TD
85-01-8	Phenanthrene	ND		ug/kg dry	1840	5000	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 05:54	TD
129-00-0	Pyrene	ND		ug/kg dry	1790	5000	1	EPA SW-846 8270C	08/30/2011 11:08	08/31/2011 05:54	TD

Polychlorinated Biphenyls (PCB)

Log-in Notes: Sample Notes:

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
12674-11-2	Aroclor 1016	ND		mg/kg dry	0.237	0.510	1	EPA SW 846-8082	08/30/2011 09:18	08/31/2011 09:45	JW
11104-28-2	Aroclor 1221	ND		mg/kg dry	0.237	0.510	1	EPA SW 846-8082	08/30/2011 09:18	08/31/2011 09:45	JW
11141-16-5	Aroclor 1232	ND		mg/kg dry	0.237	0.510	1	EPA SW 846-8082	08/30/2011 09:18	08/31/2011 09:45	JW
53469-21-9	Aroclor 1242	ND		mg/kg dry	0.237	0.510	1	EPA SW 846-8082	08/30/2011 09:18	08/31/2011 09:45	JW
12672-29-6	Aroclor 1248	ND		mg/kg dry	0.237	0.510	1	EPA SW 846-8082	08/30/2011 09:18	08/31/2011 09:45	JW
11097-69-1	Aroclor 1254	ND		mg/kg dry	0.204	0.510	1	EPA SW 846-8082	08/30/2011 09:18	08/31/2011 09:45	JW
11096-82-5	Aroclor 1260	ND		mg/kg dry	0.204	0.510	1	EPA SW 846-8082	08/30/2011 09:18	08/31/2011 09:45	JW
37324-23-5	Aroclor 1262	ND		mg/kg dry	0.204	0.510	1	EPA SW 846-8082	08/30/2011 09:18	08/31/2011 09:45	JW
11100-14-4	Aroclor 1268	ND		mg/kg dry	0.204	0.510	1	EPA SW 846-8082	08/30/2011 09:18	08/31/2011 09:45	JW
1336-36-3	Total PCBs	ND		mg/kg dry	0.204	0.510	1	EPA SW 846-8082	08/30/2011 09:18	08/31/2011 09:45	JW

Total Solids

Log-in Notes: Sample Notes:

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	% Solids	100		%	0.100	0.100	1	SM 2540G	08/31/2011 13:09	08/31/2011 13:09	SC

Sample Information

Client Sample ID: WC-1 **York Sample ID:** 11H0862-18

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
11H0862	Block 107 02, Lot 3	Caulk	August 23, 2011 3:00 pm	08/24/2011

Polychlorinated Biphenyls (PCB)

Log-in Notes: Sample Notes:

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
12674-11-2	Aroclor 1016	ND		mg/kg dry	0.237	0.510	1	EPA SW 846-8082	08/30/2011 09:18	08/31/2011 10:17	JW
11104-28-2	Aroclor 1221	ND		mg/kg dry	0.237	0.510	1	EPA SW 846-8082	08/30/2011 09:18	08/31/2011 10:17	JW
11141-16-5	Aroclor 1232	ND		mg/kg dry	0.237	0.510	1	EPA SW 846-8082	08/30/2011 09:18	08/31/2011 10:17	JW
53469-21-9	Aroclor 1242	ND		mg/kg dry	0.237	0.510	1	EPA SW 846-8082	08/30/2011 09:18	08/31/2011 10:17	JW

Sample Information

Client Sample ID: WC-1 **York Sample ID:** 11H0862-18

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
11H0862	Block 107.02, Lot 3	Caulk	August 23, 2011 3:00 pm	08/24/2011

Polychlorinated Biphenyls (PCB)

Log-in Notes: Sample Notes:

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
12672-29-6	Aroclor 1248	ND		mg/kg dry	0.237	0.510	1	EPA SW 846-8082	08/30/2011 09:18	08/31/2011 10:17	JW
11097-69-1	Aroclor 1254	ND		mg/kg dry	0.204	0.510	1	EPA SW 846-8082	08/30/2011 09:18	08/31/2011 10:17	JW
11096-82-5	Aroclor 1260	ND		mg/kg dry	0.204	0.510	1	EPA SW 846-8082	08/30/2011 09:18	08/31/2011 10:17	JW
37324-23-5	Aroclor 1262	19.7		mg/kg dry	0.204	0.510	1	EPA SW 846-8082	08/30/2011 09:18	08/31/2011 10:17	JW
11100-14-4	Aroclor 1268	ND		mg/kg dry	0.204	0.510	1	EPA SW 846-8082	08/30/2011 09:18	08/31/2011 10:17	JW
1336-36-3	Total PCBs	19.7		mg/kg dry	0.204	0.510	1	EPA SW 846-8082	08/30/2011 09:18	08/31/2011 10:17	JW

Total Solids

Log-in Notes: Sample Notes:

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	% Solids	100		%	0.100	0.100	1	SM 2540G	08/31/2011 13:09	08/31/2011 13:09	SC

Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interferences.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect
J	Detected below the Reporting Limit but greater than or equal to the Method Detection Limit (MDL); therefore, the result is an estimated concentration
B	Analyte is found in the associated analysis batch blank. For volatiles, methylene chloride and acetone are common lab contaminants. Data users should consider anything <10x the blank value as artifact.

ND	Analyte NOT DETECTED at the stated Reporting Limit (RL) or above.
RL	REPORTING LIMIT - the minimum reportable value based upon the lowest point in the analyte calibration curve.
MDL	METHOD DETECTION LIMIT - the minimum concentration that can be measured and reported with a 99% confidence that the concentration is greater than zero. If requested or required, a value reported below the RL and above the MDL is considered estimated and is noted with a "J" flag.
NR	Not reported
RPD	Relative Percent Difference
Wet	The data has been reported on an as-received (wet weight) basis
Low Bias	Low Bias flag indicates that the recovery of the flagged analyte is below the laboratory or regulatory lower control limit. The data user should take note that this analyte may be biased low but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.
High Bias	High Bias flag indicates that the recovery of the flagged analyte is above the laboratory or regulatory upper control limit. The data user should take note that this analyte may be biased high but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.
Non-Dir	Non-dir. flag (Non-Directional Bias) indicates that the Relative Percent Difference (RPD) (a measure of precision) among the MS and MSD data is outside the laboratory or regulatory control limit. This alerts the data user where the MS and MSD are from site-specific samples that the RPD is high due to either non-homogeneous distribution of target analyte between the MS/MSD or indicates poor reproducibility for other reasons.

Corrective Action:

YORK
ANALYTICAL LABORATORIES, INC.
120 RESEARCH DR. STRATFORD, CT 06615
(203) 325-1371 FAX (203) 357-0166

Field Chain-of-Custody Record

Page 1 of ____

NOTE: York's Std. Terms & Conditions are listed on the back side of this document.
This document serves as your written authorization to York to proceed with the analyses requested and your signature binds you to York's Std. Terms & Conditions unless superseded by written contract.

York Project No. 11H0862

YOUR Information	**Report To:**	**Invoice To:**	**YOUR Project ID**	**Turn-Around Time**	**Report Type/Deliverbles**
Company: Langan Engineering	Company: Same	Company: Same	Block 107.03, Lot 3	RUSH - Same Day ☐	Summary Report ____
Address: River Drive Center One; Elmwood Park NJ	Address:	Address:	**Purchase Order No.** 100234201	RUSH - Next Day ☐	Summary w/ QA Summary X
Phone No. 201-779-5458	Phone No.	Phone No.	Samples from: CT ___ NY ___ NJ X	RUSH - Two Day ☐	CT RCP Package ____
Contact Person: Mike Bator	Attention:	Attention:		RUSH - Three Day ☐	NY ASP A Package ____
E-Mail Address: MBator@Langan.com	E-Mail Address:	E-Mail Address:		RUSH - Four Day ☐	NY ASP B Package ____
				Standard(5-7 Days) X	*Electronic Deliverables:* EDD (Specify Type) CSV
					Excel X

Print Clearly and Legibly. All Information must be complete. Samples will NOT be logged in and the turn-around time clock will not begin until any questions by York are resolved.

Samples Collected/Authorized By (Signature)

Michael Bator
Name (printed)

Matrix Codes
S - soil
Other - specify(oil, etc.)
WW - wastewater
GW - groundwater
DW - drinking water
Air-A - ambient air
Air-SV - soil vapor

Volatiles		Semi-Vols.	Pest/PCB/Herb.	Metals	Misc. Org.	Full Lists	Common Miscellaneous Parameters		
8260 full	TICs	8270 or 625	8082PCB	RCRA8	TPH GRO	Pri.Poll.	Corrosivity	Nitrate	Color
624	Site Spec.	STARS list	8081Pest	PP13 list	TPH DRO	TCL Organics	Reactivity	Nitrite	Phenols
STARS list	Nassau Co.	BN Only	8151Herb	TAL	CT ETPH	TAL Met/CN	Ignitability	TKN	Cyanide-T
BTEX	Suffolk Co.	Acids Only	CT RCP	CT15 list	NY 310-13	Full TCLP	Flash Point	Tot Nitrogen	Cyanide-A
MTBE	Ketones	PAH list	App. IX	TAGM list	TPH 1664	Full App. IX	Sieve Anal.	Ammonia-N	BOD5
TCL list	Oxygenates	TAGM list	Site Spec.	NJDEP list	Air TO14A	Part 360-Routine	Heterotrophs	Chloride	CBOD5
TAGM list	TCLP list	CT RCP list	SPLP or TCLP	Total	Air TO15	Part 360-Routine	TOX	Phosphate	BOD28
CT RCP list	524.2	TCL list	TCLP Pest	Dissolved	Air STARS	Part 360-Expanded	BTU/lb.	Tot. Phos.	COD
Arom. only	502.2	NJDEP list	TCLP Herb	SPLP or TCLP	Air VPH	Part 360-Expanded	Aquatic Tox.	Oil&Grease	TSS
Halog.only	NJDEP list	App. IX	Chlordane	Indiv. Metals	Air TICs	NYCDEP Sewer	TOC	F.O.G.	Total Solids
App.IX list	SPLP or TCLP	TCLP BNA	608 Pest	LIST Below	Methane	NYSDEC Sewer	Asbestos	pH	TDS
8021B list		SPLP or TCLP	608 PCB		Helium	TAGM	Silica	MBAS	TPH-1664

Special Instructions
Field Filtered ☐
Lab to Filter ☐

Sample Identification	Date Sampled	Sample Matrix	Choose Analyses Needed from the Menu Above and Enter Below	Container Description(s)
S-5A	8/23/11	S	PCBs, Chlordane	1, 8oz glass
S-5B	↓	↓	↓	↓
S-5C				
S-5D				
S-4A			PCBs	
S-4B			↓	
S-4C				
S-4D				
S-4E	↓	↓	↓	↓

Comments

Preservation Check those Applicable: 4°C ___ Frozen ___ HCl ___ MeOH ___ HNO3 ___ H2SO4 ___ NaOH ___ ZnAc ___ Ascorbic Acid ___ Other ___

Samples Relinquished By — Date/Time: 8/23/11 15:00

Samples Relinquished By — Date/Time:

Samples Received By — Date/Time: 8-24-11 9:50

Samples Received in LAB by — Date/Time: 8/24/11 1700

Temperature on Receipt 5.0 °C

YORK
ANALYTICAL LABORATORIES, INC.

120 RESEARCH DR. STRATFORD, CT 06615
(203) 325-1371 FAX (203) 357-0166

Field Chain-of-Custody Record

NOTE: York's Std. Terms & Conditions are listed on the back side of this document.
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York Project No. 11H0862

YOUR Information	Report To:	Invoice To:	YOUR Project ID	Turn-Around Time	Report Type/Deliverbles
Company: Langan Engineering	Company: Same	Company: Same	Block 107.02 Lot 3	RUSH - Same Day	Summary Report
Address: River Edge Center One Edgewood Plaza 7th	Address:	Address:	**Purchase Order No.** 10023430 1	RUSH - Next Day	Summary w/ QA Summary X
Phone No. 201-349-8000 x1115	Phone No.	Phone No.		RUSH - Two Day	CT RCP Package
Contact Person: Mike Beker	Attention:	Attention:		RUSH - Three Day	NY ASP A Package
E-Mail Address:	E-Mail Address:	E-Mail Address:	Samples from: CT NY NJ X	RUSH - Four Day	NY ASP B Package
				Standard(5-7 Days) X	*Electronic Deliverables:* EDD (Specify Type) CSV
					Excel X

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Samples Collected/Authorized By (Signature)

Name (printed)

Matrix Codes
S - soil
Other - specify(oil, etc.)
WW - wastewater
GW - groundwater
DW - drinking water
Air-A - ambient air
Air-SV - soil vapor

Volatiles		Semi-Vols.	Pest/PCB/Herb	Metals	Misc. Org.	Full Lists	Common Miscellaneous Parameters		
8260 full	TICs	8270 or 625	8082PCB	RCRA8	TPH GRO	Pri.Poll.	Corrosivity	Nitrate	Color
624	Site Spec.	STARS list	8081Pest	PP13 list	TPH DRO	TCL Organics	Reactivity	Nitrite	Phenols
STARS list	Nassau Co.	BN Only	8151Herb	TAL	CT ETPH	TAL Met/CN	Ignitability	TKN	Cyanide-T
BTEX	Suffolk Co.	Acids Only	CT RCP	CT15 list	NY 310-13	Full TCLP	Flash Point	Tot.Nitrogen	Cyanide-A
MTBE	Ketones	PAH list	App. IX	TAGM list	TPH 1664	Full App. IX	Sieve Anal.	Ammonia-N	BOD5
TCL list	Oxygenates	TAGM list	Site Spec.	NJDEP list	Air TO14A	Part360-Routine	Heterotrophs	Chloride	CBOD5
TAGM list	TCLP list	CT RCP list	SPLP or TCLP	Total	Air TO15	Part 360-Routine	TOX	Phosphate	BOD28
CT RCP list	524.2	TCL list	TCLP Pest	Dissolved	Air STARS	Part 360-Expanded w/Library Search	BTU/lb.	Tot. Phos.	COD
Arom. only	502.2	NJDEP list	TCLP Herb	SPLP or TCLP	Air VPH	Part 360-Expanded Full List	Aquatic Tox.	Oil&Grease	TSS
Halog.only	NJDEP list	App. IX	Chlordane	Index Metals	Air TICs	NYCDEP Sewer	TOC	F.O.G.	Total Solids
App.IX list	SPLP or TCLP	TCLP BNA	608 Pest	LIST Below	Methane	NYSDEC Sewer	Asbestos	pH	TDS
8021B list		SPLP or TCLP	608 PCB		Helium	TAGM	Silica	MBAS	TPH-1664

Special Instructions
Field Filtered
Lab to Filter

Sample Identification	Date Sampled	Sample Matrix	Choose Analyses Needed from the Menu Above and Enter Below	Container Description(s)
C-1	8/23/11	Other-Concrete	PCBs, PAHs	1 8oz jar
B-1		Other-Brick	↓	2 8oz jar
C-2		Other-Concrete	PAHs	1 8oz jar
C-3		↓	PCBs, PAHs, EPHCarb	1 8oz jar
C-4			PCBs, PAHs, EPHCarb	1 8oz jar
C-5			Full TCL/TAL, EPHCarb	2 8oz jar
C-6		↓	PCBs, PAHs	1 8oz jar
DC-1		Other-Concrete	↓	1 8oz jar
WC-1	↓	↓	PCBs	1 bag

Comments

Preservation Check those Applicable: 4°C ____ Frozen ____ HCl ____ MeOH ____ HNO3 ____ H2SO4 ____ NaOH ____ ZnAc ____ Ascorbic Acid ____ Other ____

Samples Relinquished By: [signature] Date/Time: 8/23/11 1500

Samples Relinquished By: ____ Date/Time: ____

Samples Received By: [signature] Date/Time: 8-24-11 9:50

Samples Received in LAB by: [signature] Date/Time: 8/24/11 1700

Temperature on Receipt: 5.0 °C

APPENDIX F

RESPONSE TO COMMENTS ON DEIS

APPENDIX F

RESPONSE TO COMMENTS PROVIDED AT THE PUBLIC HEARING AND IN WRITING DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

AMUSEMENT PARK AND WATER PARK REDEVELOPMENT PROJECT AT THE ARENA SITE

April 2012

This Appendix includes the following items relating to the Public Hearing and Public Comment Period held for the Draft Supplemental Environmental Impact Statement submitted to the NJDEP and the NJMC by the NJSEA and Triple Five on October 25, 2011:

- **Sources of Public Comments**
  This list identifies the sources that provided verbal comments at the November 15, 2011 and the November 16, 2011 Public Hearings and the written comments that were submitted subsequent to the hearing during the public comment period. Several members of the public provided verbal comments at the hearing. In addition, written comments were received from commenters during the public comment period, which ended on January 18, 2012.

- **Summary of Public Comments and Responses**
  This summarizes both the verbal and written comments received on the Amusement Park and Water Park Project by topic, identifies the source of the comment by initials that corresponds to the list of initials at the end of the summary, and provides a response to these comments.

- **Hearing Transcripts and Written Correspondence**
  The transcripts from the two public hearings held on November 15, 2011 and November 16, 2011, attendance sign-in sheets, and written letters submitted during the public comment review period are provided.

SOURCES OF PUBLIC COMMENTS

AMUSEMENT PARK AND WATER PARK PROJECT
DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

Written Correspondence

Andrew Scala (AS) – Business Agent
Beth Goldberg (BG) – President, Bergen County Audubon Society
Charles Wowkanech (CW) – President, New Jersey State AFL-CIO
Diana Fainberg (DF) – President, Diana E. Fainberg Associates, LLC
Edgar Santana (ES) – New Jersey Laborers Union
Gianna Dell'Olio (GD) – VP, Account Director, Fort Group
Gil Medina (GM) – Executive Managing Director, Cushman & Wakefield of New Jersey, Inc.
Janna Chernetz (JC) – NJ Advocate for Tri-State Transportation Campaign
Jeff Tittel (JT) – New Jersey Sierra Club
Jim Kirkos (JKI) – Chief Executive Officer, Meadowlands Regional Chamber of Commerce
Judith Ross (JR) – Director, Meadowland Liberty Convention and Visitors Bureau (a Div. of Meadowlands Regional Chamber)
Kate Slevin (KS) – Executive Director, Tri-State Transportation Campaign
Kathleen A. Donovan (KD) – Bergen County Executive, County of Bergen Office of the County Executive
Kevin Bellew (KBE) - Sprinkler Fitters Local Union No. 696
Kevin M. O'Brien (KB) – President, International Alliance of Theatrical Stage Employees, Motion Picture Technician Artists & Allied Crafts of the United States & Canada AFL-CIO, CLC
Laura Francoeur (LF) – The Port Authority of New York & New Jersey
Michael Capabianco (MCA) – Little Ferry Borough Administrator
Mark Renna (MR) – Vice President, Evergreen Environmental, LLC
Michael P. Turner (MT) – President, Burton Trent Public Affairs, LLC
Melanie Willoughby (MWI) – Senior Vice President, NJ Business & Industry Association
Robert Giuffra, Jr. (RG) – Sullivan & Cromwell LLP
Steven Gray (SG) – Waters, McPherson, McNeill
Sharon Stern (SS) – Travel 15

Verbal Comments: Public Hearings – November 15 and 16, 2011

Adolfo DiCosmo (AD) – Local 7
Andrew Scala (AS) – Painters, Papers and Glaziers of District Council 711
Cesar Gamio (CG) – Local 825 Operating Engineers
Chris Len (CL) – Hackensack Riverkeeper
David Lagas (DL) – Local 253
David Snyde (DS) – VRI Real Estate
David Wylie (DW) - Riverkeeper
Denis Sullivan (DSU) – Northeast Regional Panel of Carpenters and Bergen County Building Trades
Eddie Torres (ET) – Hudson County Building Trades Local 24
Edgar Santana (ES) – New Jersey Laborers Union
Edmund Werner (EW) – International Brotherhood of Electrical Workers Local 164
Eric Boyce (EB) – Local 24 Construction and Building Union
Frank Recine (FR) – Newmark, Knight and Frank Commercial Real Estate
Gianna Dell'Olio (GD) – FORT Group
Greg Conte (GC) – Sheet Metal Workers Local 25
John Arlotta (JA) – District Council 711
Janna Chernetz (JC) – Tri-State Transportation Campaign
Joanne Cimiluca (JCI) – Bergen County Resident
Jon Hanson (JH) – New Jersey Commission on Sports, Gaming and Entertainment
Jerry Keenan (JK) – New Jersey Alliance for Action
Jim Kirkos (JKI) – Meadowlands Regional Chamber of Commerce
Justin Post (JP) – Skanska USA Building, Inc.
John Saraceno (JS) – Onyx Equities
Jeff Tittel (JT) – New Jersey Sierra Club
Kathleen Donovan (KD) – County Executive, Bergen County
Kevin Monaco (KM) – New Jersey Subcontractors Association
Kevin O'Brien (KB) – Theatrical stage President of IZOD Meadowlands Complex
Laurel Brennan (LB) – New Jersey AFL-CIO
Louis Casbar (LC) – Member of the Public
Martin Wymbs (MW) – Sheet Metal Workers Local 25
Mayor Cassella (MC) – East Rutherford Mayor
Michael Koppenal (MK) – Whiting Turner Corporation
Michael West (MWE) – Bergen County Building Laborers Local 592
Mike McKernan (MM) – Iron Workers Local 483 Union
Mike Schneider (MS) – Insulators Local 32
Phil Arena (PA) – Building Trade Labor Organizer

Sally Altman (SA) – Director of Sales and Marketing of the Holiday Inn Hasbrouck Heights, NJ
Richard Branca (RB) – Local Contractor
Richard Dressel (RDR) – International Brotherhood of Electrical Workers Local 164
Rick Dabagian (RDA) – Meadowlands Regional Chamber of Commerce
Ron Nosiay (RN) – Local Union 1976, District Council 711
Richard Rovito (RR) – RS Knapco
Richard Sabato (RS) – Bergen County Building Trades, Plumbers Local 24
Sally Altman (SA) – Director of Sales and Marketing, Holiday Inn Hasbrouck Heights
Scott Breig (SB) – Whiting Turner Contracting
Simon Cini (SC) – Axom Communications
Stephen Dodd (SD) – Sheet Metal Workers Local 137
Steve Orenchuk (SO) – Meadowlands Chamber of Commerce
Tom Gregorio (TG) – President and CEO of Meadowlands Hospital
Toni Pinto (TP) – Concord Hospitality

SUMMARY OF PUBLIC COMMENTS AND RESPONSES

DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

AMUSEMENT PARK AND WATER PARK

REDEVELOPMENT PROJECT AT THE ARENA SITE

General Comments

Comment: There is a vested interest in the American Dream Meadowlands Project, dating back to the original approvals for the Meadowlands Xanadu Project. The Project should move forward and be opened for the Superbowl in 2014. (EB-1, KB-7, ES-6, MT-2, LB-3, KM-2, TP-3, EW-5, MW-1)

Response: Meadowlands Xanadu Project approvals were issued in 2004. As presented in the Supplemental Environmental Impact Statement (SEIS), the Amusement Park and Water Park are new key entertainment components of the overall American Dream Meadowlands Project as proposed by the new developer, Triple Five. The New Jersey Sports and Exposition Authority (NJSEA) has approved the additional entertainment uses (i.e. Amusement Park and Water Park) for the overall redevelopment of the Arena Site. Triple Five desires to construct these new entertainment components in order to build a successful project based on their business experience with other similar projects.

Comment: The Project is too important to the region not to complete. We support the project. It needs to be approved now and move forward as quickly as possible. (SD-1, JK-3, JKI-1, JS-4, MT-3, JH-3, SC-3, RDA-2, EW-3, GD-2, RR-2, RN-3, JCI-2, KD-1, JR-3, KB-8)

Response: The NJSEA and Triple Five agree that the Project is important for the economic health of the Meadowlands Sports Complex, Meadowlands region and State of New Jersey.

Comment: The developer has instilled a confidence in the general public and the building industry that this project will happen and it is sorely needed. (MW-1, RS-1, AS-2, SO-1)

Response: The NJSEA and Triple Five will continue to work with the various regulatory agencies, stakeholders and general public to provide information about the status of the project to maintain positive momentum for the Project.

Comment: The Amusement Park and Water Park needs to be in the American Dream Meadowlands Project for the entire project to be successful. (KB-4)

Response: The need for the Amusement Park and Water Park is presented in the Purpose and Need section of the SEIS. The applicant agrees that the Amusement Park and Water Park component is an integral component of the overall success of the American Dream Meadowlands Project.

Comment: The Ghermezian Family and their executive team at Triple Five have been the most approachable, the most respectful and clearly the most capable to handle a project of this magnitude. (JKI-4, JR-5)

Response: The NJSEA has reviewed the business capabilities of Triple Five and agreed that Triple Five has the financial and business abilities to complete the project and operate a successful retail/entertainment facility at the Sports Complex.

Comment: The NJMC needs to hold a new 5X hearing and prepare a new environmental review and environmental impact statement of the entire site, not just the expansion. EPA should also do a review of the project. (JT-20)

Response: The August 2004 Final Environmental Impact Statement for the Meadowlands Xanadu Redevelopment Project addresses the 5X requirements under the NJSEA enabling legislation for the Meadowlands Xanadu Redevelopment Project, which included the Entertainment/Retail Component (ERC) of the American Dream Meadowlands. The SEIS was prepared to address the 5X requirements under the NJSEA enabling legislation for the Amusement Park and Water Park component of the overall project (see Section 1.2 of the SEIS). A new hearing is not required. The SEIS specifically addresses the requirements of 5X in Section 1.4 (Location, Type and Character). The USEPA is participating in the review of the Amusement Park and Water Park Project per their regulatory requirements during the ongoing USACE Department of the Army permit application review process.

Environmentally Responsible Buildings and Design

Comment: The original Meadowlands Xanadu Project was poorly designed and the green features that were incorporated into its design were never implemented. The new building should be a green building with renewable energy features. More water conservation measures need to be implemented, such as green and blue roofs and grey water recycling for non-potable uses. (JT-7, KD-3, KD-7)

Response: Section 1.5 of the SEIS, entitled "Environmentally Responsible Buildings and Design," presents the Developer's commitment to developing and implementing environmentally responsible building and design aspects for the Amusement Park and Water Park. A summary of what aspects are being considered are presented in Table 1-1 of the SEIS. As noted in Section 1.5 of the SEIS, for the Entertainment/Retail Component (ERC) building, the former developer had prepared and submitted an Energy Conservation and Sustainable Design Preliminary Status Report, dated October 2008, to the Hearing Officers that addressed the incorporation of energy conservation and environmental design into the ERC building.

Comment: The developer should be commended for their commitment to sustainable development, energy efficiency, resource conservation and recycling. The project needs to meet a LEED gold design standard. (CL-7, JT-16)

Response: The applicability of LEED criteria to the Amusement Park and Water Park facility will be evaluated. The Developer will implement LEED design principles in the design of the building to the extent practicable. The Developer anticipates that an updated Energy Conservation and Sustainable Design Status Report will be provided to the Hearing Officer's as the design of the Amusement Park and Water Park is advanced.

Comment: The local building trades are excited to utilize skills they have been developing in the field of sustainability related to construction practices. The Project has made a commitment to sustainable design components. The local unions have made significant commitments to training their membership in skills in these fields and the Project offers an opportunity to use those skills. (EB-4, MS-3, MW-2)

Response: The Developer will work with the Design/Build Contractor to design and implement a construction phase sustainability program. Table 1-1 in the SEIS provides a listing of the type of construction related programs that could be implemented including waste recycling, diesel emissions reduction program, use of materials with recycled content and buy-local.

Project Purpose and Need

Comment: The Amusement Park and Water Park are vital components that are necessary to be part of the overall complex to allow the entire project to succeed. (KB-4, EW-3, KD-2, JK-3, JR-1, ES-3, DF-3)

Response: As stated in Section 2.0 of the SEIS, the Amusement Park and Water Park will provide two key, integrated entertainment components. The Amusement Park and Water Park are necessary to ensure the economic success of the American Dream Meadowlands Project.

Comment: The developer is a well-known, credible developer with existing successful projects in Alberta, Canada and Minnesota. Research with local sources for both projects indicates that they are a reputable firm capable of delivering positive, thriving projects. (EW-4, DF-1)

Response: The success and experience of Triple Five at their other facilities (Mall of America in Bloomington, Minnesota and West Edmonton Mall in Edmonton, Alberta, Canada) were important factors in the NJSEA selection of Triple Five to advance the overall redevelopment project.

Comment: This Project should not be started if it wasn't possible to finish the original Meadowlands Xanadu Project. (LC-1)

Response: The Developer is proposing to complete the currently constructed, but unoccupied, Entertainment/Retail Component (ERC) of the overall Meadowlands Xanadu Redevelopment Project. In order to provide a successful redevelopment project the Developer is proposing to add an Amusement Park and Water Park facility to the ERC, which is the subject of the SEIS.

Comment: The overall project is at a critical crossroads because of the upcoming Superbowl. The Project should be started now so it can be finished by the Superbowl. Hopefully no one will look back then at what could have been if this isn't approved. (MM-2, KB-7)

Response: The NJSEA and Developer acknowledge the importance of the Governor's goal to open the project before the Superbowl in February 2014.

Comment: The American Dream Project is located within a developed area and contains the existing infrastructure to support proper development consistent with the Draft Final State Strategic Plan. (DF-5)

Response: The developed nature of the surrounding area and existing infrastructure within the vicinity of the Project site are some of the strongest positive attributes of the Project.

Alternatives Analysis for the Proposed Project

Comment: The alternatives analysis should contemplate off-site alternatives, including locating the Project on the other side of the existing mall complex. (CL-5)

Response: The SEIS examines a series of off-site alternatives including locating the Amusement Park and Water Park on the other side of the ERC building. Section 3.3 of the SEIS presents the off-site alternatives (i.e., sites beyond the Radio Tower Site) that were evaluated. The off-site alternatives that were analyzed included lands on the East Side of the Meadowlands Sports Complex, lands on the West Side of the Meadowlands Sports Complex, and lands along Paterson Plank Road. All of the off-site alternatives discussed in Section 3.3 of the SEIS were not considered practicable or able to meet the project purpose and, therefore, were not further examined.

The lands on the East Side and West Side of the Sports Complex (i.e., Arena Site) located to the north of the IZOD Center is not controlled by Triple Five. This land is part of the former Meadowlands Xanadu Redevelopment Project and is master planned for a hotel and office complex (East Side) and minor league baseball park (West Side). Even if this land were to become available to Triple Five, this alternative site would still not be a viable alternative since the location does not achieve the necessary configuration and integration for the entertainment components. Specifically, this site would allow patrons to directly access the entertainment venues without first circulating through the ERC and walking past the retail uses since parking is available at this site. Such a configuration violates the economic model that makes this project viable.

The surface parking lots located on the west side of Route 120 around MetLife Stadium is used for parking during events at the stadium. These lands are not controlled by Triple Five and are part of a long-term lease between the NJSEA and professional football teams (New York Giants and New York Jets). Even if these lands were to become available to Triple Five, this alternative site would still not be a viable alternative since the location does not achieve the necessary configuration and integration for the entertainment components. Specifically, the entertainment components would be located too far from the existing ERC building.

The properties located to the north of the East Side of the Sports Complex along Paterson Plank Road are not a viable alternative since the location does not achieve the necessary configuration and integration for the entertainment components. Specifically, the entertainment components would be located too far from the existing ERC building. It would require Triple Five and or the NJSEA to purchase these privately owned parcels at significant cost.

Comment: The alternatives analysis should address on-site alternatives further, including an analysis of options to avoid and limit wetland impacts. (CL-6, JT-4)

Response: The SEIS considers on-site alternatives that attempted to avoid and limit wetland impacts given technology and logistics, cost and economic viability, and environmental consequences. Section 3.4 of the SEIS presents the on-site alternatives analysis. Three different alternatives were considered with different designs that included stacking of certain common areas. The on-site practicable alternative that had the least wetland impacts was selected. As stated in Section 3.5 of the SEIS, avoidance of wetland impacts was determined to be impracticable given the scattered location of tidal wetlands and isolated, non-tidal wetlands on the Radio Tower Site and the necessary minimum size and configuration of the amusement park and water park facility.

Comment: The Project could be easily relocated from its current location further to the east, on the opposite side of existing structures to the parking areas, to avoid wetland impacts. We believe there are other sites on the property to the west, northwest, east and northeast sides of the existing building that would be more appropriate for the expansion. These sites are already filled and would not require the additional loss of wetlands. Highway visibility is not a recognized reason to fill wetlands. (JT-4)

Response: Section 3.3 of the SEIS discusses the off-site alternatives that were considered, including locating the amusement park and water park facility on other portions of the Meadowlands Sports Complex such as the lands to the west, northwest, east and northeast sides of the ERC. All of these off-site alternatives were not considered practicable or able to meet the project purpose. Highway visibility was a general element that each alternative needed to provide, since the entertainment components need to attract people to the ERC.

Comment: The USACE should take into account all of the impacts from the Project and seek adjustments and compromises to benefit all affected parties and the general public. (SG-1)

Response: Environmental conditions of the Radio Tower Site, impacts that may result from the Project, and proposed mitigation for these impacts are presented in Section 4 of the SEIS for each particular environmental or man-made resource or condition. In addition, as noted in Section 1.1.2 of the SEIS, the Developer has identified an appropriate wetland mitigation plan that will provide mitigation consistent with the March 2008 U.S. Army Corps of Engineers and U.S. Environmental Protection Agency Compensatory Mitigation for Losses of Aquatic Resources Rules. The Developer has signed agreements that will allow for the purchase of credits from the Evergreen MRI3 Mitigation Bank to compensate for the proposed wetland impacts.

Wetlands

Comment: The project site wetlands are degraded and will benefit from the mitigation that will be required and proposed as part of the overall Project and permit approvals. (KD-5, DF-4)

Response: Section 4.3.1 of the SEIS outlines the existing conditions of the wetland areas on the Radio Tower Site. The SEIS presents a history of the project site and existing conditions that portray the existing wetlands to be degraded. As noted in Section 1.1.2 of the SEIS, the Developer has identified an appropriate wetland mitigation plan that will provide mitigation consistent with the March 2008 U.S. Army Corps of Engineers and U.S. Environmental Protection Agency Compensatory Mitigation for Losses of Aquatic Resources Rules. The Project, including the drainage improvements adjacent to the Turnpike culvert, will result in approximately 5.41 acres of unavoidable impacts to waters of the U.S. These wetland impacts will be compensated by the purchase of a total of 5.41 mitigation credits from the Evergreen MRI3 Mitigation Bank.

Comment: The wetland impacts and wetlands mitigation proposed as part of the Project should be evaluated cumulatively with wetland impacts and wetlands mitigation that were permitted as part of the Meadowlands Xanadu Project. The impacts to wetlands on the site need to be viewed as a whole and the environmental review should examine the impacts of the entire 12.5 acres of wetland fill. (JT-1)

Response: Section 4.24 of the SEIS (Indirect and Cumulative Impacts) presents an evaluation of the cumulative impacts of the Amusement Park and Water Park coupled with the 2004 Meadowlands Xanadu Redevelopment Project. The overall redevelopment project at the Arena Site, including the Amusement Park and Water Park and Meadowlands Xanadu Redevelopment Project, has a cumulative impact of 13.01 acres of wetlands/waters. The SEIS further evaluates these wetland impacts in comparison to the overall wetland impacts projected for the Meadowlands from a 2004 NJMC Master Plan analysis. Suitable wetlands mitigation was provided for in 2004 for the Meadowlands Xanadu Redevelopment Project related wetland impacts. As discussed in Section 1.1.2 of the SEIS, the Developer has identified an appropriate wetland mitigation plan that will provide mitigation consistent with the March 2008 U.S. Army Corps of Engineers and U.S. Environmental Protection Agency Compensatory Mitigation for Losses of Aquatic Resources Rules. The wetland impacts required for the project will be compensated by the purchase of a total of 5.41 credits from the Evergreen MRI3 Mitigation Bank.

Comment: The wetland impact calculation should include temporary and permanent impacts to wetlands, including those that are off-site and close to the project site, because there will be no buffer to them. (CL-1)

Response: Section 4.3.2 of the SEIS presents the proposed temporary and permanent wetland impacts proposed as part of the Project. The Project will require impacts to 0.15 acres of wetlands temporarily to facilitate drainage improvements. The Project will require the permanent filling of 5.41 acres of wetlands. Certain tidal wetlands adjacent to the project site and the New Jersey Turnpike will remain connected to the drainage features. These existing tidal wetlands are dominated by common reed and will not be directly impacted by the Project.

Comment: Wetlands provide valuable resources, including wildlife habitat value. Other development areas should be considered so that the five acres of wetlands that are proposed to be filled as part of the Project do not need to be filled and could be preserved. (DW-1, BG-9)

Response: The SEIS examines the wildlife habitat value of the Radio Tower Site (see Section 4.8). The Radio Tower Site does not contain any documented threatened or endangered species. The common reed wetlands found on the site are similar to many wetlands in the Meadowlands. Section 3.3 of the SEIS discusses the off-site alternatives that were considered, including locating the Amusement Park and Water Park facility on other portions of the Meadowlands Sports Complex. All of the off-site alternatives were not considered practicable or able to meet the project purpose. Therefore, filling of the wetlands on the Radio Tower Site is unavoidable.

Comment: The negative impacts that will result from filling a few acres of degraded wetlands are outweighed by the positive impacts of significant job creation that is sorely needed. (ES-2, JS-2, KB-1)

Response: The SEIS discusses the negative impacts to the tidal and non-tidal wetlands on the project site as well as the positive socioeconomic impacts from construction and operation of the Project.

Comment: At the time Evergreen MRI3 Mitigation Bank receives permits and approvals, mitigation credits will be released and available for purchase in advance of or concurrent with the rate of impacts to regulated features and represent a net gain of 11 acres of wetlands in the Meadowlands. The use of mitigation bank credits is the preferred form of mitigation under the Federal Rules. The 51-acre bank can mitigate for 21.38 acres of permitted impacts. We request that the mitigation alternatives analysis take into consideration the comments provided and consider the use of mitigation bank credits from the Evergreen bank as part of the mitigation plan for the Amusement Park and Water Park project. (MR-1)

Response: The Developer has considered the appropriateness of the Evergreen MRI3 Mitigation Bank as part of the overall wetland mitigation planning for the Amusement Park and Water Park Project. The Developer has signed agreements that will allow for the purchase of credits from the Evergreen MRI3 Mitigation Bank to compensate for the proposed wetland impacts.

Comment: Use of the Kane 40-acre parcel is limited to utilizing the land to mitigate for transportation projects only in accordance to a Deed and Conservation Restriction dated March 16, 2005, page 3, section 2. b. Additionally, the Kane parcel is a Phragmites-dominated wetland owned by an environmental land steward and protected under a conservation restriction. (MR-3)

Response: The Developer is no longer considering the use of the Lower-40 of the Kane Tract as part of the overall wetland mitigation plan for the Amusement Park and Water Park Project. Instead, the Developer will be purchasing credits from the Evergreen MRI3 Mitigation Bank.

Comment: Evergreen supports wetland preservation as compensatory mitigation only if no other alternatives are available. We oppose the preservation of lands as wetland mitigation in this case as other mitigation alternatives that result in a net gain of wetlands are available. Additionally, in lieu fee to the Freshwater Wetlands Mitigation Council should be a last alternative when and only if all other mitigation alternatives are unfeasible (MR-4).

Response: The Developer did consider wetlands preservation to provide appropriate compensation for the proposed wetland impacts. An in-lieu fee payment agreement as per U.S. Army Corps of Engineers (USACE) guidance was also considered. Neither of these options is being proposed for wetlands mitigation.

Comment: The NJMC must be prepared to monitor all short and long term effects of the project on the environment in order to assure that the developer compensates the people of New Jersey for the loss of habitat and wetlands within the Meadowlands District. (BG-4)

Response: The NJSEA and Developer are committed to providing the appropriate level of mitigation for the proposed wetland impacts. It is anticipated that the Hearing Officers will provide recommendations towards any necessary short and long-term monitoring requirements to ensure environmental impacts are minimized.

Comment: A comprehensive mitigation plan that replaces the wetland values and flood storage capacity lost due to this project must be in place as part of the issuing of permits. (JT-10)

Response: As presented in Section 1.1.2.5 of the SEIS, the Developer has identified an appropriate wetland mitigation plan that will provide mitigation consistent with the March 2008 U.S. Army Corps of Engineers and U.S. Environmental Protection Agency Compensatory Mitigation for Losses of Aquatic Resources Rules. The potential wetland and flooding impacts of the Project are being reviewed as part of the USACE and NJDEP regulatory review

processes (see Section 5.3 of the SEIS). As discussed in Section 4.5 of the SEIS, due to the tidal floodplain characteristics of the project site flood storage capacity is not required to be compensated for in accordance with the NJDEP Flood Hazard Area Control Act Rules. The Developer has signed agreements that will allow for the purchase of credits from the Evergreen MRI3 Mitigation Bank to compensate for the proposed wetland impacts.

Comment: The proposed wetland mitigation project may attract additional bird wildlife to the area surrounding the project site, which is in close proximity to Teterboro Airport. Wetland mitigation projects should be conducted at least 5 miles from any airport as outlined in FAA guidance. Whichever wetland mitigation site is chosen, if it is proximate to an airport, efforts should be made to exclude and discourage Canada geese from the area. (LF-1)

Response: As presented in Section 1.1.2.5 of the SEIS, the Developer has identified an appropriate wetland mitigation plan that will provide mitigation consistent with the March 2008 U.S. Army Corps of Engineers and U.S. Environmental Protection Agency Compensatory Mitigation for Losses of Aquatic Resources Rules. The concerns of the FAA have already been addressed as part of the review of the Evergreen MRI3 Mitigation Bank tidal wetland restoration project.

Water Resources

Comment: There is a concern that stormwater runoff will negatively impact the water quality of the Meadowlands region and the habitat of the many fish and bird species living in the region. The project should funnel all surface water through a water treatment facility to eliminate any street-side pollution running back into local streams and rivers. (BG-3, JT-3)

Response: Section 4.4 of the SEIS addresses water resources issues including a discussion of existing and proposed stormwater management measures. Stormwater runoff from the proposed roadway impervious surface will be treated through an onsite wet basin or an onsite water treatment device before being discharged to the surface water system. Runoff from the roof of the Amusement Park and Water Park building is considered "clean" and, therefore, will discharge directly to the surface water system.

Comment: An analysis should be completed of the water quantity and water quality impacts of stormwater that will result from the project. (CL-2, JT-12)

Response: The Stormwater Management Report for the Project presented in Appendix C of the Final SEIS provides a complete analysis of the water quantity and water quality impacts of the project. This report is being reviewed by the NJDEP as part of the Flood Hazard Area Permit Application review process (see Section 5.3.6 of the SEIS).

Comment: There needs to be mention of dredging the 108-inch culvert to reduce the overall impacts on the existing watershed. We do not believe the statement that increasing the drainage area to the smaller 96-inch culvert will improve drainage. Maintenance of the culverts should be discussed. (MCA-2)

Response: Section 4.4.1 of the SEIS presents a discussion on the surface drainage of the Radio Tower Site. As noted in the SEIS, the 108-inch culvert was cleaned out in 2006 as part of the previous Xanadu work. The 96-inch culvert will need to be cleaned out to facilitate proper drainage of the Radio Tower Site. The stormwater analysis concluded that even with the enlargement of the drainage area directed to the 96-inch culvert, the minimal rise in flood elevation and flows through the 96-inch culvert are acceptable.

Floodplains

Comment: The impacts related to wetland loss also need to account for loss of flood storage, especially in light of recent events. The Meadowlands are important for soaking up the water. (JT-2, BG-8)

Response: Section 4.5 of the SEIS discusses existing floodplain conditions and potential impacts that would result from the Project. Based on an analysis for the 10-, 50-, and 100-year storm during the 10-year tidal surge and under post-development conditions, the surface water elevation increase of stormwater flowing to the 96-inch and 108-inch culverts will be negligible. During the FEMA peak 100-year tidal storm surge event, the peak water surface on either side of the culverts is determined by the Hackensack River and not by runoff from the Radio Tower Site. Fluvial and tidal flood studies were prepared for the Project. Both studies account for pre- and post-project conditions as part of their analysis. The flood studies have been prepared and submitted to the NJDEP, as the agency who has jurisdiction over the regulated flood hazard area pursuant to the Flood Hazard Area Control Act Rules (N.J.A.C. 7:13).

Comment: The loss of five acres of wetlands is not going to make a big difference in the flooding problems we have in the State. (MS-2)

Response: The design of the Project has been prepared to conform to the floodplain regulations of the NJDEP (Flood Hazard Area Control Act Rules at N.J.A.C. 7:13). Conformance with the floodplain regulations will be confirmed as part of the ongoing NJDEP Flood Hazard Area permit application review.

Comment: The loss of flood storage areas onsite should be replaced elsewhere on-site in order to minimize potential flooding in surrounding residential areas and communities. Triple Five should clean ditches in the surrounding communities and install a pump station near the industrial areas of the Hackensack River, specifically Industrial Avenue, would be beneficial for storm mitigation and economic development. (MCA-1)

Response: The design of the project has been prepared to conform to the floodplain regulations of the NJDEP. Conformance with the floodplain regulations will be confirmed as part of the ongoing NJDEP Flood Hazard Area permit application review. Off-site floodplain mitigation will not be necessary to conform to the NJDEP regulations.

Comment: A tidal study should be conducted addressing the effects of tidal storm surges in reference to the impact of Hurricane Irene in the surrounding areas. (MCA-3)

Response: The Developer has prepared the appropriate studies to address State regulations regarding development in tidal floodplains. These include a Flood Study Engineering Report and a Stormwater Management Report (see Appendices C and D of the Final SEIS). These reports have been submitted to the NJDEP as part of the Flood Hazards Area permit application. No additional studies or any regional tidal studies are proposed.

As documented in Appendix D of the Final SEIS, during the FEMA peak 100-year tidal storm surge event (el. 8.7 NGVD) the peak water surface on either side of the culvert is determined by the Hackensack River and not by runoff from the Radio Tower Site. Based on a pre-application meeting with the NJDEP Division of Land Use Regulation, a downstream analysis of the channels downstream of the Turnpike is not required since there are no buildings or developed properties downstream that might be impacted by increased flooding.

Based on a water quantity analysis for the water flowing to the 108-inch culvert, there will be a negligible 0.02-foot (0.24-inch) increase in the backwater peak elevation on the upstream (site) side of the culvert for the 100-year storm. This peak elevation (el. 7.4) is approximately 1.7 feet lower than the lowest elevation of the adjacent Turnpike, which satisfies the New Jersey Turnpike Authority's requirement to maintain at least one foot of freeboard between their roadway and peak backwater elevation for the 100-year storm event. See Appendix C of Final SEIS.

A hydrologic analysis was also performed to determine the impact of the proposed improvements on the tailwater developed at the upstream stormwater outfalls which convey offsite flow through the Radio Tower Site to the 96-inch and 108-inch culverts (Appendix C of Final SEIS). The tailwater effects will be minimal. A water quantity analysis for the 100-yr storm during a 10-year tidal surge with a combined tailwater elevation of 6.6 under pre- and post-development conditions was performed. The analysis indicates there will be a negligible 0.04-foot (0.48-inch) increase in the backwater peak elevation (7.47 ft. to 7.51 ft.) for the 100-year storm on the upstream side of the site at the existing 36-inch pipes, which is below the 0.2-foot (2.40-inch) increase allowed.

Resource Contamination

Comment: An evaluation should be completed of the proposed characteristics of the fill material that will be used as part of the project. (CL-3)

Response: The evaluation of any proposed fill to be brought onto the project site will be performed and reviewed in accordance with the Soil Reuse Plan, which is part of the Remedial Action Workplan provided in Appendix E of the Final SEIS.

Comment: Additional surveys and analysis for toxic materials should be performed on the project site. There was an active oil processing facility in the area prior to the construction of the sports complex. Project reviews need to identify potential areas and address the safe removal of these wastes. (JT-13)

Response: Section 4.11 of the SEIS presents the studies performed of the Radio Tower Site to identify soil and groundwater contaminants. A Preliminary Assessment Report and Site

Investigation Report provided as Appendix B and Appendix C in the Draft SEIS, respectively, present the results of the studies. The Remedial Action Workplan presented in Appendix E of the Final SEIS presents the steps that will be taken to address the found contaminants.

Comment: Environmental concerns at the site should be very important. The history of the area is of terrible environmental conditions, but projects like this one provide opportunities for responsible developers like this one working with the NJDEP to properly clean up some of those issues and make these areas cleaner for the future. (JK-2)

Response: Section 4.11 of the SEIS presents the steps the Developer will be taking to address environmental concerns related to the property.

Solid Waste and Recycling

Comment: The developer, Triple Five, has utilized cutting edge technologies in their other projects, including Mall of America, and proposes to replicate them in the American Dream Meadowlands Project. The Mall of America project recycles approximately 60% of its waste, including recycling approximately 100 tons of glass bottles every year and converting used cooking oil into approximately 5,000 pounds of biodiesel fuel each month. (KD-3)

Response: Section 4.12 of the SEIS addresses the anticipated recycling program to be implemented at the facility during the operation phase. Note that the former developer had prepared an operation phase Recycling Plan in 2008. It is anticipated that Triple Five will update this plan and implement it.

Utilities and Infrastructure

Comment: The building and complex will be one of the largest users of utilities and infrastructure in the entire State. The DSEIS should address the amount of energy to be used, greenhouse gases produced, impacts on climate change and water consumed. Renewable energy technologies should be used at this facility to generate electricity and for heating and cooling. Triple Five should provide estimated energy consumption data and discuss its effect on the region and surrounding municipalities. Triple Five should provide funding to the municipalities for similar energy efficiency projects. (MCA-4, JT-8, CL-4, BG-5)

Response: The American Dream Meadowlands project will consume electricity similar to other retail and entertainment venues in the region. The actual amount of energy was not calculated due to the wide range of variables in operation of the project components. Water usage was projected in Table 4-13 of the SEIS. Renewable energies will be explored as part of the overall

evaluation of environmentally responsible buildings and design discussed in Section 1.5 of the SEIS. The Developer is not responsible for regional energy demand or funding of regional energy efficiency programs.

Comment: A discussion about the handling of sanitary sewer overflows should be provided. A wastewater treatment facility should be provided onsite since the BCUA is already over capacity and discharges when it rains. (MCA-7, JT-15)

Response: The proposed sanitary system for the project is discussed in Section 4.13 of the SEIS. The proposed system will not allow for any sanitary sewer overflows. All sanitary waste will be directed to the BCUA Little Ferry Plant for treatment via the East Rutherford pump station on the Sports Complex. An application for a Treatment Works Approval authorizing disposal of sanitary waste to the BCUA facility has been submitted to the NJDEP (see Section 5.3.8 of the SEIS). No on-site sewerage treatment plant is contemplated for the Meadowland Sports Complex.

Comment: A water use analysis must be completed as part of the environmental review. There is no evaluation of exactly how much potable water will be used on the site. (JT-14, BG-6)

Response: A projection of the potable water usage for the project is provided in Table 4-13 of the SEIS.

Comment: The project site itself, both during construction and during operation, may be attractive to gulls because of additional open trash containers. Gulls are a hazard to air navigation. During construction and operation, efforts should be taken to discourage gulls from the site because of its proximity to Teterboro Airport. (LF-2)

Response: Garbage from the project site will be collected and stored in closed containers prior to transport to a solid waste disposal facility.

Traffic and Transportation

Comment: A major concern with large-scale projects like the one proposed is always traffic. However, traffic in this region will always be present, regardless of what projects are proposed and the public will find ways to adjust. (MC-1)

Response: Comment noted. The original Traffic Impact Study (the "TIS") for the Meadowlands Xanadu Project at the Arena Site (the "Xanadu Project") did account for traffic in the region through background counts and the analysis of potential traffic increases from projected regional growth. The TIS demonstrated how existing roads, with certain improvements, would accommodate the traffic volume from the Xanadu Project. The TIS was reviewed and approved by the NJDOT in 2006 with the issuance of a Major Access Permit (NJDOT Permit No. A-120-N-N033-2004). All of the roadway improvements proposed in the TIS have been completed and are operational, except for one ramp to the Project Site from Route 120, at a cost of over $60 million.

Comment: The project should not just consider expanding rail service to the site, but also bus rapid transit, people movers, and other forms of mass transportation to solve the overall transportation planning challenge that a development of this size creates. (JT-5)

Response: Rail service is now provided to the Sports Complex for major events. As discussed in Section 4.14.3 of the October 2011 Draft Supplemental Environmental Impact Statement ("DSEIS"), future daily rail service to the Sports Complex and improved bus service are anticipated. The Developer projects a substantial increase in the use of mass transit for patrons and employees to the American Dream Meadowlands Project (the "Project") and a concomitant decrease in automobile traffic as the rail line and bus services increase. The Developer is working with the New Jersey Transit Corporation ("NJ Transit") with regard to rail and bus service for the Project to provide train service from the Secaucus station and express bus service from New York City and Hudson County on at least an hourly basis. The DSEIS also presents a list of transportation programs being explored by the Developer to promote mass transit by patrons and employees, including:

- Expanding service to the Project Site from existing mass transit hubs;
- Marketing promotions and packages encouraging the use of mass transit;
- Employee incentives to use mass transit;
- Marketing incentives for off peak visits; and,
- Preferred patron carpool parking and ride/car-sharing.

Comment: There is already significant vehicular traffic in the vicinity of this site and the traffic that will be generated by the Project will create a game-day like scenario every day, creating grid lock. No plan has been produced that shows how the roads will handle the increased traffic. The DSEIS does not include an analysis of traffic when other events are occurring at the Sports Complex. The developer should be commended for their interest in dramatically expanding public transportation to the site, which will serve the Project and everyone in northern New Jersey and improve air quality. There needs to be development of bus and light rail to service the site. (CL-8, ES-4, JT-18, BG-1, JT-6, KS-2, KS-8)

Response: As discussed in the Executive Summary (see pages ES-2 and ES-3), this Supplemental EIS was prepared to evaluate the proposed addition of a new component (i.e., Amusement Park and Water Park) to the overall redevelopment project for the Arena Site. The original TIS was prepared for the Xanadu Project and was presented in the Xanadu Project March 2004 Preliminary Environmental Impact Statement. The TIS accounted for existing traffic volumes in the vicinity of the Xanadu Project Site and traffic to be generated by the Xanadu Project. Levels of Service were determined for multiple peak hours at selected intersections. The TIS demonstrated how existing roads, with certain improvements, would accommodate the traffic volume from the Xanadu Project. The TIS also included an examination of traffic associated with events occurring at the Sports Complex. The TIS was reviewed and approved by the NJDOT in 2006 with the issuance of a Major Access Permit (NJDOT Permit No. A-120-N-N033-2004). All of the roadway improvements proposed in the TIS have been completed and are operational at a cost of over $60 million; except for the new ramp from Route 120 Northbound to the northern portion of the Arena Site, which is constructed but not fully operational at this time.

In addition to the TIS, an additional regional traffic study was performed to examine roadways and traffic volumes around the Sports Complex. The regional report incorporated anticipated traffic volumes from ten planned developments in the Meadowlands, one of which was the Xanadu Project. The Meadowlands Regional Transportation Analysis Report, dated December 2004, was completed by Edwards & Kelcey on behalf of the NJSEA and NJDOT and identified specific roadway improvements that would facilitate better traffic flow for the Sports Complex and region (the "Regional Report"). Section 4.14.1 of the DSEIS lists the specific roadway improvements that have been completed or are in progress as a result of this study, at a cost in excess of $440 million.

The potential traffic increase from the proposed Amusement Park and Water Park, which is the subject of the SEIS, is presented in the October 2011 Traffic Impact Assessment (the "TIA") (see Appendix F to the DSEIS). As discussed in Section 4.14.2 of the DSEIS, the TIA determined the additional trips from the Amusement Park and Water Park and compared them with the original traffic permit presented in the original TIS. The TIA concluded that the roadway improvements constructed over the past several years for the Xanadu Project, combined with other regional road improvements and the new rail line, have improved traffic conditions in the Sports Complex area. Based on criteria set forth in the New Jersey State Highway Access Management Code (the "Code"), the TIA concluded that the additional traffic anticipated from the Amusement Park and Water Park would not substantially increase projected traffic volumes compared to the original Xanadu Project. The TIA was accepted by NJDOT with the issuance of a Major Access Permit on March 14, 2012, confirming that the traffic from the Amusement Park and Water Park will not generate a significant increase in traffic. As a result of the anticipated increase in mass transit and other factors, vehicular traffic should be further reduced below those projected in the TIA.

The DSEIS does not include an analysis of traffic when major events are occurring at the Sports Complex because no such analysis is required. However, as part of the studies and reports concerning the Xanadu Project, Game Day situations were reviewed with NJSEA as well as the Stadium Entities and approved by the New Jersey Turnpike Authority in 2007. The Stadium Traffic Impact Study was approved by NJDOT for a Major Access Permit that incorporated the Xanadu TIS data.

Moreover, since the original TIS was performed, a new rail line has become operational and has significantly reduced traffic volumes during major events at the Sports Complex by over ten percent (10%) and will reduce the amount of vehicular traffic associated with the Project from what was originally analyzed. On-going discussions are currently underway with NJ Transit regarding the expansion of the existing rail service to add capacity as well as increased bus service to the Project. Second, the Bergen County Blue Laws will result in a substantial portion of the facility being closed on a game day Sunday, when the vast majority of the NFL games are played. Third, it is reasonable, based on data derived from other facilities, that there will be a "stay-away" factor on NFL game days, as potential visitors avoid the traffic generated to and

from the Stadium before and after the games, causing a further reduction in the traffic to the Park portion of American Dream. Fourth, it is expected that major event patrons will also utilize ADM before and after the event, thereby dispersing some of the peak traffic entering and exiting the Sports Complex for the event. Finally, the traffic improvements paid for by the Xanadu Project developer have significantly improved traffic flow both outside and inside the Project area.

Comment: We have significant concerns with the impacts the American Dream Project will have on traffic in the region. The application projects the complex will generate more than 200,000-220,000 cars a day. The projections in the traffic component are flawed. It is implausible that increasing the physical size of the project by 10 percent will not increase the amount of patrons. (JT-11, KS-6)

Response: The increase to the physical size of the original Xanadu Project will not result in any significant increase in traffic volumes because of roadway improvements, increased mass transit ridership and other factors (described in the preceding response) not considered as part of the original TIS.

The projections in the original TIS were prepared in accordance with the Code, N.J.A.C 16:47, and approved by the NJDOT. The TIS conservatively did not account for mass transit ridership and thus the roadway improvements were designed without factoring in the reduction in traffic due to the increased use of mass transit

Similarly, the potential traffic increase from the proposed Amusement Park and Water Park presented in the TIA (see Appendix F to the DSEIS) was also calculated in accordance with the Code. The TIA concluded that the additional traffic anticipated from the Amusement Park and Water Park would not substantially increase projected traffic volumes compared to the original Xanadu Project. The NJDOT reviewed the TIA and recently issued a Major Access Permit for the Amusement Park and Water Park improvements, confirming that the traffic from the Amusement Park and Water Park will not generate a significant increase in traffic. As a result of the anticipated increase in mass transit and other factors, vehicular traffic should be further reduced below those projected in the TIA.

In addition to the original TIS, the State's Regional Report examined roadways and traffic volumes around the Sports Complex. The State study incorporated anticipated traffic volumes from ten planned developments in the Meadowlands, one of which was the Xanadu Project. The Regional Report, dated December 2004, identified specific roadway improvements that would facilitate better traffic flow for the Sports Complex and region. Section 4.14.1 of the DSEIS lists the extensive roadway improvements that have been completed or are in progress as a result of this study.

Comment: The project will help to mitigate traffic conditions, which is one key thing about the project. (KB-5)

Response: Comment noted.

Comment: A traffic impact analysis that extends beyond the requirements set forth by the State Highway Access Management Code should be performed. The applicant should study traffic impacts within a regional context, which we recommend is a minimum radius of 4 miles from the project. The traffic analysis presented in the DSEIS is far from adequate and comprehensive. The effect that American Dream will have on the surrounding roads has not been fully explored. The only roads addressed in the DSEIS are the immediate surrounding access roads and ramps. How will other regional roads be affected by the increase in traffic? The added traffic as a result of American Dream will further impact these roads. (JC-3, KS-1)

Response: As stated in the preceding responses, the detailed original TIS was prepared in accordance with the Code, N.J.A.C 16:47, and was approved by NJDOT. Moreover, the Regional Report examined traffic volumes at a regional level compared to the TIS. The TIS and Regional Report provide a comprehensive analysis of the Xanadu Project traffic as well as traffic from projected regional development.

The potential traffic increase from the proposed Amusement Park and Water Park, which is the subject of the DSEIS, is presented in the TIA (see Appendix F to the DSEIS). As discussed in Section 4.14.2 of the DSEIS, the TIA determined the additional trips from the Amusement Park and Water Park and compared them with the original traffic permit presented in the original TIS. Based on the criteria set forth in the Code, the TIA concluded that the additional traffic anticipated from the Amusement Park and Water Park would not substantially increase projected traffic volumes compared to the original redevelopment project at the Arena Site. The TIA has been reviewed by the NJDOT, which recently issued a Major Access Permit for

the Amusement Park and Water Park improvements, confirming that the traffic from the Amusement Park and Water Park will not generate a significant increase in traffic. As a result of the anticipated increase in mass transit and other factors, vehicular traffic should be further reduced below those projected in the TIA.

The TIA is conservative in nature and does not take into account automobile traffic volume reductions resulting from the use of mass transit (rail and bus), internal trips, pass-by-trips and other factors. The Developer projects a substantial increase in the use of mass transit for patrons and employees to the Project and a concomitant decrease in automobile traffic as the rail line and bus services increases.

Since NJDOT has recognized that the TIA is in conformance with the Code, there is no basis upon which to require any further studies, particularly since NJDOT has already issued its Major Access Permit for these Project enhancements.

Comment: The addition of the proposed monorail from the transit station to the IZOD Center and entertainment complex will be key components. (KB-2)

Response: The Developer has suggested potential future add-ons to the overall Project, including a monorail from the existing rail station adjacent to the New Meadowlands Stadium to the American Dream Meadowlands site. This potential project component is not part of the American Dream Meadowlands Project.

Comment: The developer's transportation analysis should be commended for stressing the increased role of mass transportation as part of the Project, but needs to provide more specific information as to how that will happen. Key planning documents such as a transportation management plan have not been prepared, and conversations with NJ Transit have yet to occur. It is premature to make any conclusions about the effect the expansion will have on roads and the existing mass transit system, and how these effects can successfully be mitigated. A realistic plan for providing public transportation and paying for it should be included in the document. (JC-1, KS-3)

Response: Transportation management planning documents were prepared as part of the Xanadu Project. An Executive Summary of the Event Parking and Transportation Management Plan ("EPTM"), dated March 15, 2005, was provided in Appendix G to the 2004 Final Environmental Impact Statement for the Xanadu Project. The EPTM was presented to the

Hearing Officers in the January 2008 Quarterly Progress Report (see Attachment F in Volume II of the Quarterly Progress Report). As part of the preparation of the EPTM, NJ Transit and other transportation agencies were consulted.

The current Developer has held discussions with NJ Transit to examine and consider appropriate mass transit operations and options for the Project. It is anticipated that NJ Transit will agree to expand its rail and bus service to the Project.

Comment: The Draft Supplemental EIS discusses cooperation with NJ Transit, Port Authority, and NJDOT to increase bus and rail service to the site. The document does not provide any details on where bus routes will be within the project site and how demands will be met. There are no details about how these service expansions will be funded, especially in light of recent budget cuts at all three entities. (JC-2, KS-7)

Response: A discussion of bus routes within the Project area is provided in Section 4.14.3.4 of the 2004 Final Environmental Impact Statement for the Xanadu Project. NJ Transit has committed to provide assistance to handle the increased demand for bus services and rail, which has been the subject of an ongoing evaluation by and discussion with NJ Transit.

Comment: A direct plan should be outlined to dedicate a percentage of Project profits to transit operating costs and local roadway network maintenance funds to supplement increased service demands that would be required of already-taxed transit agencies. Triple Five should partner financially with NJ Transit and PANYNJ for transit operation cost increases from the project. Triple Five shall also provide local aid contributions to local roadway networks to surrounding municipalities, counties and the state of New Jersey to pay for the increased use of roadway infrastructure. (JC-4, JC-7)

Response: Over $60 million has already been expended by the Developer on roadway improvements not only within the Project site but also in the vicinity of the Sports Complex. Discussions are being held with NJ Transit to determine the appropriate mass transit operations.

Comment: Mass transportation opportunities at the site are significant. There is an existing rail line to the area that is a major opportunity. In addition, the idea of extending ferry service to the site should be explored, including any necessary river dredging. (DS-3)

Response: The DSEIS discusses mass transit opportunities for the Project, including the existing rail station at the New Meadowlands Stadium and bus service to the American Dream Meadowlands site. With future daily rail service to the Sports Complex and improved bus service, the Developer anticipates a substantial increase in the use of mass transit by American Dream Meadowlands patrons and employees and a concomitant decrease in automobile traffic as the rail line and bus services increase. Ferry service to the site is not a viable option.

Comment: On-site foot traffic from concerts at the IZOD Center will be beneficial for surrounding merchants and businesses within American Dream and the surrounding areas. (KB-6)

Response: The events at the Sports Complex, including the IZOD Center, will provide patrons for American Dream Meadowlands as well as local businesses. The socio-economic section of the DSEIS (Section 4.17) recognizes the positive economic effects the Project will have through indirect business multiplier effects.

Comment: The wide range of programs that address traffic congestion presented in the DSEIS are positive. They should include marketing promotions or employee incentives encouraging the use of mass transit or car-pooling on-site, to reduce traffic gridlock. (JC-5)

Response: As stated in Section 4.14.3 of the DSEIS, several programs are being explored by the Developer to help increase the use of mass transit and carpooling for patrons and employees of the Project. These programs include expansion of the service from existing mass transit hubs, marketing promotions and incentives encouraging the use of mass transit, off-peak visits, and preferred patron carpool parking and ride/car-sharing.

Comment: The Traffic Impact Assessment (TIA) references peak and off-peak times but does not state the hours. It is not possible to know if the projections are realistic. (JC-6, KS-4)

Response: The peak hours referenced in the TIA correspond to the same peak hours contained in the original Traffic Impact Study (TIS) for the Xanadu Project. The peak hours are as follows:

- Peak AM Highway Hour: 7:30 – 8:30 AM
- Peak PM Highway Hour: 4:30 – 5:30 PM
- Peak PM Event Hour: 7:15 – 8:15 PM
- Peak SAT Hour: 3:15 – 4:15 PM

The NJDOT has recently approved these peak hours as part of the Major Access Permit for the Amusement Park and Water Park additions to the American Dream Meadowlands Project.

Comment: The TIA relies on figures obtained from the Institute of Transportation Engineers (ITE) for determining increased traffic due to the addition of the amusement park and water park. We question the reliability of ITE to make these projects. The numbers seem awfully low for an amusement park and water park that boasts state of the art rides. With an estimated 55 million visitors a year, the project will be doomed from the start. (JC-8, KS-5)

Response: Use of the Institute of Transportation Engineers' ("ITE") trip generation rates to determine trip generation for the Amusement Park and Water Park is required by the Code. The NJDOT insisted on the use of this neutral, authoritative source at the pre-application meeting with the applicant. Further, the use of ITE rates was reviewed and approved by the NJDOT as well as the NJSEA and the Stadium Entities in connection with NJDOT's earlier Major Access Permits (with Planning) for the Xanadu Project and the New Meadowlands Stadium and Ancillary Development.

The ITE data utilized is conservative and does not account for various factors that will reduce traffic, such as the existing and expanded rail service ridership, extensive construction to improve traffic conditions at a cost to the developer of over $60 million, and the regional roadway and transit improvements completed by NJDOT, the New Jersey Turnpike Authority, NJSEA and NJ Transit since approval of the Xanadu Project at a cost in excess of $440 million, all of which have improved and will continue to improve traffic movement and uninterrupted access to the Sports Complex and Project.

In addition, the ITE data is based on a stand-alone facility and, therefore, no internal trips are factored into that data, as would logically occur between the Entertainment/Retail Component ("ERC") and Amusement Park and Water Park components of the Project. The TIA does include an appendix that considers trip generation rates for a similar project (i.e., Mall of America in Minnesota) that includes an interconnected retail park. This center has lower trip rates than the rates utilized in the original TIS for the Xanadu Project. The TIA therefore specifically addresses the additional traffic from the Amusement Park and Water Park.

Comment: The TIA is negligent on its discussion of local roads. Since American Dream Meadowlands will be marketed as a tourist attraction, the impacts on Teterboro Airport and secondary and tertiary roads from the airport to the ERC should be addressed. Travel should be directed to Moonachie Road located at the "rear" of the airport. There is no discussion on how secondary and tertiary roads will be impacted. (MCA-5)

Response: The TIA focused on whether the Amusement Park and Water Park will exceed certain thresholds for additional traffic to the overall Project as approved by the NJDOT in 2006. The potential impacts on local roadways were examined in the original TIS prepared for the Xanadu Project, now the American Dream Meadowlands Project, and presented in the March 2004 Preliminary Environmental Impact Statement. In addition to the TIS, and as discussed in preceding responses, the Regional Report examined roadways and traffic volumes around the Sports Complex, incorporated anticipated traffic volumes from ten planned developments in the Meadowlands, including the Xanadu Project, and identified specific roadway and mass transit improvements that would facilitate better traffic flow for the Sports Complex and within the region. Thereafter, many of these improvements have been completed at a cost in excess of $440 million, including mass transit rail line improvements.

Air traffic at Teterboro Airport was not examined as part of the DSEIS. Although additional flights into Teterboro Airport can be anticipated for patrons coming to the Amusement Park and Water Park, this additional traffic should be minimal.

Comment: The Final Traffic Impact Assessment includes Mall of America data which is not applicable and should be removed, considering the goal of the American Dream is 55 million visitors per year and the Mall of America brings upward of 40 million annual visitors. (MCA-6)

Response: The TIA does not rely upon the trip generation rates obtained at the Mall of America. This data was provided as an appendix to the TIA solely for comparison to trip rates previously approved for the ERC in the TIS for the Xanadu Project. The Mall of America trip generation data simply serves as an additional source of trip rates and illustrates that a similar type facility, which includes an Amusement Park, generates traffic at a lower trip rate than what was projected in the TIS. The TIA is solely based on the ITE, as required by the NJDOT.

Comment: The Stadium Entities are concerned that Triple Five has not provided a detailed traffic and parking plan that addresses the increased demand for on-site parking spaces, or the inconsistent and conflicting traffic movements, on Game Days generated by NFL fans and patrons of the American Dream project, including the new Amusement and Water Park. The new American Dream proposal with the Amusement and Water Park inevitably will make matters much worse on Game Days than the smaller Xanadu project. Triple Five projects up to 55 million visitors to American Dream annually, which averages to approximately 150,000 per day. But the Traffic Impact Assessment, attached as Appendix F to the DSEIS, provides no calculation for the number of additional trips expected on Sundays, which includes most Game Days. (RG-1)

Response: The Developer disagrees that the addition of the Amusement Park and Water Park will make traffic and parking "much worse" on Stadium Game Days than would occur with respect only to the Project. The EPTM examines parking and traffic occurring on Stadium event days, including NFL Game Days. The TIA was prepared in strict compliance with NJDOT permitting regulations, which do not require that any Stadium Game Day analysis be performed. The analysis required (as per statute and agreed upon with the NJDOT at a pre-application conference) for Peak Hour Permitting purposes is to calculate trips for the Amusement Park and Water Park during Xanadu's peak hours, not at the Stadium's peak hours. The Amusement Park and Water Park's generated trips have been properly analyzed and show no significant increase in traffic from that projected for and approved by NJDOT for the Xanadu Project.

Moreover, the January 2007 Environmental Impact Statement and accompanying Traffic Impact Study submitted by the Stadium Entities for the New Meadowlands Stadium Project did not address Game Day situations for the expanded Stadium on the assumption that the New Meadowlands Stadium's increased capacity would not generate significant increased traffic. However, as part of the studies and reports concerning the Xanadu Project, Game Day situations

were reviewed with NJSEA as well as the Stadium Entities and approved by the New Jersey Turnpike Authority in 2007. The Stadium Traffic Impact Study was approved by NJDOT for a Major Access Permit that incorporated the Xanadu TIS data.

Since that time major improvements have been completed that have reduced traffic impacts, most notably the more than $60 million of roadway improvements constructed by the Xanadu Project developer and the more than $440 million of roadway improvements and additional mass transit improvements, including the new rail line, implemented by the State, New Jersey Turnpike Authority, NJSEA and NJ Transit. Various other factors will also reduce the amount of traffic from the Amusement Park and Water Park during Game Days, including internal trips (*i.e.*, people visiting the ERC during the same trip), and a "stay away" factor (*i.e.*, people choosing not to visit American Dream at all on Game Days). Furthermore, the Bergen County Blue Laws will result in a substantial portion of American Dream being closed on a Game Day Sunday, when the vast majority of NFL games are played.

No new event parking assessments were undertaken as part of the preparation of the DSEIS for the Amusement Park and Water Park because parking issues are not relevant to the EIS process. In any event, the parking facilities proposed for the redevelopment project will be more than sufficient to accommodate the insignificant additional parking demand from the Amusement Park and Water Park, while still providing the required parking spaces for events at the Sports Complex, including football games.

Comment: The Stadium Entities' concerns about access, traffic and parking in the Meadowlands were the subject of extensive study and negotiation during the planning phase of the initial Xanadu development. The public record confirms that the prior development approvals concerning MetLife Stadium and the former Xanadu development were premised on the assumption that local traffic impacts would be mitigated by a coordinated traffic and parking plan between the two project sites, particularly on Game Days. (RG-2)

Response: The Developer recognizes that the previous developer and the Stadium Entities prepared Event Parking and Transportation Management Plans (EPTMs) in coordination with the NJSEA for the Sports Complex, and that there are agreements in place addressing these issues. The Developer will continue to work with the NJSEA and the Stadium Entities to review the previously approved EPTMs and modify them, as necessary, to bring

them up to date based upon the improvements made as outlined above, the development of the Amusement Park and Water Park and the other operational requirements of the American Dream Meadowlands Project. The Developer is also committed to advancing the use of mass transit (i.e., increased rail and bus service) for patrons and employees of American Dream, which will both contribute to decreasing vehicular traffic to the Sports Complex and promote workable transportation solutions on Game Days and during other events at the Sports Complex.

Comment: Consideration of the DSEIS should occur only on the basis of complete information in order to ensure that this large-scale project enhances, rather than detracts from, the overall Meadowlands experience, especially on NFL Game Days when attendance at the Meadowlands is at its peak. The Panel should not take action on the DSEIS or American Dream project in the absence of such information, nor should the American Dream proposal be finally approved, while important contractual issues remain outstanding among the NJSEA, Triple Five and the Stadium Entities—the resolution of which could change the current plans for the American Dream project. . . For the foregoing reasons, the Stadium Entities respectfully urge that the Panel postpone any decisions on the DSEIS for at least 60 days. (RG-3)

Response: The Developer has submitted all information required in support of the DSEIS and there is no basis on which to delay a decision. The TIA has demonstrated that the impact on traffic from the addition of the Amusement Park and Water Park will not be significant. As the Stadium Entities have acknowledged, any contractual matters among the NJSEA, the Developer and the Stadium Entities are not within the jurisdiction of the reviewing agencies. There is currently an ongoing exchange of information between the traffic and parking consultants for the Developer and the Stadium Entities. While we are optimistic that this process will resolve any major concerns of the Stadium Entities, issuance of approvals from the agencies need not and should not await resolution of the parties' private contract matters.

Air Quality

Comment: What is the effect of added air pollution from car and truck exhaust? The additional traffic will significantly add to air pollution in the area. The project could put New Jersey in violation of our State Implementation Plan under the Clean Water Act. (JT-17, BG-2)

Response: As discussed in Section 4.15 of the SEIS, the August 2004 Final Environmental Impact Statement for the Meadowlands Xanadu Redevelopment Project addressed the potential impact on air pollution from the car and truck exhaust for the overall redevelopment of the Arena Site. The TIA addressed the additional vehicular trips from the Amusement Park and Water Park Project and concluded that the projected traffic of the overall development would only be a minimal increase; therefore, the Amusement Park and Water Park Project will not adversely impact air quality.

Socioeconomics

Comment: The proposed American Dream Meadowlands Project will serve as a catalyst for future economic development in the area, including improved infrastructure, other site development projects, hotel development in the region as well as jobs. The project will help the Meadowlands tourism economy that can create jobs and tax revenue. The project will have a significant positive impact on workers and their families. (KD-6, JP-2, FR-1, SB-2, JKI-5, TP-1, KB-1, SA-1, EW-2, MK-1, DS-2, JS-3, JCI-1, TG-2, CW-2, GD-2, SS-2, JK-1)

Response: The socioeconomic impacts from the project are summarized in Section 4.17 of the SEIS. The positive economic impacts listed by the commenters are anticipated with the construction and operation of the American Dream Meadowlands.

Comment: The most important contribution this project will make is reducing unemployment in the region. The project will create construction and permanent jobs that are sorely needed among unemployed unions and other workers and industries in Bergen County. There is also significant positive employment impact that will be felt among industries and local businesses that will end up servicing the Project or otherwise indirectly benefit from a project of this magnitude. (KD-4, MC-3, JH-1, RS-1, SC-2, RB-1, RDA-1, JKI-3, LB-1, GC-1, DS-1, CG-1, FR-2, DL-1, SB-1, KM-1, ET-1, TP-2, EB-2, ES-1, KB-3, AS-1, SA-2, MW-1, MS-1, AD-1, PA-1, EW-1, GD-1, RR-1, DS-1, RN-1, SO-2, JA-1, JS-1, MM-2, TG-1, RS-2, CW-1, GM-1, ES-5, MT-1, KB-1)

Response: The socioeconomic impacts from the project are summarized in Section 4.17 of the SEIS. The positive economic impacts listed by the commenters, including the creation of new jobs, are anticipated with the construction and operation of the American Dream Meadowlands.

Comment: The unions have unemployment from 40 to 60 percent, with some members out of work for over two and one-half years. (EB-5, ES-3, JH-1, RS-2, LB-2, GC-2, RN-2)

Response: The SEIS recognizes that the unemployment rate for Bergen County over the past several years has been unusually high due to the national recession. The recession impacts on the unions are acknowledged.

Comment: The Project has been in various stages of development for many years with promises of significant tax revenue. The surrounding communities can no longer wait to begin reaping the full tax revenue that is possible once the Project is completed. (MC-2, JH-2, RDR-1, JR-2, DF-2, MT-2, MWI-1)

Response: The socioeconomic impacts from the project are summarized in Section 4.17 of the SEIS. The positive economic impacts listed by the commenters are anticipated with the construction and operation of the American Dream Meadowlands.

Comment: The developer should be commended for using their own money to finance the Project as well as providing such a significant local staff presence to explain their vision for the Project to local leaders and officials. This approach has created significant transparency and trust throughout the process. In addition to the short term positive impacts the Project will created for the building trades, it will also restore faith in the industry that large-scale projects are possible and restore hope for the next generation of laborers that their industry will survive and thrive. (JP-1, SC-1, RB-2)

Response: The NJSEA and Developer are trying to complete the former Meadowlands Xanadu Project. The public's understanding of Triple Five's vision and approach to the project are necessary to move the project forward.

Comment: The developer has a strong reputation of success from their West Edmonton Mall and Mall of America projects. Those projects represent significant economic sources in their respective regions. The presence of such a strong developer in the Project is further reason to believe it will be successful. (JK-2, EB-3, GM-3, JKI-4)

Response: The Developer's experience with their other projects of similar scale and type form the Developer's need for the Amusement Park and Water Park Project, which will become key entertainment components for a successful American Dream Meadowlands (see Section 2.0 of the SEIS for further discussion).

Comment: The project will recognize New Jersey as a sports, entertainment and shopping destination having a positive impact on tourism for the region and serving as a landmark for tourists. The project will bring in many tourists and visitors from all over the world. (GM-2, SS-1, MWI-2, SA-2, JKI-6, JR-4)

Response: Based on Triple Five's experience with other similar venues, the Amusement Park and Water Park Project will provide key entertainment components that will attract tourists and visitor from all over the world to the American Dream Meadowlands.

Comment: The project will negatively impact the economics of surrounding communities by taking away business from their shopping centers. The economic impacts this project will have on surrounding businesses should be included in the EIS. (JT-19, BG-7)

Response: The socioeconomic impacts of the redevelopment project at the Arena Site were addressed in the August 2004 Final Environmental Impact Statement for the Meadowlands Xanadu Redevelopment Project. The Amusement Park and Water Park Project, as entertainment, will not compete with local shopping centers.

STATE OF NEW JERSEY
NEW JERSEY MEADOWLANDS COMMISSION

AMERICAN DREAM AT MEADOWLANDS PROJECT
PUBLIC HEARING

10:00 a.m. - 12:00 p.m.
November 15, 2011
50 State Route 120
East Rutherford, New Jersey

B E F O R E:

MARCIA KARROW, Executive Director
New Jersey Meadowlands Commission

SCOTT BRUBAKER, Director
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U.S. Army Corps of Engineers

ALSO PRESENT:

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JAMES PALMER,
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MS. KARROW: Good morning. I'm Marcia Karrow, Executive Director of the New Jersey Meadowlands Commission, NJMC. With me is Scott Brubaker, the Director of the Office of Permit Coordination and Environmental Review at the New Jersey Department of Environmental Protection, NJDEP, and Richard Tomer, who will be here momentarily, of the United States Army Corps of Engineers. We're the Hearing Officers for the public hearing to be held today. Also seated with us is Maurice Griffin, Deputy Attorney General from New Jersey Department of Law and Public Safety and James Palmer, Assistant District Counsel. We welcome all of you who have come to attend this meeting.

This morning we are holding two public hearings on two processes related to the American Dream Meadowlands Amusement and Water Park Project. First, I will read a statement with respect to the Hearing Officers' consultation process set forth in the Sports Authority's authorizing legislation, to be followed by a statement read by Rich Tomer of the Army Corps of Engineers related to a permit application submitted to his agency. My statement is as

follows.

We are here this morning to receive public comments on the Draft Supplemental Environmental Impact Statement, or DSEIS, dated October 2011, prepared by the New Jersey Sports and Exposition Authority for the American Dream Meadowlands Amusement and Water Park Project to construct an amusement park and a water park within the Meadowlands Sports Complex in East Rutherford, New Jersey. The DSEIS was prepared as a supplement to the Preliminary Environmental Impact Statement of the Meadowlands Xanadu Redevelopment Project at the Continental Airlines Arena Site, dated March 2004. This hearing provides you with the opportunity to comment on the DSEIS. Your comments will be considered during the preparation of the final SEIS. The DSEIS has been available since October 31st, 2011, on the websites and at the offices of the Meadowlands Commission, the New Jersey DEP, and the Sports Authority. It has also been available at all public libraries in each of the Meadowlands District municipalities.

We will receive comments at two separate sessions today and tomorrow. The first session

starts now at 10 a.m. and the second session starts at six p.m. tonight. If anyone has not already done so, please sign in at the registration desk, which is out front. If you wish to submit written or verbal comments, indicate that on the registration sheet. Please turn off all cell phones and pagers during the hearing. Also, if you're going to speak -- if you want to speak, you must sign in at the front desk so that we know who you are and that you want to speak.

Today's hearing is part of a consultation process set forth in the Sports Authority's authorization legislation. When the Sports Authority proposes development projects at the Meadowlands Sports Complex, the Authority consults with the Meadowlands Commission on the location, type, and character of the project and with the Meadowlands Commission and the Department of Environmental Protection on ecological factors constituting the environment of the Hackensack Meadowlands so the delicate environmental balance of the Hackensack Meadowlands may be maintained and preserved.

During today's proceedings, the Hearing

Officers will not respond to comments, but will receive them for review and consideration. A summary of the hearing, copies of the handouts, and copies of the materials submitted by the public will be included in the final SEIS. I'm going to restate it. No one is here today to answer questions. We're playing Jeopardy. All your questions must be formed as a comment.

After the close of the comment period on the consultative process on December 19th, 2011, the Sports Authority will complete and publish the final SEIS, which will include written responses to the public comments on the DSEIS, and will submit it to the Hearing Officers and to the Department and the Commission. The final SEIS is expected to be available to the public in January 2012. The Hearing Officers will then review the final SEIS and submit their report and recommendations to the Department of Environmental Protection and the Meadowlands Commission for approval on or about March 9, 2012. The Hearing Officers' report and recommendations will thereafter be available at the offices and on the websites of the Meadowlands Commission, the NJDEP and the Sports Authority, and at local public

libraries within the Meadowlands District.

I'm going to turn over the microphone to Rich Tomer from the Army Corps of Engineers for his statement.

MR. TOMER: Thank you. Bear with me, I'm still getting over a little laryngitis, good thing the mike works.

I'm Richard Tomer, I'm Chief of the Regulatory Branch for the New York District, U.S. Army Corps of Engineers. I will be the presiding officer for the morning session on behalf of the Corps of Engineers.

The Corps of Engineers is here today to obtain information and evidence, and receive public comment, to assist in the regulatory review of a permit application by Metro Central, LLC, care of Triple Five Development. The permit applicant proposes to discharge fill material into 5.74 acres of Corps of Engineers regulated tidal and non-tidal waters of the United States to facilitate its construction of a commercial amusement and water park.

The permit applicant has proposed to mitigate for all impacts to the aquatic environment.

The permit applicant's stated purpose for the work is to construct a commercial amusement park and water park as a component of the American Dream Meadowlands Complex.

Because the work involves a discharge of fill material within waters of the United States, a Department of the Army permit is required from the Corps of Engineers pursuant to Section 10 of the Federal Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act.

The Corps of Engineers is not a proponent for nor an opponent of the proposed work. Our role is to determine whether the proposed activity is in the overall public interest. This hearing will play an important role in that determination.

This hearing will be conducted according to the procedures set forth in Title 33 of the Code of Federal Regulations, Part 327. This means that anyone may make an oral or written statement concerning the subject matter of this hearing. Anyone may appear on his or her own behalf, or be represented by counsel or other representatives, to present recommendations or information, but cross examination of witnesses will not be

permitted.

A verbatim record of the public hearing is being made. The hearing transcript will be available on the Corps of Engineers website and a copy will be available for public inspection or purchase at the Corps of Engineers office in New York City. The website WWW.NAN.USACE.ARMY.MIL. And that website address as well as our New York City office mailing address are printed on information sheets. They're available at the registration table.

As a reminder, written comments on the permit application addressed to the Corps of Engineers may be submitted until the close of the comment period for the Corps of Engineers, which is on Monday, November 28th, 2011. All written comments should be directed to: New York District, Corps of Engineers, Regulatory Branch, Room 1937, 26 Federal Plaza, New York, New York 10278-0090. And, again, that address is on sheets that we have available on the information table today, if you need it.

MS. KARROW: Thank you, Rich. At this time, I would like to invite Tony Armlin of Triple Five to present an overview of the proposed

project.

MR. ARMLIN: Thank you very much. Good morning. My name is Tony Armlin, I'm a vice president of development and construction for Triple Five, we're the developers of the project. We wanted to give you about a ten minute overview of our application so that we can provide the background information necessary for the comment period this afternoon or this morning, excuse me.

Quick background. The purpose of today is to present this overview of our master plan modification, which will incorporate the amusement park and water park site into the overall master plan for the project. This is done in consultation with the Army Corps of Engineers, the New Jersey Department of Environmental Protection and the New Jersey Meadowlands Commission, among others.

This is a photograph of the existing site showing the ERC building in the background and the proposed site area for the water park and amusement park.

This is the site plan for the project, again showing the existing building footprint and the new proposed water park, amusement park area

on what is commonly known as the Radio Tower site adjacent to the existing ERC site.

Again, our site location, in yellow, in relationship to the new stadium and the existing ERC.

Project description. The Radio Tower site is 21.75 acres immediately adjacent to the existing ERC site. It is a strategic location site for the project, which I will explain shortly in relationship to the integration of amusement to the existing entertainment and retail components currently planned.

The use of the site, as has been described, would be approximately 7 acres, a little bit larger, for an enclosed amusement park. Another five plus acres for an enclosed water park. And again scaled to a size that will attract and make a major tourist destination and strategically located in connection to the existing ERC building.

Total size, the amusement park is 318,000 square feet. The water park is 236,000 feet and they are share a common area of about 85,000 square feet, for a total of 639,000 square feet of area or about 13 acres of footprint on the

21.75 acre site.

This is a blowup of the new water park, amusement park site in connection to the ERC. There's a bridging connection point that crosses the existing service road and the separation of the amusement park and water park parcels along with the 85,000 square foot connection point.

And some renderings of what we anticipate the park will look like. And I'll show this rendering in comparison to our existing facility at Mall of America, which is the background and back drop for the business plan we're promoting with this new addition to the existing ERC concept.

This is the Mall of America, an actual photograph of the Mall of America enclosed park, again seven acres. And you can see very similar concepts, things we have done. Mall of America opened 20 years ago in 1992 and has been successful throughout that period. This is a rendering of the water park interior that we will be constructing on the proposed site.

And this is the actual water park that we run at the West Edmonton Mall. Again, a 30 year experience of successful operation with a

major world wide tourist destination attraction.

Purpose and need. Basically to provide components necessary to the project that aren't currently involved. That's the primary focus of including the water park and amusement park in the existing plan.

When we looked at the project overall, as a development team, coming in to see about the viability of redeveloping the existing improvement, it was clear to us that one of the major components that were omitted, that really is essential for the project to be developed to become a world class tourist destination and attraction component is to have an enclosed water park and amusement park. We have each of those components at our Mall of America facility and our West Edmonton Mall facility, both with multi-decade successes. And we see that as a fundamental part of how to move the project forward.

We also see that the inclusion of the entertainment components and the amusement components helps further the goals of the NJSEA, which is to promote tourism and job growth. We also see that we enhance the existing components

of the Meadowlands Complex themselves. But most importantly, the inclusion of these two components, not only replicates our model, but creates the critical mass necessary to move the project forward. It's our feeling at Triple Five without the inclusion of these components, we would not be able to move the American Dream at Meadowlands project forward. It is essential to the economic viability of the project.

Next step in our process was to look at alternatives to this particular site. Our engineering team, led by Langan Engineering, reviewed both on-site and off-site alternatives. And determined through that evaluation process that there really were n practicable alternative sites available, but the site that we are proposing.

Also as part of the evaluation process, 20 categories of evaluation were conducted by Langan Engineers and their support team that ran from geological and soils impacts, wetlands impacts, habitat, solid waste recycling, utilities, through historic and archeological impacts to look at and give a very hard look at the impacts that would be generated by the

project.

Back drop for the investment. In the construction phase, we'll be adding 1.825 billion dollars of investment on top of the existing 1.9 billion dollars of investment that's already been made in the existing facility. We'll generate over 19,000 construction phase jobs, of which 9,100 jobs will be on-site. During the operations phase, we'll generate almost 11,500 jobs, permanent on-site, as well as an additional 6,000 jobs off-site. Over a 20 period, American Dream's permanent on-site staff will earn approximately 7.6 billion dollars in wages, an average of 382 million dollars (sic) of wages per year.

When looking at the project, we also had to evaluate the potential adverse environmental impacts and to try to mitigate those impacts. Looking at the Radio Tower site itself, it is a currently abandoned site, without existing use. There's existing infrastructure on the site that we're highly leveraging, so we don't have to create new infrastructure, we're appropriately sizing utilities. And we're going to design a parking facility that uses green design, energy conservation, and best operations practices

learned over 30 years of successful operation at our two other facilities.

Short-term impacts include erosion -- construction phase issues, including erosion of sediment, air and noise emissions issues during construction, increased traffic from construction. But also benefits including increased jobs as well as increased taxes generated for local municipalities and for the State of New Jersey.

Long term impacts. Most significant is the impact of approximately 5.74 acres of wetlands. Also, increased use of energy and potable water, increased use of sanitary and solid waste, increased air emissions, increased traffic from patrons and employees. Increased jobs, increase taxes, increased regional economic growth through increased tourism and related spending, a major part of the foundation of our projects. Our projects at Triple Five are focused on generating destination type retail and entertainment experiences, in which we draw regionally and nationally and internationally to attract new dollars into the economies locally and generate new revenues for the municipalities and states in which our project reside.

Environmental impacts. Triple Five is strongly committed to complying with all the federal regulations and laws related to the unavoidable impacts of affecting existing wetlands. It's our intention to work collaboratively with the Army Corps of Engineers and with the New Jersey Meadowlands Commission, the New Jersey Department of Environmental Protection, and the Meadowlands Conservation Trust to identify appropriate mitigation sites in the region.

The 5.5 acres of projected wetlands impacts will be addressed through a mitigation banking process, restoration or preservation, or a combination thereof. We've identified five potential locations and approaches to dealing with this, which include use of three acre credits of the New Jersey Meadowlands Commission at the Secaucus High School site, looking at the Evergreen MRI-3 mitigation bank, which is currently under review but pending approval, which is anticipated in January or February of 2012. We will be seeking about 2.5 acre credits at that site. Or looking at the Keane tract, a 40 acre parcel, which we would look to satisfy all 5.5

acres of impacts through the development with the Meadowlands Conservation Trust of an appropriate construction and restoration project of that site.

Similarly we would also talk to the wetlands preservation areas with other existing sites we are currently negotiating with several sites and have made an offer on one. We will not disclose that location until we've reached a final negotiation. And then finally, our last option would be to make payment to the State of New Jersey Wetlands Mitigation Council Fund.

Traffic impacts, another major impact component. There are several mitigation factors that are involved. Also in our studies, we've identified several things that do reduce -- further reduce potential traffic impacts. We did not include them in our analysis. And still in our analysis we see only a marginal increase in traffic overall due the inclusion of the amusement park and water park components.

These include significant improvements in features since the original EIS was done in 2004, which include mass transit improvements, including the rail stations addition. The concept of internal trips, which is our own patrons coming

for multiple purposes within the project, so it's a shared one time destination visit going to either retail and entertainment component at the same time, and also attending an amusement component. That extends the duration of our visitor. We're not a shopping center. We are an entertainment destination.

The concept of bypass trips. People already going by the site, that will naturally come in, removing traffic congestion from the local roadways. Additional trip generation analysis was also done to look at our intended visitors, the improvements that have been done at Metlife Stadium.

Obviously, the conditions related to the existing blue laws that limit and preclude certain retail shopping activities on Sundays, which will also reduce traffic. Interchange improvements at the New Jersey Turnpike, the improvement and installation of variable message signs and operations and adaptive signalization to reduce traffic congestion along the local intersections.

Some of the concepts of traffic management are a very important part of the way Triple Five looks at all its properties. Looking

at basically leveraging existing bus lines and services, improving route connections, making sure that we have good accessibility and features available to bring mass transit components into and out of our site, including transit stations and local rider drop off and pick up areas.

Some of the improvements also that have happened over the past several years for mass transit connectivity to the site are absolutely fantastic. We wouldn't have been able to find a site with the wealth of infrastructure related to mass transit improvements. As you can see, between the airports, the local rail station connectivity, the routes that connect those. And ultimately, new connections that can be made through rubber tire connection and mass transit throughout the area, all major components of improvements to the area site. And all improvements since the 2004 analysis that was done originally.

Socioeconomic impacts. As I said earlier, 1.9 billion dollars of existing investment will be added to by 1.825 billion of new investment. 19,000 construction jobs, over 17,000 permanent jobs. That concludes our summary

for this morning and turning it over to comment.

MS. KARROW: Thank you, Tony. The hearing is now open for comments. I will call the persons who have indicated on the registration sheets that they wish to comment. At any time, fi you decide that you do want to comment, just go out back to the registration desk and let them know and they'll let me know. You can comment at any time during the comment period this morning. You can come back tonight, tomorrow morning or tomorrow night.

Currently, I have 19 people who would like to speak. So let me again remind you that all comments should be brief and directed to either the DSEIS consultative process or the Corps of Engineers permit application.

When you're called to present your comments, please stand and give your name. We have a podium up here, the name of your organization. I'm sorry, please state and its spelling for our stenographer, who is recording the hearing. Please give the name of your organization or any interest that you represent. Please indicate if your comments are directed to the Corps of Engineers or the New Jersey

Meadowlands Commission and the New Jersey Department of Environmental protection. If you have written materials, please give copies to the stenographer. Please limit your comments to five minutes. You may be afforded additional time for your comments or rebuttal after we've gone through the list of those who have signed up on the registration sheets.

If you are submitting written comments, please just summarize them and do not read them at length. So I'm going to hold you to the first five minutes. At the end after everybody has spoken who has signed up, if you still have things that you want to say, I am happy to call you back up.

The hearing record and comment period for the Corps of Engineers will remain open until the close of business on Monday, November 28th, 2011, for the receipt of written comments on the permit application. All comments should be sent to the following address so as to be received prior to the closing of the comment period. New York District, Corps of Engineers, Regulatory Branch, Room 1937, 26 Federal Plaza, New York, New York 10278-0090. The NJDEP and NJMC will accept

additional written comments on the DSEIS consultative process until the close of business on Monday, December 19th, 2011. They may be submitted in writing to Scott Brubaker, B-R-U-B-A-K-E-R, Director of the Office of Permit Coordination and Environmental Review, New Jersey Department of Environmental Protection, 401 East State Street, PO Box 402, Trenton, New Jersey 08625. Or to me, Marcia Karrow, K-A-R-R-O-W, Executive Director, New Jersey Meadowlands Commission, One DeKorte Park Plaza, Lyndhurst, New Jersey 07071. Copies of the public notice with instructions, should you wish to provide written comments are available at the registration desk.

Our first speaker is Kathleen Donovan, County Executive of Bergen County.

MS. DONOVAN: Thank you very much. Good morning, everyone. Also, I'd like to note that Freeholder John Felice is with me as well. I'm going to speak very quickly, and in my comments are included everything that you have asked us to say as well.

Again, I am testifying today in both my official capacity as Bergen County Executive, but also as a near life-long resident of south Bergen,

who knows firsthand the beneficial impact developments such as American Dream can have the environment and the overall quality of life in this region.

I grew up in neighboring Lyndhurst and currently reside in Rutherford. I know the Meadowlands from before the act creating the New Jersey Meadowlands Commission was passed, before the Sports Authority was created, and when garbage from New York City and throughout northern New Jersey was land filled here. There is no question that we have come a long way.

It should be noted that I strongly support the development of American Dream in general and the entertainment and amusement components in particular. It should also be noted that members of my staff and I have met on several occasions with representatives of Triple Five, the developers of American Dream. They have been totally forthcoming. They have not - and I underscore not - asked Bergen County to provide funding or assume financial risk for this project. And if they ever should, I do not and would not support that. They have provided compelling evidence that American Dream cannot be developed

without the entertainment and amusement component we are discussing here today. They have made a very strong case. One only need look at the previous failures to see that without a family oriented component, similar to those Triple Five incorporated into Mall of America in Minnesota and the Edmonton Mall in Canada, we can very well face another failure. The cost of another failure will be astronomical, both in terms of social impacts and the very real financial cost to the public. But who is going to pay for the clean up of this mess that was left behind.

Alternatively, completion of American Dream will serve as a catalyst for improved infrastructure and environmental improvements as well as a center for economic development and my goal of making Bergen County a major tourism attraction in partnership with our neighbors to the east. It will significantly contribute to the overall quality of life throughout the region.

Triple Five has utilized cutting edge technology since the opening of its Mall of America in 1992, and I am pleased that these initiatives will be replicated here in New Jersey. Mall of America recycles 60% of its wast -- and I

go into in my letter of comment to you, of which I will give you copies -- recycles 100 tons of glass bottles every year, converts the fat from restaurant friers into more than 5,000 pounds of biodiesel fuel per month.

Of particular interest is the fact that the mall does not use a central heating system -- and this is Mall of America. I'm giving you some of this as an example of the environmental impact in the positive sense that will happen here.

Triple Five's corporate commitment t establishing business opportunities for groups, its philanthropic outreach to Big Brothers and Big Sisters, Special Olympics, and Make-a-Wish Foundation, to name just a few of the 200 charities and organizations they support will help Bergen County residents to have a willing partner.

Right now the most important contribution this project will make is reducing unemployment in the region. This is the most critical quality of life issue we face. Over 9,000 construction jobs will be employed on this site and they will give way to some 15,000 permanent employees. The economic ripple will ultimately be felt throughout the region. Support

for this project to stand on job creation alone, but in addition, the project will contribute significantly to improved air and water quality. A rail connection already exists between the sports complex and Lautenberg rail station, it is underutilized. American Dream will provide the critical mass to maximize the effectiveness of this connection and greatly improvement transit opportunities for auto-dependent commuters and visitors alike. The best of way to reduce traffic congestion and improve air quality is to get motorists out of fossil fuel cars by giving them an alternative. American Dream provides that alternative. But without the entertainment and amusement component, there is no American Dream and the dominos fall from there.

One more paragraph.

MS. KARROW: One more minute.

MS. DONOVAN: Thank you. Another critical impact: Improved quality of the wetlands. The site in question is degraded, non-performing, and in a word a swamp. The region will benefit from the mitigation required by this project. Bergen County has borne the brunt of expensive failures here and in neighboring

communities caused by unholy alliances between inept developers and irresponsible public officials. Tens of millions of dollars of public funds have been spent with no discernible public benefit. Communities like Lyndhurst, Rutherford, East Rutherford, and North Arlington have been left holding the bag. Completion of American dream can reserves much of that and fulfill the long-held promise of employment and opportunity.

I thank you very much for listening. We need this project. I believe it is absolutely environmentally correct for our region and our area. We need the jobs. We need the money in our economy. And I strongly urge that you agree with this premise. Thank you very much.

MS. KARROW: That's five minutes, that's what it sounds like. Thank you very much.

Our next speaker is Mayor Cassella. Mayor, you have five minutes.

MAYOR CASSELLA: Thank you for letting me get into the room.

First of all, thank you for allowing me to speak here today. First of all, let me just say that going back to the beginning of this, the Xanadu project, we in East Rutherford, were not

overly enthused about it, you know, for the usual environmental and the traffic concerns.

However, once the Sports and Exposition Authority, the state, came out with the proposals and it was a done deal, we decided that it was best to work because we saw the benefits of it. And it was best to work with the state, with the Sports and Exposition Authority and the then-developers.

As it turns out, we believe that we came to an agreement that was beneficial to us in East Rutherford and that's the good part. The down side is it never opened. And therefore, we never received a dime. But we were going to receive after six years, close to 10 million dollars a year, which obviously was beneficial to the municipality. That never happened, which leaves us today through two different developers. And now Triple Five is here and we've had some discussions with them.

Let me say this is that we're always concerned about the environment and the traffic, but I do believe that there are efforts that we can be thoughtful when it comes to the environment and we can come to a reasonable agreement with

regards to that. And traffic, well, traffic will always be here. I don't care what we do or don't do, there will always be traffic there. And we will deal with that.

But let's get down to how important this project is to, not only East Rutherford, but to the region. From East Rutherford's standpoint, as I mentioned, we do a have an agreement in place. And we're looking forward to working with Triple Five.

But more importantly, for the region and the State of New Jersey, we must remember that we have out there a project that is not completed, not drawing any revenue. If you think about the original opening dates of this and if it had happened and what type of revenues we would have had, and what we haven't received, we can't delay this any longer. We need to move forward.

There are so many jobs at stake here. We can start with the construction jobs. That is paramount to our unions, our workers. We need employment and that's a good start. And then once the project is finished, the permanent employment. It is so important to this region and to this state to have this opened.

And on another -- with the Super Bowl coming in 2014, how horrible an image for New Jersey to have something sitting out there and not completed.

So I'm here today to tell you that one, we support the project; two is that we're looking forward to working with the Sports and Exposition Authority and Triple Five in adjusting our agreement to where it's beneficial to all involved; and three, we look forward to it being opened by the Super Bowl in 2014 because I think it would just mean so much to our region and our community.

So I'm here today really to say that we in East Rutherford, we look at the negatives, we've looked at the negatives, but the benefits of this project far outweigh any negatives. And so I firmly believe that this is a project that needs to go forward. We need to employ people, we need to get our workers out there working. And I've seen estimates of thousands of workers. So this -- the importance cannot, cannot be emphasized too much.

So with that, I thank you for the time and just hope that we do, at the conclusion of

these hearings, that we move forward in a manner that has this up and operating within the next couple years. Thank you very much you.

MS. KARROW: Thank you, Mayor.

Next speaker, John Hanson.

MR. HANSON: Good morning. My name is Jon Hanson, that's J-O-N H-A-N-S-O-N. I'm here in my capacity as the chairman of the New Jersey Commission on Sports, Gaming and Entertainment Advisory to Governor Chris Christie. My background is I am a native of Bergen County, I've lived here in the State of New Jersey my entire life. For over 50 years, I made a living in the development and operation of commercial real estate here in New Jersey and various parts of the country. And I had the privilege of serving for 12 years on the New Jersey Sports Authority, eight of which I was the chairman.

In my capacity as chairman of the New Jersey Sports, Gaming, and Entertainment, I was charged along with other members of the Commission by Governor Christie to find a resolution to the various problems that existed here at the sports complex, Izod, horse racing, gaming and Atlantic City. And also on the project know as Xanadu.

So what we did was we engaged with the bank group that actually controls the project at the present time, and actually before them, one of the developers. We reported back to the governor that there were two failed attempts to develop this property. And we worked closely with the owners and the banks to find a resolution.

We went with members of the Commission to the Mall of America to see the projects, see how an entertainment project works. We have worked with the bank groups and the Triple Five group for the last 18 months on finding a way to make this successful. Some of the prerequisites were one, it's not the prettiest project we've ever seen, so you must change the exterior. And we don't know what a Xanadu is, so we recommended they find a new name. And the American Dream is that new name.

We're obviously an advocate of this project, you've heard the numbers as far as the construction workers are concerned. We have over 40 percent unemployment in the construction industry. So obviously that industry needs some help. We think this will jump start other projects here in New Jersey. There are permanent

jobs that will come about.

We also look at the impact we'll have on tourism, generate sales tax. And so we are here to advocate the project. We urge the Corps of Engineers, Army Engineers, the New Jersey Meadowlands Development Commission and the Department of Environmental Protection to approve the project in a timely fashion.

I just heard the mention of the Super Bowl. It would be very important to have this project open prior to the Super Bowl. So we're here to endorse it. And thank you very hutch.

MS. KARROW: The next speaker is Richard Sabato. I apologize if I mispronounce any of your names. Mr. Sabato, you have five minutes.

MR. SABATO: My name is Richard Sabato, S-A-B-A-T-O. I am a business agent for Plumbers Local 24. And I am the president of the Bergen County Building Trades. I'd like to thank the Hearing Officers from each agency for the opportunity to speak here today. As president of the Building Trades and Construction Council, I take my responsibilities very seriously for the thousands of men and women that I represent in my duties as president.

Currently, the unemployment rate in the trades is 30 to 50 percent, which equates to about 5,000 Bergen County residents. These numbers have been consistent since 2009, unlike the state unemployment rate at 9 percent. Much of these guys in the construction fields, most of these guys here have never seen unemployment this drastically in their lifetime.

This job will provide them an opportunity to get back to work. And that's all they want to do is work. Most of the members in the trades have been out for at least two years. We have suffered like no other industry in the State of New Jersey. Many of our members have lost their health coverage, many of the members have lost their homes. And some have even lost their families.

The American Dream will provide 5,000 jobs or more, ten million man hours or more, and 700 to 800 million dollars worth of benefits and wages. When we business agents that represent our members that look at these out of work lists every day, there's 400 guys from plumbers, 600 from the painters. And you look at that list, they're not just numbers, these are -- everybody on that list

has a story. And none of the stories are good.

So in closing, at the end of the day, I know the Hearing Officers have a responsibility to hear both sides of the issue. These families are counting on you to save the only thing that's most of them that has left is their families. So let's put human life first. Thank you.

MS. KARROW: Mr. Sabato, I apologize for not saying your name properly. We're taking the name transcribed from your own handwriting, so sometimes it's hard to read. And I, again, apologize if I butcher anybody else's name. Next is Jeff Tittel.

MR. TITTEL: Thank you. Jeff Tittel, New Jersey Sierra Club. And I'll do my statement in two parts --

MS. KARROW: Can you spell your last name?

MR. TITTEL: Sure, I'm sorry. J-E-F-F, T-I-T-T-E-L, New Jersey Sierra Club.

So I'll do in two parts, one on the Army Corps and one on DSEIS. We believe that if this project is going to go forward, then you have to make sure you protect the environment as well as building this project.

We are concerned that this site should be treated as one site when it comes to the fill of wetlands, 7.4 acres of wetlands have already been filled, with an additional 5.4, we believe that it should be looked at as the entire site, and not piecemeal as over a 12 acre fill. And that the mitigation plans should be based on that. We also believe that you need to have sign-off from EPA and U.S. Fish and Wildlife because of the size of the project and the fill both because of water quality impacts and air quality impacts and habitat.

We also believe that you need to look at avoidance of those wetlands, since a quarter of the site are wetlands. And wetlands in an area that have had disturbances and other development around them are actually very important for water quality issues, as well as large scale wetlands have a big habitat thing, but isolated or smaller wetland systems actually have importance.

The other thing when you look at the mitigation because we didn't see a real mitigation plan, if you're going to be enhancing wetlands, you also need to look at flood storage. We've had serious floodings in this basin, time and time

again, especially in the last few months. The Meadowlands are important for soaking up that water. When those rivers come down, if there's a place for the water to go, it lowers the rivers. If there isn't, it backs up creating more localized flooding. So flood storage is an important part of that. As is the water quality, since the Meadowlands are home to so many different species of birds and it's getting better and better. But we have to make sure when we have run-off coming from a site this intense and this large, that you actually going to limit those problems coming off because of the other importance of the site besides for fisheries and birds and everything else.

We believe that you could also build this site on the east side of the project, near the parking area. We think you could actually move it and it may actually make more sense to put people in and out of the different parts of the mall they may be shopping in.

We happen to think that a water park and an amusement park make more sense than a mall, from an entertainment standpoint and the standpoint of the state. We've always been

critical of Xanadu. We thought it was a bad project in a bad area, that will only take jobs away from parts of New Jersey like the malls in Paramus or Jersey Gardens in Elizabeth.

Now, going towards the state DSEIS, I think you have to look at the big picture. This will be a huge trip generator no matter how you look at it. We estimate at least 150,000 cars a day. And the impact on air quality in an area that has some of the worst air quality in the nation is critical. It's not just about expanding mass transit, some of the things we need to look at are bus rapid transit systems, people movers and other things. Because of -- quite frankly, we have enough traffic in this area already. And enough cars coming out of this site could make every day game day and every workday grid lock.

We also are concerned that the building, the original Xanadu building was designed badly. There was supposed to be green features to it, never happened. This building, this complex will be the largest energy user in New Jersey. It will be the largest producer of greenhouse gases. It will be one of the largest users of water and energy. So you have to understand that you need

to do it right. And you need to go back and fix the problems of the past. So green design going into the buildings and retro-fitting and fixing, like LED lights are critical, putting green roof or a blue roof to deal with storm water issues, to clean up your storm water to re-use that water as well as gray water would make more sense, since it's going to be a water-intensive facility between an indoor ski area and a water park.

But the biggest issue for us is really dealing with transportation and traffic because quite frankly, I think the people of New Jersey, you know, are tired of it. And we need to make sure if this project goes forward -- and I'm not one of the big fans of this project, but it's going to happen, do it right. By the way, by doing it right, by putting a green building, renewable energy into the site, more mass transit into the site will create a lot more jobs. If you do it the wrong way, it will create some jobs for now, which are important. But if you do it right, it will actually create many more jobs. Thank you.

MS. KARROW: I just want to ask you all, if you could hold your applause down a little bit.

I know we're in a sports complex, but we're not the Giants or the Jets, thank God this week.

Next speaker is Jim Kirkos.

MR. KIRKOS: Madame Executive Director, if I may indulge, I have an associate who has to leave the area. And I'm wondering if it would be all right if he spoke before me?

MS. KARROW: You want to switch spots with him? I'll entertain that.

MR. KIRKOS: Okay. Mr. Simon Cini, I'll switch spots with him.

MS. KARROW: Okay, you have five minutes. If you could spell your name for the record?

MR. CINI: S-I-M-O-N C-I-N-I. I'm number 8, so just a couple more.

MS. KARROW: Actually, you're number 11.

MR. CINI: I'm the president of Axom Communications, which is a public relations and advertising agency in the Meadowlands for the last 13 years. My clients include Hartz Mountain Industries, the Meadowlands Liberty Convention Visitors Bureau, the Meadowlands Regional Chamber. In the past, I represented New Jersey Sports and Exposition Authority and Triple Five. I'm not

here on behalf of any of them now, I'm here on behalf of Axom Communications, we have 12 employees. There 100 reasons to get this done fast and you'll hear all of them today. Between the Super Bowl and fixing past mistakes and the ecological advantages that we can fix, social advantages from bringing somebody like Triple Five that has a social conscience and does a lot of charity work. You're going to hear that from a hundred people today, so I don't need to go into detail about that.

I was at the hearing for the original Xanadu proposal. And I read the Hearing Officers' report. And I saw how the last guys responded to the Hearing Officers' report, which was essentially to ignore it. Triple Five has demonstrated to me that they're not that kind of firm. And I think among all the economic benefits that we'll talk about and the practical benefits they'll talk about today, the number one important thing is do we trust these people to do what that say they're going to do? Because we've been through misrepresentation, ambiguity, flim-flammery for a long time.

Everything Triple Five has said in my

presence since they got here, and it's a lot of meetings and a lot of things, has come to pass.

Triple Five is like the most successful people in our region, they use their own dough. They come with their own money, they make their own representations, they put their people here in the region to interact with the people who are already here. And I think the one thing that we're here about today is could we hold these guys up and make them suffer? Sure. Should we? We should never do that here.

They have been people of their word, they've represented what they intend to do. And everything we've seen before, they'll do it. The alternative to letting them proceed on pace is to prospectively lose their partnership. That will be an abject disaster. There is no second place here that is going to build the type of facility that we can count on, having seen it done in West Edmonton and having seen it done in Minneapolis.

So as a person who will benefit greatly from this, my partnership in the state of the Meadowlands website will do great from this. So just like the people who want construction jobs, the people in advertising and marketing want

promotional jobs. There will be 220 new stores. I'm going to get some of those as clients. I have four competitors in the room, they will get some of those as clients, too. And that will last a long time.

People will come here who never came here before to see this and be part of it. People who come to New York will spend time in New Jersey, who never would have before, to be part of it. Again, you're going to hear that all day. But I ask the Hearing Officer and the Army Corps, this is a project that needs to be expedited, not just approved.

So measure them for who they are, hold them to what they say they're going to do and let's get the show on the road.

MS. KARROW: Richard Branch?

MR. BRANCA: Branca?

MS. KARROW: I'm sorry. Again, I apologize.

MR. BRANCA: My name is Richard Branca, I'm a local contractor and developer. I can also say that as Ms. Donovan said, my family started developing in the Meadowlands in the early 60's with a guy named Sisselman. So we were here

before the Meadowlands Commission, before the Sports Authority and a lot of other things.

MS. KARROW: Mr. Branca, can you please spell your last name for the record.

MR. BRANCA: B-R-A-N-C-A.

MS. KARROW: Thank you.

MR. BRANCA: And I can tell you back then, there was a lot of swamp land here. The issue real.

Ly was getting the mosquitos the hell out of the water and getting it to flow, making this an area that can be developed, that can be built upon. And now, I totally understand the environmental issues here, and as Ron just talked to you about, we have a company that we have to support, that we have to push forward. There is nothing but win/win here as far as I can see.

As I said, I have worked in East Rutherford my whole life. I am not concerned one bit about the impact it's going to have on me personally. People maybe get to work two opinions later, that's not a concern as much as it is to be able to create jobs, to be able to create this business, to create this area to be able to be developed again.

The way I see it, there is no other alternative. The alternative would be what you see on the LIE and what's left of the 1964 Worlds Fair. That's what's the alternative, think about that. That's what we have to look at.

So we have a company here that's willing to put up their own money, willing to go out on a limb and create something great for this state. As I said, yes, we certainly have a lot of agencies here that will overlook it and make sure it's done correctly.

And I can only say that I and all the businessmen that are in this area strongly support this project. And I can only ask that this approval be done expeditiously so this project can go ahead. Thank you.

MS. KARROW: Justin Post, did I get that one right?

MR. POST: That one is pretty simple.

MS. KARROW: Some of them are simple.

MR. POST: Justin Post, J-U-S-T-I-N P-O-S-T. I'm with Skanska USA Building, Inc., we were the design builder for the new Metlife Stadium. And I have the pleasure of working with Triple Five since probably July, we've been

working on the pre-con services for the amusement park and water park component of the project. And we've been doing scheduling, budgeting, working on putting a design team together, and working very closely with them. They've been a pleasure to work with. And like other people have said, I believe what they say will come true.

There are developers of their word and we're looking forward to hopefully moving this thing forward quickly. I represent most of the construction industry that's here and I'm glad to see the presence we have.

I'm looking at the project, the personnel we're trying to get on the job right away. You've heard the numbers, I'm kind of selfish. I'm not just looking at what we're trying to do right now, I'm trying to build up the trades for the next 20 years. We're dropping down, we don't have enough apprenticeships, I think by not only creating jobs now, we've got to get the young generation back here. We have real problems looking down the line five years from now. So not only getting the workers out there in the next two years, we got to build up excitement about this industry.

Not only are we talking about the work that we can do right away, one of the things we did at the Metlife Stadium was we brought in 25 to 30 percent MEESKWBs, we see that as being a potential on this job, too. So we want to keep moving forward with that kind of benefit.

And I think that the other thing that will come out of this project is we're going to spur on new growth, other projects, hotels, excitement, convention centers, things like that. More office buildings, what this was originally meant to be when it started up as Xanadu years ago. So I truly support this project, I look forward to it moving forward quickly. And I think it's a benefit to everybody at all levels. Thank you very much.

MS. KARROW: Thank you, Mr. Post.

Chris Len, L-E-N?

MR. LEN: Hi, I'm Chris Len, L-E-N. Chris like most people spell it. I'm the staff attorney for Hackensack River keeper. And also for New York New Jersey bay keeper. I'll be submitting comments to both the state and federal agencies and on behalf of both my employers.

I want to say first that in general our

organizations have always opposed filling wetlands in the Meadowlands. We've had a chance to review somewhat, at least, the final draft supplemental environmental impact statement. And I understand the Army Corps is preparing its own environmental analysis, which will consider many of the same impacts as the DSEIS. And I would look forward to seeing that. And I would commend state agencies to hold their environmental analysis to the standard set by the National Environmental Policy Act.

Having looked over the FDSEIS, which I'll just call the environmental impact statement, which is probably easier for everyone, I think it's insufficient in some ways to analyze all the impacts. It's important that we analyze them all before committing resources. It's always a good idea when planning to know what you're talking about. And that's all we're looking for is that we have a full understanding what it is that we are contemplating here.

We've come up with a few ways that we the environmental impact statement should be improved. We think it should analyze the mitigation for the wetlands impacts to the fill

wetlands for the temporarily impacted wetlands, and also the permanently affected wetlands will be affected by being so close to this facility as there will be no buffer.

We would like to see additional analysis of the impacts of the storm water quantity and quality generated by the site. The source and quality of the fill that's expected to bring the site up to grade, which I guess is seven feet above the grade. The amount of power consumption we can expect from the site and the impacts on climate change.

Further, we believe that the 5.5 or the alternatives analysis is not sufficient. That a genuine environmental review of off-site alternatives should occur, what it basically can say is that the off-site alternatives, which I think are pretty much the other side of the mall complex, are impractical because it doesn't meet the business model. That may be so, but that should be analyzed so we can understand why that would be. And the on-site alteratives, we would like to see analysis of alternatives that minimize wetlands. The agency and the developer may choose not to have the most environmentally friendly one,

but we should be able to compare the impacts of the other alternative against less impactful alteratives. So we've met with Triple Five, we found them to be forthcoming and hospitable hosts. They're aware of our concerns and to their credit, have promised to supply that information as it becomes available. We hope that the Army Corps and the state agencies will consider that information as it becomes available as well.

I also want to say that we support Triple Five's stated commitment to sustainable development, to energy efficiency, to resource conservation, and to recycling. Those are important goals for any developer. I'm glad to see them implemented here. We support Triple Five's interest, as I understand, they're calling for dramatically expanded public transit to the site. I think that that would serve everyone in northern New Jersey well.

I think it would have a lot of side benefits, better way to get around without cars. Not just for this facility, but for others, it would be terrific. So thank you very much for your time.

MS. KARROW: Thank you. Rick Dabagian?

MR. DABAGIAN: Good morning, I'm Rick Dabagian, D-A-B-A-G-I-A-N. And I come here wearing my hat this morning with regards to the Meadowlands Regional Chamber. In some ways, I can be perhaps looked upon as maybe a little bit of an outsider, I live in northern Bergen County. I ran a family business in Passaic County for close to 40 years. And because I guess you might say I represent a dying industry, manufacturing, I decided about three years ago to join forces with another printing company up in Morris County.

So the question maybe what am I doing here this morning. Well, about eight years ago, I was introduced to the Meadowlands Regional Chamber. I have served on the Board, the Executive Committee. And today, proud to serve as the vice-chair of the Meadowlands Regional Convention Visitors Bureau.

I think most of us know and perhaps for those who don't, this region continues to be a destination and is growing, whether it's the birding that continues to take place, the expo center, Medieval Times, the Hackensack River and the tours that we take, a few of us took a tour several months ago. Much of this being driven by

Teterboro Airport, I believe the fourth busiest airport in the region. You also might, if you want to extend the radius, we recently heard about a week or so ago -- and again, I'm a Passaic County boy by some definition, the Paterson Falls being recognized as a national landmark and park.

Let's come to American Dream, which from my own personal reasons, as well as the area, will open up business opportunities I currently do not have. It will also draw from the New York City area and beyond as we've heard. It will drive the region and eventually lift New Jersey to be even a better place to live, play, and conduct business.

In my closing remarks, for whatever it may be worth, several weeks ago, as many of us experienced, we lost power because of a storm. I was fortunate enough to lose power in my home with my wife for one week. So after three days, my wife said I can't take this anymore, which also included my 85-year-old mother, who also lost power in a nearby town. So I called one of my colleagues and for several nights, I became, I guess that Tony Pinto will tell you, a Meadowlands resident for several nights. Naturally, we're there -- she was there during the day, but I came

back at night. And we had an opportunity to really experience the region. This was on a Monday and Tuesday, restaurants were buzzing, you could feel the excitement. I think once we see American Dream, including the water and amusement park open, New Jersey, as a punch line, will soon become a memory. I strongly support this event. Let's get moving.

MS. KARROW: Thank you. Jim Kirkos.

MR. KIRKOS: Good morning, thank you. My comments this morning will be addressed to all the agencies. My name is Jim Kirkos, K-I-R-K-O-S. And I also am representing the Meadowlands Regional Chamber of Commerce. I serve as the chief executive officer for the last nine years. And I am also a 45 year resident of the Township of Lyndhurst, which is also a Meadowlands community.

For more than 20 of those years, I operated a small business, whose success was directly attributable to the economic growth of the Meadowlands during the 80's and 90's, with the nucleus of that economic spark coming from the Meadowlands Sports and Entertainment Complex.

My comments this morning are a blend of

being a local resident, a small business owner and now the leader of a business organization that represents close to 1,100 companies and 140,000 employees, with the majority of those members being small businesses.

The Chamber has been a long supporter of the continued expansion of the Meadowlands Sports Complex including the original Xanadu project because we inherently understand the economic impacts of such a development. The complex where we sit today was once the envy of the world with three great venues all operating with worldwide acclaim. Over the years, hundreds of businesses grew and flourished throughout the Meadowlands region from those operations as I stated earlier. And I was one of those businesses, so I speak from firsthand experience.

Over the next few days, you'll hear testimony from many people regarding Triple Five's application to build a water park and amusement park to complement their vision for the American Dream at the Meadowlands project. So let me say at the onset that the Meadowland Regional Chamber is in full support of the application.

The American Dream project provides much

hope for the future economic prosperity of this region, much like the racetrack along with the then-Giants Stadium and the Arena did 30 years ago. Only this time, the stakes are much higher and our economy is in a much different place.

The sad fact is I have watched the marvel of the Meadowlands Sports Complex deteriorate and along with that a regional economy that is stagnated, but there is hope for a great revival. That revival began with the building of the new Meadowlands stadium, now called Metlife Stadium and can continue with the approval of the American Dream project.

To add some strength to my testimony, I will refer to an economic analysis that the Chamber commissioned in 2007 where the Heldridge Center of Rutgers University prepared a study of the Meadowlands economy and workforce. The results revealed a few very important facts. Specifically, the emergence of a destination and tourism related component of our economy. That fact of our -- reinforced the Chamber's efforts to grow the Meadowlands Liberty Convention Visitor Bureau, a division of the Chamber, into a strong destination marketing organization so we can

capitalize on the new component of our economy.

After a few years of studying the effects of growing a destination and tourism related economy here in the Meadowlands, I can say to you today that the American Dream project will propel that into the next century. The American Dream vision for a world class shopping and entertainment facility, along with other components of this complex have the promise of returning this piece of geography into the world's most recognized sports and entertainment venues that will attract tourists, domestic and international from all over the world. Along with that recognition came thousands -- comes thousands of new jobs, millions in tax revenue and even more importantly, millions of new investment in and around the entire north Jersey region. As I can speak first hand of members that are sitting on projects that they would like to move, but they're waiting for the next big step. This all comes at a time when our economy most needs a driving force to energize it. The American Dream is that energize and driving force.

The over the past nine years, as an advocate, I have come to know this project in the

many renditions, along with the many principal owners. And I can tell you with all sincerity the Ghermezian family and their executive team at Triple Five has been the most approachable, the most respectful, and clearly the most capable thus far. I say that not because they sit here today, but because it's true.

The during the past months, as they have done their due diligence, we also have done ourselves. Because as a regional business organization, we have an obligation to our membership and the community at large to fully understand a project and its impacts before we throw our full support behind it. During our due diligence, the American Dream team as I call them, has opened their book to us. And quite frankly, we like what we're reading. To enhance our understanding, I have travelled to both of their significant projects, being the Mall of America in Bloomington and the West Edmonton Mall in Alberta, Canada, to talk directly with those that have been impacted by those projects. I interviewed chamber and tourism executives, business owners, and political leaders from both surrounding areas. And I returned to New Jersey with an even greater

zeal to help drive this project across the end zone. Each and everybody leader I spike to sang the praises of the Ghermezian family and outlined how after 19 years at the Mall of America and 30 years at the West Edmonton Mall, those projects are still powering their economies.

MS. KARROW: Mr. Kirkos, I need you to wrap up.

MR. KIRKOS: I am wrapping up. You should know that I also stated the hard questions and looked to understand the negative impacts of such a development, but in each every case I was told that positive impacts far outweighed the negative ones. From the Mayor of Edmonton, Mr. Steve Mandel to the CEO of Bloomington Tourism bureau, Ms. Bonnie Carlson, and everyone in between.

As Hearing Officers for this application, I urge your approval because the water park and amusement park component of this project are critical to its success. Facts will reveal that at this moment in time, we have aligned the most capable entity to oversee the successful project. Let's collectively identify any concerns and find solutions for them so we,

too, can reap the rewards that this project can bestow on the entire north Jersey region. Let's not allow those who would relish in having nothing done here in this project cast a shadow over great opportunities. Let's find a way to make this project a win/win for the Meadowlands at a time when we most need a win. Thank you.

MS. KARROW: Again, if you have written comments, they will be thoroughly read by our staff and all the agencies. And it will be totally attached as a part of the record. You can feel free to summarize, you don't have to read it. We urge you not to. Sorry, Jim. Laurel Brennan.

MS. BRENNAN: Good morning, my name is Laurel, L-A-U-R-E-L, Brennan, B-R-E-N-N-A-N. And I am the secretary treasurer of the New Jersey state AFL-CIO. And I'm here this morning to address the New Jersey Meadowlands Commission, the Army Corps of Engineers and the New Jersey Department of Environmental Protection. And I am proud to stand here today to tell you that on behalf of the one million members of the New Jersey State AFL-CIO, we support the American Dream project.

This is an extremely important project

that will have a significant positive effect on the regional economies and job creation. And stating the obvious, this is about jobs and the American dream. The 1.9 billion dollar project is expected to create approximately 9,000 construction jobs, 15,000 permanent jobs and have an economic impact to the region of 3.8 billion dollars per year.

So instead of wringing our hands about the economies, take action, put people to work. Furthermore, the developers plan to spend a significant amount of money on local road and infrastructure projects. During one of the most difficult economic times in our State's economy, it is important to support projects such as this, that will help provide employment for our members.

And aren't we fortunate in New Jersey where we have experienced building tradesmen and women ready, willing and able to take the task. Local building trades in the area have painfully suffered high unemployment, some locals 30 to 60 percent.

Many of these members have been out of work for over two years. Some of them have lost their health insurance, some of them have lost

their homes, some of them are losing faith. This project will have a massive positive impact on them and their families, which in turn will have a ripple effect on putting money back into the local economies and will have a significant positive long term effect on Bergen County and north Jersey region.

So I urge you today, all of you, in the best interests of our citizens, our members and our state, invest in this project, invest in the job, invest in the lives, invest in this economy. Push it forward, move it forward. After all, New Jersey and it's citizens are worth it. Thank you.

MS. KARROW: Greg Conte?

MR. CONTE: Hi, Commission, thank you for letting me speak and all the members here. My name is Gregory Conte, C-O-N-T-E. I'm here representing Sheet Metal Workers Local 25. I'd like to speak on behalf of our Local to begin with, which currently we have around 60 percent unemployment. Some of our members have been out of work nearing now two and a half, three years. This project is not only a dream, but needs to be a reality for the membership. These guys need to go back to work. How it's impacted their lives

has been astronomical, as it has myself.

This is not something that I'm up here speaking about how everyone else is hurting by this, it has affected me directly. By having myself having to get rid of my home and the value of the home, of course, being what the economy and what it is today, I took a massive loss on my house, of which I worked very hard for. Also the burden of the economic responsibility of trying to pay these bills and not having any construction work around, I was forced to rid myself of the marriage because of the pressure that it had on us. So it's affected me directly and emotionally. And the burden it's put on my family and my children has been unbelievable.

We need this project, our Local needs it, our membership. Some of our members have run out of health benefits, they've run out of unemployment and they have nowhere else to turn. Mot of the guys that are here in this room today have seen me on a lot of the projects. I was granted a great privilege to work on the Meadowlands project here and do the kitchens and everything associated thereof, for kitchen equipment. And when that project ended, there was

no more work for anyone.

So economically, we need this project. We need it for ourselves and it can't be a dream, it needs to be reality. Thank you very much..

MS. KARROW: Denis Sullivan.

MR. SULLIVAN: Good morning. My name is Denis Sullivan, D-E-N-I-S S-U-L-L-I-V-A-N. I'd like to thank you for the opportunity to address you today. Thanks for all the guys for showing up. We recognize today's hearing is focused on the permit process to complete the American Dream project. However, I am here today representing the Northeast Regional Panel of Carpenters and the Bergen County Building Trades.

For our organization, the American Dream project is about putting our members to work. The potential of the American Dream represents literally hundreds upon hundreds of our members going to work each day and being a part of finally seeing nearly ten years of promise come to fruition. We have been part of this process since the earliest start of the planning stages of this project about nine years ago. All along, we have been an active participant of this process from its inception, certainly due to the economic

impact this project will have on our region's economy and jobs for our members.

However, throughout this process, our organization has been mindful that this project has to be completed in an environmentally responsible manner. And we believe that it has. Of course, we still believe in that premise. After all, the men and women that will be working on this project live and raise their families in the community affected by this project and are just as concerned about their quality of life as anyone else.

However, part of enhancing their quality of life begins with their having a job. We want to recognize the Triple Five organization for stepping in and taking over this massive project. Their record of success speaks for itself. And it's encouraging for all of us who wish to see the doors of this project open up.

Critical to the overall success of Triple Five's vision is the over one billion dollars of additional investment of family amusement and entertainment component to this project. Once again, we recognize we need to be cognizant of the environmental issues, but we can

ill afford to not find the proper balance to ensure success.

For too many years, the half completed project and the often mocked exterior has served as a constant reminder of what could have been.

Most importantly, under the vision and the direction of Triple Five and their investment, we are more excited than ever that this project will come to its completion. Doing nothing is not a solution. The region can ill afford it. Most importantly, our members can ill afford it. Thank you for your time.

MS. KARROW: Thank you, Mr. Sullivan. Cesar Gamio.

MR. GAMIO: Good morning, my name is Cesar Gamio, C-E-S-A-R G-A-M-I-O. I'm a business agent with Local 825 operating engineers. I represent roughly 7,000 members who need this project to go forward. It would create between 5,000 and 10,000 construction jobs for our members, some who are losing -- they're out of work and losing their houses and health coverage.

We are fortunate that Triple Five came in and wants to invest 1.8 billion dollars to get the project going. To do so, they need the water

park and the amusement park to make it work. I'm asking you, all these agencies, to give them approval as soon as possible, so our members can support the families and get their lives back together. Short and simple, we want this project to go forward. Thank you.

MS. KARROW: Thank you, Mr. Gamio. I'm going to mispronounce this and I apologize. Frank Recine?

MR. RECINE: Good morning, Frank Recine, F-R-A-N-K R-E-C-I-N-E. I'm a principal with Newmark, Knight and Frank. We're a commercial global real estate firm. Our Jersey office is headquartered at the Meadowlands Office complex. And this project is important to commercial real estate in general in the area. Our company focuses on leasing and sales for commercial real estate, and we represent tenants and we represent landlords. And one of the biggest selling features over the past couple years is this project that's been going on in the area. As we show space within the Meadowlands, toward the end of a tour, what we typically do is we try to position people looking outside the window and looking out over the real project, which today

does not look like this. I've been spending the past five years selling a dream before it was actually called a dream. And it's an uphill battle in dealing with what we're dealing with today.

And it's exciting to have the Ghermezian family step into the shoes of this project. I've seen the benefit in enhanced leasing activities in the market, which has led to leases being signed.

We talked a lot today about the jobs it's going to create in the project. But let me take a step back and talk about the jobs that it will create outside of this project. Which is every time a lease is signed, we're giving jobs to architects, engineers, the plumbers unions, the cleaning companies within the building, the local small shops that are now feeding these people during lunch time, and the local activities that are being brought to the area. So the trickle effect of this project is undeniable and it's something we really need to focus on and support this group and this organization.

I have no affiliation with this organization, but what I've seen to date and what they've said to date has all come to fruition. I

haven't seen anything, for me as a businessman in this area, to doubt what they're going to do. And my company, myself, and the new organizations we're bringing here, this would be a great asset to this area. Thank you.

MS. KARROW: David Lagas?

MR. LAGAS: Good morning. Thank you for the opportunity to say a few words. I'm a life-long New Jersey resident and nearly 30 year member of Local 253.

MS. KARROW: Could you please spell your name?

MR. LAGAS: L-A-G-A-S, David. I grew up in Livingston, which isn't far from here. And I couldn't sustain myself and my family in that town, I had to move farther out just to afford to stay in New Jersey, which is relatively speaking a really affluent state, as many of you know. I now live in Vernon and it's a long commute for me to work, but it's beautiful up there. And I figured when I bought a house there, I would be able to retire there and my grandkids would come here and so many things to do in New Jersey, it's such a wonderful place. I've watched that evaporate over the last ten or fifteen years, I think about where

else am I going to be able to afford in retirement.

I'd like to see everything happen if New Jersey could be developed to its fullest, so that it can be a destination attraction to many people. When I invite my family, we go places all over the state because you have mountains you can ski in, you have beaches you can swim in, and some of the most beautiful beaches in the country.

And I just think that to help this project move forward and have another destination in New Jersey where people can hang their hat on. I drive around everywhere I go, I can say I worked over there, I've done that, I've been a part of this. And people, to say that around here, it's evaporating, it's just going away. And I hope that you'll consider getting this project going for all of us and our families and for people that have been here all their lives working the blue collar way, and wanting stay here. I don't think I should have to live in Tennessee to work in New Jersey. Let's get this thing going. Thank you very much.

MS. KARROW: Allen McKeegan. Allen McKeegan? He's not here any longer? All right,

this one I'm definitely going to mess up. We have Scott Breig from Whiting, Turner? Is that you.

MR. BREIG: Yes, good morning, Scott Breig, S-C-O-T-T B-R-E-I-G. I'm a vice-president with Whiting Turner Contracting and I've been working on.

This project long before it was the American Dream. And even before it was Xanadu in its current location. I've been working with Triple Five since sometime in early July, most of our focus at Whiting Turner has been modifications and the improvements to the existing project, which many people have an opinion on. And that's not what we're here to talk about today.

Triple Five is here today and we're here to talk about the improvements and the necessary approval for the water park and amusement park. They've told us very clearly and we need to recognize this, they need these components of the project to be approved for this project to move forward. This is what makes the project work for them. And we need to hear them when they say that. It's important to them in their overall plan. So it should be important to us.

I'm going to contain my comments about

why, strictly to what I know most about and that's the construction and the opportunities. This project creates jobs, no questions, no one can deny that. How many? Thousands and thousands in a very short order. The construction industry needs this project. There are no projects like this with the ability to create this economic impact in the construction industry in our times right now. It makes good sense. The trades need it and the region needs it.

The investment that Triple Five is committing here is just phenomenal. In today's environment, for them to be looking at this as the opportunity that they want to focus their energies on, we should take note of that. There will be new money, new tourism and new travel to the region.

The completion of this project, though, is dependent upon the two elements, the amusement park and the water park. We need to have this project approved as quickly as possible and move forward into construction. And to delay it will only further the impacts to the region in a negative way. So I wholly support the approval of this and the permits necessary today. Thank you.

MS. KARROW: Kevin Monaco?

MR. MONACO: Thank you very much. My name is Kevin Monaco, K-E-V-I-N M-O-N-A-C-O. I serve as executive director of the New Jersey Subcontractors Association, the New Jersey Subcontractors Association represents nearly 150 subcontractors, specialty contractors and construction industry, suppliers and professionals. Our membership fully supports the American Dream at Meadowlands project.

The New Jersey construction industry has sustained and continues to sustain a prolonged economic downturn. Even the largest, most successful and most well-established firms in our industry are struggling to keep their doors open. The American Dream project has the potential to serve as one major beacon of hope for families in New Jersey who earn their living in the construction industry. The project will invest nearly two billion dollars in the New Jersey economy and will generate 20,000 construction and construction related jobs, as well as generating enormous new economic active for the state and the region.

Critical to the success of the project

is inclusion of the water park and amusement park. New Jersey rightly has some of the strictest and most comprehensive environmental regulations in the nation. The American Dream project will take many steps to minimize any potential adverse environmental impacts, including an appropriate wetlands mitigation plan. While we must protect our natural resources, we must also balance the protection of these resources with the needs of our residents and families. This project will generate jobs and economic activity while also providing a prudent and responsible plan for protecting our environmental resources.

On behalf of the New Jersey Subcontractors Association, I urge the representatives from the Meadowlands Commission, the New Jersey DEP and the Army Corps of Engineers to move this project forward expeditiously. Thank you.

MS. KARROW: Thank you. Al McKeegan return? I was told he was back, okay. That concludes anybody who has signed up. We are here until noon today. If you do want to say anything, you can just register at the front desk. We're here until twelve. Returning for our second show

at six, at the fabulous Hambletonian room. So we're hanging for 22 minutes. Anybody who wants to say anything, you have to register at the front first that you want to speak.

(Whereupon a short recess was taken.)

MS. KARROW: Mr. Torres, can you come up? We need you to state your name for the record as well as what you're representing and you have five minutes.

MR. TORRES: My name is Eddie Torres, E-D-D-I-E T-O-R-R-E-S. And I'm sorry I made you come back and sit down again. It was the seven minute stretch, I guess.

MS. KARROW: That's okay. And who are you representing, Mr. Torres?

MR. TORRES: I am a member of Plumbers Local 24 and a member of the Hudson County Building Trades. And a member of -- proud member of Plumbers Local 24. And my comments is obviously for this project. And obviously not so much just for the construction trades, too, that the jobs it's going to give. When I come out to speak for these projects, I look at the

development that it does in the area.

I was born and raised in downtown Jersey City, what we use to called in front of the Hudson River, what they call now the waterfront. I seen the changes of that swamp and factories, abandoned factories in Jersey City, growing up there, neighborhoods that we couldn't walk around in. And where development, the changes they have made. The jobs that are there, the factories that were lost, and jobs that are created.

And that's what I came up to speak about. On my way here today, I was listening on the radio and they had the quarterly findings of some of the companies, Staples, Wal-Mart and them, who are still doing -- they met their gains, they're showing growth. But there was one thing that they said in New York and tri-state area, the factories are not growing. There's no growth in factories. And today, every time we put on our TV, America all across the United States is saying we need manufacturing. We need companies. We need to build again.

And today on the radio, they said that's not happening. This company, when they say Jersey City has changed, when I look at a building, when

I look at the Newport Mall, when I look at a store or a restaurant that I go to sit and eat, my wife laughs at me all the time. I work at ten waiters running around the restaurant, I look at the bartender, I start counting how many cooks, I start counting the hosts that are there. There was a factory in Jersey City that had 50 permanent jobs, one restaurant puts 50 people to work. That's the factories that we got today.

Jobs that are created, jobs that are created for the people that not just in the trades, for the people that do the cleaning, for the people that do the washing of the windows, for the people that do the landscaping.

Here is a piece of land, five acres of land that we could take and develop so much food and so much jobs. When I go to work in the trade, it doesn't just put me to work. It takes care of my two sons, my wife, it takes care of my nephews, it takes care of my nieces. It took care of my parents when they were here on this earth. That's the trickle down effect that one job creates in my family.

We have a chance to take a piece of land that was given to us, that is creation and bear a

lot of fruit from it. Or we have a chance to take seven acres of land that were filled and see it decay. I hope that we could take the extra five acres and grow this area. And that's what I have to say. Thank you.

MS. KARROW: We also signed up Toni Pinto. Mr. Pinto, please spell your name for the record and your institution that you represent and you have five minutes.

MR. PINTO: Thank you. Toni Pinto T-O-N-I P-I-N-T-O. I represent Concord Hospitality. More importantly, I'm the general manager of the Renaissance Meadowlands Hotel. Concord Hospitality owns and operates currently in the State of New Jersey eight hotels, soon to be ten. And in the immediate Meadowlands area, we have five hotels.

So needless to say, as a person who does business in the immediate area, in the hospitality business, this project is welcoming. It's a tremendous opportunity for continued growth and occupancy, not only for our properties, but also for all the hotels in the immediate area.

Additionally, I believe that this project not only will create thousands of jobs

immediately, but also will sustain thousands of jobs thereafter. So I certainly am a proponent of this project. I think it would be a tremendous economic impact that will have in our industry of the hotel business, not currently, but possibly additional hotels or other opportunities that would come in the future for building. As well as all the other businesses, small businesses in the area, small restaurants and so on and so forth. And so some of the numbers I've heard is in the upwards of the 45, 50 million visitors to the American Dream project. I can only wish I will get ten percent of those room nights stay in our hotels. And not only my hotel because, unfortunately, we're not that large. But in all of the hotels. So can you just imagine an additional of those room nights, how much impact it would have in each of our hotels, in the local restaurants, in other shops, small mom and pops, or whatever the case may be. Because they will not only be staying in the hotel, they would be visiting the local immediate area.

And I've heard others mention that the potential business of -- for once, I believe, we would be stealing visitors from New York City to

New Jersey, to our local area. So how great would that be to reverse the tables on New York City? So I live in the state of Pennsylvania, I come to work every day here at 75 miles, to and from, only because I love what I do. I have great faith in this community, in the region and just enjoy what's going on and the possibilities of this project going forward.

So thank you for your time and I certainly urge the project going forward. So thank you.

MS. KARROW: Thank you, Mr. Pinto.

We're still in recess for twelve minutes. The floor is open. We're in recess until someone wants to speak.

We're reconvening one more time.

Again this hearing is open until twelve o'clock today, until noon. We have one more speaker, David Wylie? He just signed up, he better be here. Can you please spell your last name for the record and tell who you represent and you have five minutes.

MR. WYLIE: Thank you. My name is David Wylie, W-Y-L-I-E. I live in Cliffside Park, New Jersey, this is just kind of spur of the moment.

I have heard everybody's comments in support, I think it's a great idea, too. But I think we have to go slow with filling in wetlands that are irreplaceable. I've heard -- I've been with River keeper a long time, I've been an environmentalist. And I know that once the wetlands get filled in, you can't take it back. Wetlands provide valuable resources, the habitat we're trying to restore. I just question whether we have to fill in five acres of wetlands when there are other areas that might be utilized. We should look at using what we already have and preserve these wetlands. Thank you very much.

MS. KARROW: Thank you, Mr. Wylie.

We still have nine minutes. Just so you know.

(Whereupon a short recess was taken.)

MS. KARROW: This is the two minute warning, since we're at the racetrack.

Since it doesn't appear that anyone else wants to present comments, the hearing is now closed. It will reconvene at six p.m.

(Whereupon the hearing was concluded.)

C E R T I F I C A T E

I HEREBY CERTIFY that the foregoing is a true and accurate transcript of the testimony and proceedings as taken stenographically by me at the time, place, and on the date hereinbefore set forth.

_____

SUSAN BISCHOFF, CCR, RPR

LICENSE NO. 30XI00233700

STATE OF NEW JERSEY
NEW JERSEY MEADOWLANDS COMMISSION

IN THE MATTER OF:
AMERICAN DREAM MEADOWLANDS
AMUSEMENT AND WATER PARK
PROJECT
PUBLIC HEARING

November 15, 2011
50 Route 120
East Rutherford, New Jersey
6:00 p.m. to 8:00 p.m.

HEARING OFFICERS:
MARCIA KARROW,
Executive Director
New Jersey Meadowlands Commission

SCOTT BRUBAKER, Director
Office of Permit Coordination and
Environmental Review
New Jersey Department of
Environmental Protection

RICHARD TOMER,
Chief of the Regulatory Branch
U.S. Army Corps Of Engineers

ALSO PRESENT:
MAURICE GRIFFIN, DAG
Division of Law & Public Safety

JAMES PALMER,
Assistant District Counsel

Reported by: DARLENE KULESA
Certified Court Reporter

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EXHIBIT NO.	DESCRIPTION	ID	EVID
NONE			

MS. KARROW: Good evening, I am Marcia Karrow, Executive Director of the New Jersey Meadowlands Commission (NJMC). With me are Scott Brubaker, Director of the Office of Permit Coordination & Environmental Review at the New Jersey Department of Environmental Protection (NJDEP) and Richard Tomer of the United States Army Corps of Engineers. We are the hearing officers of the public hearing to be held today. Also seated with us is Maurice Griffin, to my right, and he is the Deputy Attorney General from the New Jersey Department of Law and Public Safety and James Palmer, Assistant District Counsel. We welcome all of you who have come to attend this hearing.

This evening we are holding public hearings on two processes related to the American Dream Meadowlands Amusement and Water Park project. First, I will read a statement with respect to the Hearing Officers' consultation process set forth in the Sports Authority's authorizing legislation. To be followed by a statement read by Richard Tomer of the Army Corps of Engineers related to a permit application submitted to this agency. My statement is as follows. We are here this evening to receive public comments on the Draft Supplemental

Environmental Impact Statement, or DSEIS, dated October, 2011, prepared by the New Jersey Sports and Exposition Authority for the American Dream Meadowlands Amusement and Water Park Project to construct an amusement park and a water park within the Meadowlands Sports Complex in East Rutherford, New Jersey. The DSEIS was prepared as a supplement to the Preliminary Environmental Impact Statement of the Meadowlands Xanadu Redevelopment Project at the Continental Airlines Arena Site dated March 2004. This hearing provides you with the opportunity to comment on the DSEIS. Your comments will be considered during the preparation of the final SEIS. The DSEIS has been available since October 31st 2011, on the web sites and at the offices of the Meadowlands Commission, the New Jersey DEP, and the Sports Authority. It has also been available at all public libraries in each of the Meadowlands District municipalities.

We received comments this morning and we will receive comments tonight and then at two separate sessions tomorrow. This second session starts now at 6:00 and the third session starts at 10:00 tomorrow and the fourth session tomorrow night at 6:00. If anyone has not already done so, please

sign in at the registration desk, which is out front. If you wish to submit written or verbal comments, indicate that on the registration sheet. Please turn off all cell phones and pagers during the hearing. Also, if you are going to speak, you must sign in at the front desk so that we know who you are and that you want to speak.

Today's hearing is part of a consultation process set forth in the Sports Authority's authorization legislation. When the Sports Authority proposes development projects at the Meadowlands Sports Complex, the Authority consults with the Meadowlands Commission on the location, type, and character of the project and with the Meadowlands Commission and the Department of Environmental Protection on ecological factors constituting the environment of the Hackensack Meadowlands so the delicate environmental balance of the Hackensack Meadowlands may be maintained and preserved.

During today's proceedings, the Hearing Officers will not respond to comments, but will receive them for review and consideration. A summary of the hearing, copies of the handouts, and copies of the materials submitted by the public will be included in the final SEIS.

After the close of the comment period on the consultative process on December 19th, 2011, the Sports Authority will complete and publish the final SEIS, which will include written responses to the public comments on the DSEIS, and will submit it to the Hearing Officers and to the Department and the Commission. The final SEIS is expected to be available to the public in January 2012. The Hearing Officers will then review the final SEIS and submit their report and recommendations to the Department of Environmental Protection and the Meadowlands Commission for approval on or about March 9, 2012. The Hearing Officers' report and recommendations will thereafter be available for public review at the offices and on the web sites of the Meadowlands Commission, the NJDEP and the Sports Authority, and at local public libraries within the Meadowlands District.

I am going to turn over the microphone to Rich Tomer from the Army Corps of Engineers for his statement.

MR. TOMER: I'm Richard Tomer, I'm Chief of the Regulatory Branch for the New York District, U.S. Army Corps of Engineers. I will be the presiding officer for the evening session on behalf

of the Corps of Engineers.

The Corps of Engineers is here today to obtain information and evidence, and receive public comment, to assist in the regulatory review of a permit application submitted by Metro Central, LLC, care of Triple Five Development. The permit applicant proposes to discharge fill material into 5.74 acres of Corps of Engineers regulated tidal and non-tidal waters of the United States to facilitate its construction of a commercial amusement and water park.

The permit applicant has proposed to mitigate for all impacts to the aquatic environment.

The permit applicant's stated purpose for the work is to construct a commercial amusement park and water park as a component of the American Dream Meadowlands Complex.

Because the work involves a discharge of fill material within waters of the United States, a Department of the Army permit is required from the Corps of Engineers pursuant to Section 10 of the Federal Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act.

The Corps of Engineers is not a Proponent for nor an opponent of the proposed work.

Our role is to determine whether the proposed activity is in the overall public interest. This hearing will play an important role in that determination.

This hearing will be conducted according to the procedures set forth in Title 33 of the Code of Federal Regulations, Part 327. This means that anyone may make an oral or written statement concerning the subject matter of this hearing. Anyone may appear on his or her own behalf, or be represented by counsel or other representatives, to present recommendations or information, but cross examination of witnesses will not be permitted.

A verbatim record of the public hearing is being made. The hearing transcript will be available on the Corps of Engineers website and a copy will be available for public inspection or purchase at the Corps of Engineers office in New York City. The website WWW.NAN.USACE.ARMY.MIL. And that website address, as well as our New York City office mailing address, are printed on information sheets. They're available at the registration table.

As a reminder, written comments on the permit application addressed to the Corps of Engineers may be submitted until the close of the

comment period for the Corps of Engineers, which is on Monday, November 28th, 2011. All written comments should be directed to: New York District, Corps of Engineers, Regulatory Branch, Room 1937, 26 Federal Plaza, New York, New York 10278-0090. And, again, that address is on sheets that we have available on the information table today, if you need it.

MS. KARROW: Thank you, Rich. At this time I would like to invite Tony Armlin of Triple Five to present an overview of the proposed project.

MR. ARMLIN: Thank you. Good evening and thank you to the hearing officers for the opportunity to present an overview of our application.

My name is Tony Armlin. And I am Vice President of Development and Construction for Triple Five, the developers of the project. Tonight we are going to give you an overview of the application that has been submitted to both the Army Corps and the hearing officers for consideration. I'd like to review the purpose. Again, our purpose tonight is to review the master plan amendment that is being proposed to include the updates in the Supplemental Environmental Impact Statement previously done in 2004. We will be reviewing this in light of the consultation process that was just described and we

will be talking specifically about the proposed improvements and potential impacts associated with the development of an amusement park and water park which would be in addition to the existing ERC of the American Dream project.

This is an overview, aerial photo of the project site, and it shows in this area, areas of the proposed development which are adjacent to the existing ERC facility. Again, a site plan, again warranting the site, the Turnpike, Route 120, the proposed site of the amusement park, water park, and the existing entertainment retail complex and associated park. Again, an aerial photo with the yellow line showing the proposed site in relationship to the ERC and the stadium complex.

Project description: The project is located on what is referred to as the radio tower site approximately 21.75 acres immediately adjacent to the project as it currently exists. It is a strategic location in relationship to the existing facility and we will talk about why that is so important to the overall development concept. The land on which the improvements are intending to be constructed will become incorporated into the master lease with the Sports Authority.

The use is primarily a family entertainment and amusement facility to promote tourism, as a tourism destination. The Triple Five model which has been in place since our original project in Canada, 30 years ago, was based on a destination retail entertainment complex that was focused on family entertainment and amusement. This concept was replicated again in Mall of America in Bloomington, Minnesota in 1992, so over 19 years that is still operating successfully. The same type of development concept is at the heart of the American Dream which is a repositioning of an existing project to expand it to a level of true international level, world class level, tourist destination.

The proposed improvements: The amusement park is approximately 318,000 square feet, the water park is approximately 236,000 square feet and a shared common area of 85,000 square feet, for a total area of 639,000 square feet or about 13 acres of footprint. Again, a large scale format, fully enclosed water park and amusement park complex with participatory entertainment enhancing and supporting the existing complex.

This is a quick overview of the site plan, again, the location of the amusement park and the

water park in relationship to New York City and again a more detailed plan showing the locations for footages.

This is a rendering of the development as we see it in its format here on the American Dream site and as you'll notice there are quite a few amusements in the amusement area of rides and attractions. This replicates an existing location at our Mall of America facilities, showing many of the same common elements in location and orientation. And again, this is from our Mall of America facility in Bloomington, Minnesota.

Next, the rendering of the water park components as we see it being realized here for American Dream and a photo of our actual installation of the water park at West Edmonton Mall. It should be noted that the amusement park at Mall of America is approximately 7 acres. The amusement park we anticipate on construction here will be a little larger than that. The water park in West Edmonton is approximately 5 acres, again a little larger than we are anticipating here.

Purpose and need: First and foremost we want to explain to the public that the element in this amusement park, water park element is an

essential component of Triple Five's business model and is a critical component. Without this component, we do not feel this project will move forward successfully. We do want to note that this concept of amusement park and water park elements fulfills the primary objective of the NJSEA for the overall project which is to promote tourism and job creation and this type of development will clearly do that. We also want to underscore that this type of attraction of this size, combined with the existing retail center, creates a critical mass which we feel is essential to make this a world class facility. In the absence of that, we do not think this facility can achieve that level of success.

Alternative analysis: As a part of the process, our team lead by Langan Engineering looked at a number of other alternative locations for the water park, amusement park. It looked at locations on-site and off-site. Through that evaluation it was determined that no other site could provide a practical alternative to use and create the use that we need, the way we need it. Also as a part of the review the engineers and consultants looked at over 20 criteria of evaluation for impact ranging from geological soils, wildlife habitat, aquatic issues,

solid waste, utilities, historic impacts and other visual and landscape aesthetics.

With regards to the environment conditions and impacting mitigation we wanted to put this in context of what is going to occur. The existing stature that has been built but not completed to date was a 1.9 billion dollar investment. Triple Five, through executing not only this proposed improvement and the completion of the existing ERC, will invest an additional 1.825 billion dollars to complete the project. That will create over 19,000 construction jobs of which 9,100 jobs will be on-site. Additionally in the operation stage we will be creating an estimated 11,490 jobs on-site, permanent jobs, with an additional 6,000 jobs off-site. In fact, our estimates show that over a 20 year period the permanent on-site jobs alone will create 7.6 billion dollars in wages in new money into the local economy.

As a part of the evaluation we also looked at the avoidance of adverse environmental impacts. We looked at the issue of the fact that the radio tower site is currently an abandoned and unused site. We looked at the leveraging and use of existing infrastructure.

We looked at the use of parking in the arena site that currently exists and we looked at the design process as we are undertaking this, focusing on green design, energy conservation best practices.

We also looked at short term impacts. We looked at impacts related to construction. Soil and sedimentation, eroding and run-off, increased noise and air emissions, increased traffic from construction workers. We will also see increased jobs for construction, as well as increased taxes generated during the construction phase.

Long term impacts: A loss, as was noted earlier, a loss of 5.47 acres of wetlands. An increase use of energy, in potable water, increased use of sanitary and solid waste, increased air emissions, increased traffic from patrons and employees. But also increased jobs, increased taxes, and very importantly, increased regional new economic growth which will increase tourism and related spending. Tourism and the generation of new business, new attractions to this region and the economy are an essential part of the Triple Five model. At Mall of America, over 50 percent of our visitors are tourists and generates an enormous amount of the sales generated at that facility and

we expect to see the same thing hear.

Wetland impacts: Triple Five very strongly feels that we are committed and will comply to all federal laws and regulations related to the appropriate relocation in mitigation of wetlands is a primary focus of our design and will be as we move forward. It is our intention to work collaboratively with the Army Corps of Engineers and other federal agencies, including the New Jersey Meadowlands Commission, and New Jersey Department of Environmental Protection, as well as the Meadowlands Conservation Trust to identify appropriate mitigation sites in the region. The 5.5 acres of potential wetlands impacts will be addressed through mitigation banking, restoration and preservation.

In our evaluation there are five potential options currently available to us, which we are exploring all at this time. First would be to look at the New Jersey Meadowlands Secaucus High School site, there is a three acre credit that is available that could be purchased from the New Jersey Meadowlands Commission related to a portion of our mitigation. We could look at the Evergreen MRI-3 mitigation bank which is a site that is currently in its final review and looks like it might be ready by January,

February, with construction starting this Spring. That could account for another 2.5 acre credits. There is also the option to look at the Keane track, a 40 acre parcel, which Triple Five would participate in the development of the construction and restoration plan to satisfy the Meadowlands Conservation Trusts. We had the opportunity to look at the wetlands preservation and other sites. We've identified several and are negotiating and made an offer on one and are negotiating with that property owner at this time. We are not going to disclose that property owner or its location until we reach final negotiations with them. And finally, we can also look to make payment to the State of New Jersey's Wetlands Mitigation Council Fund.

Traffic: There are obviously issues related to traffic mitigation and volume, and although our analysis shows only a moderate increase of traffic based on the new uses we are proposing. We have looked at multiple impact areas that can and will reduce traffic congestion and other related issues. The first thing that is listed is mass transit and we will spend a little time talking about that. We are also looking at internal trips. The Triple Five Model is based on an extended visitor

duration. We are not a shopping mall. We are an entertainment destination where our visitors are there for an extended period of time, and we are looking at retail elements, entertainment elements and amusement elements. We also looked at the stay away factor, when traffic congestion is heavy, staying away from the project.

Bypass trips: We've done an additional trip generation analysis. We've looked at stadium improvements that will also help with traffic and flow and circulation. The downsizing of the racetrack is planned. The fact that the Bergen County Blue Laws are in effect and prohibit our ability to have retail activities on Sundays, will impact and restrict traffic. We will have the New Jersey Turnpike improvements and enhancements related to 18W, along with operational message signing and adaptive signal systems for traffic reduction management patterns as we've been talking about in Bergen County and others.

Transportation management plan: Our primary focus is to look at leveraging the local bus traffic system, improving access to the site, and improving on-site to allow rapid transit. We are also looking at better connections to produce mass transit. This map shows a number of opportunities to

the Penn Station to the Secaucus Transfer Station and other stations and the connection of those through multiple rail lines and the bus and transit opportunities to bring, again, greater connectivity, which will be our absolute primary focus of our operational plan for the center.

Socioeconomic impacts: Again, from the construction standpoint we will be investing another 1.825 billion dollars of new investment into the 1.9 billion dollars of existing investment. We will generate 19,000 construction jobs during the construction phase, and over the operational stage, over 17,000 permanent jobs with 11,500 on-site and 7.6 billion in wages and over 1.2 billion dollars of sales tax generated and corporate business tax generated in the first 20 years.

This is an overview of our project and we will turn it back to the hearing officers.

MS. KARROW: The hearing is now open for comment. I will call the persons who have indicated on the registration sheet that they wish to comment. I have five people who would like to speak so let me again remind you the comments should be brief and directed to either the DSEIS consultative process or the Corps of Engineers permit application. When you

are called to present your comments, please stand at the podium up here, give your name and spelling to the stenographer for our records, who is recording this hearing. Please also give the name of your organization or any interest you represent. Please indicate if your comments are directed to the Corps of Engineers or the New Jersey Meadowlands Commission and New Jersey Department of Environmental Protection. If you have written materials, please give them to the stenographer. Please limit your comments to five minutes. You may be afforded additional time for your comments or rebuttal after I have gone through the list of those who have signed up on the registration sheets. If you are submitting written comments, please just summarize them and do not read them at length.

The hearing record and comment period for the Corps of Engineers will remain open until close of business on Monday, November 28th 2011 for the receipt of written comments on the permit application. All comments should be sent to the following address so as to be received prior to the close of the comment period: New York District Corps of Engineers, Regulatory Brach, Room 1937, 26 Federal Plaza, New York, New York 10278-0090.

The NJDEP and NJMC will accept additional comments on the DSEIS consultative process until the close of business on Monday, December 19th, 2011. They may be submitted in writing to Scott Brubaker, Director of the Office of Permit Coordination and Environmental Review, New Jersey Department of Environmental Protection, 401 East State Street, P.O. Box 402, Trenton, NJ 08625 or to myself, Marcia Karrow, Executive Director, New Jersey Meadowlands Commission, One DeKorte Park Plaza, Lyndhurst, NJ 07071. Copies of the public notice with instructions should you wish to provide written comments are available at the registration desk.

I will be calling the first speaker. Again, please state your name and spell it for the stenographer and who you represent and five minutes.

ERIC BOYCE: Thank you, ma'am. My name is Eric E-R-I-C, Boyle B-O-Y-C-E. I am the business manager of Plumbers Local 24 and I represent 1,700 families who are earning their living in the construction industry. I suppose my comments are directed to anybody and everybody who plays a role in deciding whether this project moves forward or not. We have a vested interest in the entire process to have this project move forward. It seems like 100

years now going to meetings to get the original Xanadu project approved and we never hit the finish line to actually get through that process and go to work. And when you think of everything we have been through over there, and what has happened in our industry, and by that I mean the construction industry. People throw around numbers, 30 to 50 percent 40 to 60 percent on unemployment. My own Local at this particular time has 40 percent, and I have an out of work list that has 515 members that cannot feed their families. Some of them are out of work for over two-and-a-half years, over two years. This is not uncommon in our industry right now. These families are faced with can they pay their healthcare or can they pay their mortgage, keep kids in school. I want to thank this committee for the opportunity to speak and I apologize for not saying that first. I also want to thank Triple Five for coming along here. This project is more than just the completion of something or the removal of an eye sore that politicians all too often, and many public officials want to poke fun at our use as a political football. This isn't just some structure that people don't like to look at. This is an opportunity. This is the salvation to the men and woman that I

represent and my colleagues from other trades in the Bergen County building trades. This is an opportunity to jump start our economy here. We did not have people lined up trying to come to New Jersey with 1.8 billion dollars to finish this project and make it something beautiful and make something people can have some self respect and feed their families and go to work and earn their way and have their health care back. I never thought my job as a business manager would be helping to direct my members where they could get residential assistance, where local food banks were, where they can get their children vaccinated, but that is what I've become an expert in in the last couple of year's.

This is a great company that wants to build. I talked to my colleagues about the Mall of America. I talked to my colleagues about West Edmonton. They don't just build great projects, they don't just spend money. They help people earn a good living in building these projects and maintaining these projects. They are good corporate citizens in the areas where they build these projects and we are fortunate to have them. I cannot put into words how anxious we are to partner with them and to help them move forward with this project. This

project is everything to the men and woman of the Bergen County building trades and Local 24. This is their opportunity for 2012 and 2013 to go back to work. Obviously Triple Five will do whatever is necessary for this community and the Army Corps and whatever is necessary to make the project happen and they said it here tonight, they said it is what will happen, that is what has to happen. We talk about green jobs, energy conservation. One of the trust funds that is suffering, not just pensions and health care, we do all our own training and spend millions of dollars in the building trades just in New Jersey to train our apprentices with continuing education with our journey people who served and lead the way in green training. Nobody does more green training than the local unions. I can't tell you how anxious they are to put those skills to use and start to feed their families and help to jump start this economy and make things work in Bergen County the way we know they should work, and we want them to work.

So on behalf of everyone from Local 24, I ask you to please give every consideration to helping this project move forward as quickly as possible and we look forward to being a partner in any way we can and every way we can to see this to the finish line.

Thank you very much.

MS. KARROW: I apologize Eric, I may have called you Mr. Boyle.

MR. BOYCE: I've been called much worse.

MS. KARROW: Next is Edgar Santana.

MR. SANTANA: Good evening. My name is Edgar Santana. E-D-G-A-R S-A-N-T-A-N-A. I am with the New Jersey Laborers Union. I am here tonight representing 20,000 members who work, live and raise their families in New Jersey.

Today's hearing is narrowly focused on permits required for the completion of the entertainment and amusement component of the American Dream project. The reality is, however, that without this component there is no project. And if there is no project there is no opportunity to put back to work the 90,000 construction workers that could work on-site. You've heard already from Mr. Boyce how the construction industries have been hurt. We have 40 percent unemployment and we are really hurting and our members need to go back to work. Not only is this going to put our members back to work, it is also going to improve the overall aquatic use of the land thereby improving the wetlands and turn it into something we can move forward with.

The developers of the American Dream project have made it clear that this project cannot move forward without the entertainment and amusement component they are proposing. Given the failure of Xanadu, we have no reason to question that assessment. The half-completed shell outside is proof positive that this project cannot be financed without these additional entertainment elements.

Mitigating a few acres of degraded wetlands in return for 9,000 construction jobs and enhanced quality of life throughout the region is a small price to pay to put our workers back to work and we are asking that this move forward so we can put our workers back to work. Thank you.

MS. KARROW: Mr. O'Brien.

MR. O'BRIEN: Good evening, Madam Chairwoman and thank you distinguished members of this panel for the opportunity to speak tonight. My name is Kevin O'Brien. K-E-V-I-N O'-B-R-I-E-N. I am the President of the theatrical stage at the IZOD Meadowlands Complex. I am speaking primarily because we all know, everyone in this room knows, that the key component to this is going to be the fact that this is going to be a destination related economy and the other key component is, as Tony said, is going to

be long term which will help, actually help mitigate the traffic fears and that is one of the key things I like about this project. But a tourism economy can be a sustained economy tool which will create thousands of jobs and needed tax revenue in this state. Our local union has a long history at this complex as well as some of our crew members. I work with them everyday. I am a working president. I am on a rigger and I do theatrical shows at the IZOD Center so I know some of your members.

In a recent address to the Meadowlands Regional Chamber of Commerce, Paul Caslalian (ph) related that the IZOD Center fits nicely into their mix because the added foot traffic from the IZOD Center is going to be a boom to the restaurants in the complex there. You can't buy that kind of foot traffic. And we believe that the addition of Triple Five's monorail from the transit station that exists now to the IZOD Center and the entertainment complex is going to also mitigate those fears and we believe that the monorail is going to be a key component as well.

But in closing, I am mainly here to advocate for jobs and economic development which we need to grow out the fiscal dilemma that we are in in

this State. Indecision is no longer an option. Triple Five will be fastidious to this situation and we believe they will be diplomatic. Within the Meadowlands it will be an asset in the Meadowlands region and northern New Jersey and the entire State as well. That is going to be quite evident when we bid the Superbowl. And our 9,000 construction jobs, 11,500 permanent jobs and 3.8 billion dollars in an economic assets to this region.

Again, Madam Chairwoman and members of this panel, thank you for the opportunity to speak tonight and we hope that the wetlands mitigation will pass. We believe that the key components that need to be addressed in this project are the amusement park and water park that needs to be included in this mix for the whole project to succeed. Thank you.

MS. KARROW: Andrew Scala.

MR. SCALA: Hello everybody. My name is Andrew Scala. A-N-D-R-E-W S-C-A-L-A. I am the business agent for the Painters, Papers and Glaziers of District Council 711. I would like to say as an agent there is no better feeling in the world than to call a member and telling him or her you are sending them out to work, but unfortunately in these economic times that is far and few between. So this hearing

couldn't come at a better time. We heard the people this afternoon talk about the plus and the minuses of this project but yet all I see is the plus side. I think the strongest asset that we have as a society is the ability to have an idea and it become a reality. So I am sure if we are willing to work together on this project all our goals and concerns can be accomplished.

And in closing I would like to say, remember, we built this country on an American dream. Thank you.

MS. KARROW: Sally Altman.

MS. ALTMAN: S-A-L-L-Y A-L-T-M-A-N. Hello everybody. I am Sally Altman the Director of Sales and Marketing of the Holiday Inn in Hasbrouck Heights, New Jersey on Route 17. I am here to support the American Dream project and feel it will have a very positive impact not only on my hotel, but all the hotels in our neighborhood. This project is something that will bring in many tourists and visitors from all over the world and bring in a lot of great economic impact. Many new jobs, a lot of new tax revenues and something our neighborhood could use. I've sold in this neighborhood for over 20 years and we need a project like this and it is my

dream to have Triple Five complete their American Dream and we look forward to this opportunity.

MS. KARROW: Those are all the speakers that we have signed up at this time. We stand in recess unless somebody else comes in and signs in. We are here until 8:00 p.m. As I said, we are in recess right now and we will reconvene if anybody signs up if you do want to say something. Otherwise you can hang out with us in the beautiful Hambletonian Room.

MS. KARROW: Okay, it is now 8:00 p.m. and it does not appear that there is anyone else who wishes to present comments. The hearing is now closed.

C E R T I F I C A T I O N

I, DARLENE KULESA, a certified court Reporter and Notary Public of the State of New Jersey, do hereby certify that the foregoing is a true and accurate transcript of my stenographic notes taken of the foregoing hearing, and taken at the time and place hereinbefore stated.

_____

Darlene Kulesa, CCR

LICENSE NO. XI-I-205700

STATE OF NEW JERSEY
NEW JERSEY MEADOWLANDS COMMISSION

AMERICAN DREAM AT MEADOWLANDS PROJECT
PUBLIC HEARING

November 16, 2011
50 State Route 120
East Rutherford, New Jersey

10:00 a.m. - 12:00 p.m.

B E F O R E:

MARCIA KARROW, Executive Director
New Jersey Meadowlands Commission

SCOTT BRUBAKER, Director
Office of Permit Coordination and Environmental Review
New Jersey Department of Environmental Protection

RICHARD TOMER,
Chief of the Regulatory Branch
U.S. Army Corps of Engineers

ALSO PRESENT:
MAURICE GRIFFIN,
Deputy Attorney General
Division of Law and Public Safety
JAMES PALMER,
Assistant District Counsel

Reported by: Susan Bischoff, CCR, RPR
Certified Court Reporter

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MS. KARROW: Good morning, would everybody please take a seat so we can get started. I am Marcia Karrow, Executive Director of the New Jersey Meadowlands Commission, NJMC. With me are Scott Brubaker, Director of the Office of Permit Coordination and Environmental Review with the New Jersey Department of Environmental Protection, NJDEP, and Richard Tomer of the U.S. Army Corps of Engineers. We are the Hearing Officers for the public hearing to be held today. Also seated with us is Maurice Griffin to my right, Deputy Attorney General from the New Jersey Department of Law and Public Safety, and James Palmer, to Richard's left, Assistant District Counsel. We welcome all of you who have come to attend this hearing.

This morning, we are holding public hearings on two processes related to the American Dream Meadowlands Amusement and Water Park Project. First, I will read a statement with respect to the Hearing Officers' consultation process set forth in the Sports Authority's authorizing legislation, to be followed by a statement read by Richard Tomer of the Corps of Engineers related to a permit application

submitted to his agency. My statement is as follows.

We are here this morning to receive public comments on the Draft Supplemental Environmental Impact Statement, or DSEIS, dated October 2011, prepared by the New Jersey Sports and Exposition Authority, for the American Dream Meadowlands Amusement Park and Water Park Project to construct an amusement park and a water park within the Meadowlands Sports Complex in East Rutherford, New Jersey. The DSEIS was prepared as a supplement to the Preliminary Environmental Impact Statement for the Meadowlands Xanadu Redevelopment Project at the Continental Airlines Arena Site, dated March 2004. This hearing provides you with the opportunity to comment on the DSEIS. Your comments will be considered during the preparation of the final Supplemental Environmental Impact Statement. The DSEIS has been available since October 31st, 2011, on the websites and at the offices of the Meadowlands Commission, the NJDEP, and the Sports Authority. It has been available at all public libraries in each of the Meadowlands District municipalities.

We will receive comments at two separate

sessions today. The first session starts now at 10 o'clock and the second session starts tonight at 6 p.m. It is our final hearing after having two hearings yesterday. If anyone has not already done so, please sign in at the registration desk. If you wish to submit written or verbal comments, please indicate that on the registration sheets. Please turn off all cell phones and pagers during the hearing.

Today's hearing is part of a consultation process set forth in the Sports Authority's authorizing legislation. When the Sports Authority proposes development projects at the Meadowlands Sports Complex, the Authority consults with the Meadowlands Commission on the location, type and character of the project and with the Meadowlands Commission and the Department of Environmental Protection on ecological factors constituting the environment of the Hackensack Meadowlands so the delicate environmental balance may be maintained and preserved.

During this proceeding, the Hearing Officers will not respond to comments, but will receive them for review and consideration. A summary of the hearing, copies of the handouts,

and copies of the materials submitted by the public will be included in the final SEIS.

After the close of the comment period on the consultative process on December 19th, 2011, the Sports Authority will complete and publish the final Supplemental Environmental Impact Statement, which will include written responses to the public comments on the Draft SEIS and will submit it to the Hearing Officers and to the Department, and to the Commission. The final SEIS is expected to be available to the public on January 2011 -- sorry, in January 2012. The Hearing Officers will then review the final SEIS and submit their reports and recommendations to the Department of Environmental Protection and the Meadowlands Commission for approval on or about March 9th, 2012. The Hearing Officers' report and recommendations will thereafter be available for public review at the offices and on the websites of the Meadowlands Commission, the NJDEP, and the Sports Authority, and at local public libraries within the Meadowlands District.

At this time, I will be turning over the microphone to Rich Tomer from the Army Corps of Engineers.

MR. TOMER: Thank you. As Ms. Karrow indicated, my name is Richard Tomer, I am Chief of the Regulatory Branch for the New York District, U.S. Army Corps of Engineers. I will be the presiding officer for this morning's session on behalf of the Corps of Engineers for today's public hearing.

The Corps of Engineers is here today to obtain information and evidence, and receive public comment, to assist in the regulatory review of a permit application submitted by Metro Central, LLC, care of Triple Five Development. The permit applicant proposes to discharge fill material into 5.47 acres of Corps of Engineers regulated tidal and non-tidal waters of the United States to facilitate its construction of a commercial movement park and water park.

The permit applicant has proposed to mitigate for all impacts to the aquatic environment.

The permit applicant's stated purpose for the work is to construct a commercial amusement park and water park as a component of the American Dream Meadowlands Complex.

Because the proposed work involves a

discharge of fill material within waters of the United States, a Department of the Army permit is required from the Corps of Engineers pursuant to Section 10 of the Federal Rivers and Harbors Act of 1899 and Section 404 of the federal Clean Water Act.

The Corps of Engineers is neither a proponent for nor an opponent of the proposed work. Our role is to determine whether the proposed activity is in the overall public interest. This hearing will play an important part in that determination.

This hearing will be conducted according to the procedures set forth in Title 33 of the Code of Federal Regulations, Part 327. This means that anyone may make an oral or written statement concerning the subject matter of this hearing. Anyone may appear on his or her own behalf, or be represented by counsel or other representatives, to present recommendations or information, but cross examination of witnesses is not permitted.

A verbatim record of this public hearing is being made. The hearing transcript will be available on the Corps of Engineers website and a copy will be available for public inspection or

purchase at the Corps of Engineers office in New York City. Our website address is WWW.NAN.USACE.ARMY.MIL. That website address, as well as our New York City office mailing address, is printed on information sheets that are available at the registration tables today.

As a reminder, written comments on the permit application addressed to the Corps of Engineers may be submitted in the until the close of the comment period on Monday, November 28th, 2011. All written comments should be addressed to our mailing address, which is: New York District, Corps of Engineers, Regulatory Branch, Room 1937, 26 Federal Plaza, New York, New York 10278-0090, and again that mailing address is available at the registration tables. Thank you.

MS. KARROW: Thanks, Rich. At this time, I would like to invite Tony Armlin of Triple Five to present an overview of the proposed project.

MR. ARMLIN: Good morning. Thank you to the Hearing Officers for the opportunity for Triple Five to do an overview of our project and the proposed enhancement and expansion of the master plan for the project as part of the

application to expand our permits.

This morning, our purpose is to review our proposed amusement park, water park expansion of the already approved project to include the updates to the supplemental -- in the Supplemental Environmental Impact Statement, to the 2004 Environmental Impact Statement, previously done, to talk about the issues that are presented in our application process to the Army Corps, NJSEA and of course to the New Jersey Meadowlands Commission and the Department of Environmental Protection.

We will be talking about the potential impacts that the project proposes and imposes on the new site being incorporated into the project and we'll be talking about the major impacts and benefits of the project.

This is an overview aerial of the proposed site, which is a new parcel adjacent to the existing building site, which we're all familiar with. And this shows our site plan. Again, the proposed site location for the amusement park, water park, the existing ERC, Turnpike, 120. And now, the site in relationship to the ERC and the stadium.

Project description. The location of

the site is a 21.75 acre site, commonly known as the Radio Tower site for the three radio towers that are on the property immediately adjacent to the existing ERC project.

It is strategically located, it is critically important the relationship of this property and improvements that are proposed to be put on it to the existing ERC. The ERC is the entertainment retail complex that was originally partially constructed and nearing completion.

The land that is part of this process will become incorporated into the master lease with the Sports Authority, as this property will be annexed as part of the approval process.

The use is a family entertainment and amusement destination, which will expand the existing retail and entertainment components originally planned for the project. A critical and central functional part of Triple Five's master plan and overall business model for this property. This will replicate the same business model and same business plan that we've used successfully for 30 years at our West Edmonton Mall project, as well as the Mall of America project in Bloomington, Minnesota, that's been in

place for over 19 years.

The proposed improvements are strategically scaled to be of a size that will attract an international tourist destination visitor. It's intended to expand and enhance in a dramatic way and reposition in a dramatic way the overall positioning of the property to become a true world class destination.

The size of the amusement park is approximately 318,000 square feet. The water park is approximately 236,000 square feet and a shared common area of 85,000 square feet, which adjoins the two projects. For a total area of 639,000 square feet or about 13 acres of footprint on the overall 21.75 acre site. Again, a large scale format, fully enclosed water park and amusement park complex. And, again, participatory entertainment for our visitors.

This is a quick site plan of the proposed improvements and the relationship of the amusement park to the water park and the shared common areas and the connecting bridge that connects to the retail entertainment center. And then an blow up showing the areas of each.

This is a rendering of what we see the

amusement park becoming, in its built-out phase. Obviously, a lot of rides and attractions under the enclosed skylight area. And this is a photograph of our seven acre amusement park in Bloomington, Minnesota, at Mall of America. So you can see the very similar elements that are included, and how we have done this successfully in the past.

Again, this is a rendering of what we see as the water park in its built-out phase, as we move forward with the project. And this is a picture of our water park at West Edmonton Mall. Again, 30 years in place and very successful.

Purpose and need. The primary purpose for us to include this is to create a destination that is economically viable. Without the inclusion of the water park and amusement park into the overall positioning of the project, we are not able to execute the model that's fundamental to Triple Five. And we believe that this project is not economically viable without these components.

We also want to note that the inclusion of the amusement park and water park successfully fulfills one of the primary missions of the NJSEA,

to create a true tourist destination and to promote jobs and economic growth. These components provide essential components that are missing from the original planning process and really will bring the property to what the original vision was for the NJSEA, which is a true international tourist destination.

Without these components, again, I want to stress we do not believe that we will be able to move forward with the project because we do not believe that the project will be economically viable and will meet the successful requirements necessary for an international tourist destination.

Alternatives analysis and this relates to the site selection. As I said earlier, the site is strategically important, it's critically important that the amusement park, water park site be directly located in relationship to and connected to the ERC in a way that brings visitors to and through the project, as they enter and exit the project.

But we did look at other locations, including both locations on-site and locations off-site to see if there were other viable sites.

And the end result none of the other sites were practicable in terms of their ability to meet our criteria for location and for access and connectivity.

Environmental conditions, impacts, and mitigations. With the leadership of Langan Engineering and other consultants working on our team, 20 different items were evaluated related to the impacts of this particular siting and the proposed improvements on this piece of property. From geology and soils evaluations, wetlands evaluations, vegetation, solid waste, utilities, historic impacts, and other visual and landscape aesthetics, among others.

What does the project mean? The project is currently, in its current state, 1.9 billion dollars of investment has already been made by prior developers. Our proposal, which includes the construction of the amusement park and water park, as well as the expansion and enhancement of the existing ERC center adds 1.825 billion dollars of new investment over the next several years to bring the project to fruition.

It will create over 19,000 construction jobs, 9,100 jobs on-site over the duration of the

construction phase. As we move into the operations phase, we'll create over 17,000 permanent jobs, of which 11,490 will be located on-site. The on-site jobs alone, over a 20 year period, will generate 7.6 billion dollars in wages or an average of 382 million dollars of wages per year for on-site employees.

Environmental conditions, impacts, and mitigation. The first thing that we looked at when we started to approach the project and its proposed improvements on the site was to avoid any adverse environmental impacts. We looked at the redevelopment of the Radio Tower site, which is currently abandoned and of no direct use. We looked at exercising the ability to enhance and use existing infrastructure on the arena site. We also looked at the ability to utilize existing parking, without creating additional parking footprint.

We looked at the property's utilities. And we're also looking very strongly because a big part of Triple Five's focus on design and operations is green design, energy conservation, and best practices of operation. We have a 20 and 30 year history with West Edmonton Mall and Mall

of America of successful green operations of our facilities.

Short-term impacts. During the construction phase, obviously there will be erosion of sediment loadings that will effect the local area through construction run-off, which we'll control through appropriate means. We'll also be looking at increased air and noise emissions during construction, increased traffic from construction workers. But we'll also see increased jobs for construction workers, increased taxes generated from the jobs and the investments in the improvements.

Long term impacts. Most significant, as was pointed out in the original opening, a loss of 5.47 acres of wetlands. We also see increased use in energy, in potable water, increased use of sanitary and solid waste, increased air emissions, increased traffic from patrons and employees. Increased jobs, as well as increased taxes. Perhaps, most importantly, because our model is focused so much on tourism, in the generation of bringing new visitors and new dollars to not only the center, but to the region and the economy, we see a great impact in terms of new tax dollars and

new economic growth throughout the northern New Jersey and New Jersey economy.

Other issues. The primary issue is wetlands impact and mitigation. First and foremost, Triple Five is strongly committed to meet all federal laws and regulations related to the compensation for unavoidable impacts related to wetlands. It's our intention to work collaboratively with the Army Corps of Engineers and other federal agencies, as well the New Jersey Meadowlands Commission, and New Jersey Department of Environmental Protection, as well as the Meadowlands Conservation Trust to identify appropriate mitigation sites in the region. We already started that process. 5.5 acres of potential wetlands impacts will be addressed through mitigation banking, restoration or preservation.

We've identified five potential paths to achieve those mitigations, which start with the utilization of three acre credits currently available though the New Jersey Meadowlands Commission Secaucus High School site, a site that's already been restored and those credits are available. Also, looking to the Evergreen MRI-3

mitigation bank, which is currently in tis final stages of review and approval and expected to be in January or February with a possibility of moving forward in early spring. We would seek about 2.5 acre credits related to that site.

We could also look at the Keane tract, 40 acre parcel, where Triple Five would fund a restoration project to satisfy up to 5.5 acres of wetlands impact. And would work directly with the Meadowlands Conservation Trust for the construction and maintenance of that site.

Fourth, wetlands preservation. Triple Five has already undertaken and has currently made an offer on a site for potential wetlands mitigation. We are currently not closed on the deal, so we won't be making an announcement on the site as one of the potential opportunities as well.

And, finally, the opportunity to make payment to the State of New Jersey's Wetlands Mitigation Council Fund as another alternative for mitigation.

Next area, traffic impacts. First and foremost, through our traffic evaluations, we've had three firms work on this with us over the past

several months. Our analysis shows there's -- while there is impact in growth and traffic, it is negligible in comparison to the overall traffic patterns. What we do see and have specifically looked to address, very important factors. And mass transit is probably one of the largest focuses that we would like to see in terms of improvements and things we would like to do to enhance the use and the utilization of mass transit. We'll talk that a little bit more.

We're also looking at internal trips. The nature of our center is very much different than a regional shopping center. We are not a regional shopping center. We are an entertainment destination. Our patron comes and spends a much longer duration, which means that we spread traffic flow and traffic destination visits. And those visits are longer, reducing traffic impact. There's also the issues related to stay away factors, when we have events and other things that show a lot of massing on the site.

Bypass trips, which captures some of the traffic off the local roads that might normally not come in and it takes congestion off the local roadways.

Significant improvements related to the MetLife Stadium, which have had a dramatic impact over recent years in comparison to the original traffic evaluations done. Also the downsizing of the racetrack. The fact that the Bergen County blue laws are in effect and prohibit our ability to have retail activities on Sundays, which will restrict traffic.

The New Jersey Turnpike improvements related to exit 18W. And also variable message signing and on-site operations, a big part of traffic management flow through and around our site. The use of adaptive signal systems for traffic reduction in the general area. Again, another major program that will again assist in traffic flow and regulation.

Transpiration management planning. A huge part of the way Triple Five operates. We are not new at all to working with major complexes of large size and heavy traffic impacts. We're looking and having working with both Bergen County, New Jersey Transit, and others talking about the opportunities to increase and enhance bus service to the property, and improvements on the property to be able to handle both rapid

transit and mass transit connections for existing bus routes and new bus routes that might be put in place.

We were looking at increasing bus stops, making people mover connections to the rail station, as well as putting other improvements in place that will create major linkages with the local airports and other traffic centers.

As a quick site, this is the American Dream location in the general metropolitan area. And as we layer in obviously, the airports are of major significance related to the international tourism. 50 percent of our visitors at Mall of America are tourists. And that accounts for an enormous amount of the sales that occur at our properties. We expect to see the same kind of economic activity at our site here at American Dream.

Layering in our major rail connections, Penn Station, Secaucus Station, and connections to Newark and Hoboken. And now layering in bus rapid transit and other connections, we see an enormous opportunity with the existing infrastructure to improve its linkages through operation and through good management and planning, a major part of

reducing overall traffic to the site.

Socioeconomic impacts. As I said earlier, the construction of the project will invest another 1.825 billion dollars into the existing 1.9 billion of investment that's already been made over the next couple years. Generate over 19,000 jobs in construction and over 17,000 jobs in the operations phase.

With that, I'll conclude my remarks and turn back to the Hearing Officers. Thank you.

MS. KARROW: Thank you, Tony. The hearing is now open for comments. I will call the persons who have indicated on the registration sheets that they wish to comment. I have nine people who would like to speak. So let me, again, remind you that all comments should be brief and directed to either the DSEIS consultative process or the Corps of Engineers permit application, if you know.

When you are called to present your comments, please stand at the podium, give the name of -- I'm sorry give your name and spelling to the stenographer, who's recording the hearing. Please also give the name of your organization or any interest that you represent. Please indicate

if your comments are directed to the Corps of Engineers or the New Jersey Meadowlands Commission and New Jersey Department of Environmental Protection. If you have written materials, please give copies to the stenographer. Please limit your comments to five minutes. You may be afforded additional time for your comments or rebuttal after I've gone through the list of those who have signed up on the registrations sheets. If you are submitting written comments, please just summarize them and do not read them at length.

The hearing record and comment period for the Corps of Engineers will remain open until close of business on Monday, November 28th, 2011 for the receipt of written comments on the permit application. All comments should be sent to the following address so as to be received prior to the close of the comment period: New York District Corps of Engineers, Regulatory Branch, Room 1937, 26 Federal Plaza, New York, New York 10278-0090.

The NJDEP and NJMC will accept additional written comments on the DSEIS consultative process until the close of business

on Monday, December 19th, 2011. They may be submitted in writing to Scott Brubaker, Director of the Office of Permit Coordination and Environmental Review, New Jersey Department of Environmental Protection, 401 East State Street, PO Box 402, Trenton, New Jersey 08625, or to myself, Marcia Karrow, Executive Director, New Jersey Meadowlands Commission, One DeKorte Park Plaza, Lyndhurst, New Jersey 07071. Copies of the public notice with instructions should you wish to provide written comments are available at the registration desk.

Again, when I call your name, please come up to the podium, state your name, spell your last name for the stenographer, identify what organization you represent. And you get five minutes. Our first speaker is Michael West.

MR. WEST: My name is Michael West, M-I-C-H-A-E-L W-E-S-T. I'm the field representative of Bergen County Building Laborers, Local 592. The American Dream Meadowlands project public hearings has given everyone here the opportunity to speak and be heard by all of the parties that will decide if this landmark project will move forward.

As a field representative of Local 592, I've always been optimistic and realistic to the members I represent. Our high unemployment rates, currently at over 30 percent, and our lack of future projects has changed the lives of our members so dramatically that the words that I speak here today cannot begin to describe how our ongoing battle to survive has reached a critical stage.

We've been given a chance by the developer, Triple Five, to change our lives forever with their confidence in the people New Jersey to complete the American Dream Meadowlands project. The construction jobs and the permanent jobs that will be created will benefit everyone in the tri-state area. There's no doubt in my mind the hard-earned money generated by this project would be spent in the great State of New Jersey.

I've been a resident of Bergen County and a laborer for over 30 years. And I can honestly say, as I stand here before you, that as downtrodden as our economy currently is, that one project and its completion can change how some of us live our lives forever.

In closing, I would like to say thank

you to the developer, Triple Five, and everyone here that has the ability to decide that we can say that we helped put the people of New Jersey back to work with the completion of the American Dream Meadowlands project. Thank you.

MS. KARROW: Our next speaker is Steve Dodd.

MR. DODD: My name is Steve Dodd, S-T-E-P-H-E-N J. D-O-D-D, I am a business representative for the sheet metal workers Local 137. We represent men and women that do sign work in the State of New Jersey and in New York. And I can tell you that whatever everybody has said so far, I was here yesterday, I was here last night, is 100 percent on the mark.

We have had -- my comments, by the way, are to all the authorities that have the ability to make approval on this project. We have had a tremendous, tremendous devastation to this state. I don't think anybody that's sitting out in this audience lives under a rock. You can all see how bad this state is in. We have had members in our organization that have gotten so depressed they have committed suicide.

So, everything that I do, everything

that I've been elected to do, everything that everybody has been put on this earth to do is to serve in some capacity. What we try to do as officials, elected, appointed or otherwise, is do what we can to make sure that the people that we represent can -- we can take them from the cradle to the grave, that's one of my favorite sayings. We do that and we offer them the opportunity to have a job, to learn, and do a skill throughout their life that will carry them and their families. So what this means to us is maybe putting some of those people back on their feet. And what I also believe in is that what you do today affects you five and ten years from now.

I had the ability to work on a project here in 1994 called the World Cup. Something like that would be something that would be entertained in the future if this project was to go forward, be completed. And not only do we have the Super Bowl that we know of, but in my opinion, what would happen is we would be looked at first instead of last for a destination for somebody else to come in here and do something in the future.

So with all the respect in the world to

anybody that has anything negative to say about this, I'm sorry, but you're wrong. We need to do this, we need to do this now. And if God wills, this will go forward next year. Thank you to Triple Five and the developers and thank to you everybody that wants to do this.

MS. KARROW: Mike Schneider?

MR. SCHNEIDER: Thank you, Madame Chairman. My name is Mike Schneider, S-C-H-N-E-I-D-E-R. I'm a -- I've lived for 52 of my 57 years in Bergen County. And I'm a business representative of the Insulators Local 32 out of Newark, New Jersey.

I've also been here for the past two days. And I've heard everybody talk about the jobs and all the things that would help us, that's critical to all of us. I don't want to talk about that, you heard that already, and you'll hear more of that. I heard the panel talk that there were two issues that they're here to hear about today. One is the environment and one is public interest.

As far as the environment goes, I can tell you my house is in Rochelle Park, I'm not living there right now because I was flooded out during the hurricane, hurricane Irene took

everything I had and I've been out almost three months already. So we're talking about five acres in the Meadowlands. I don't think that five acres is going to make a big difference in the flooding problems we have in the State of New Jersey. They are far beyond anything that's going to happen in here. That's another issue we need to take up with Army Corps of Engineer at another time, with the due respect to the Army Corps of Engineers.

As far as public interest goes, it's a no brainer. We have a unique opportunity here to make a positive, positive in the lives of everybody, not only in northern Bergen County, New Jersey, in the whole tri-state area. This project is essential for jobs for us now, jobs in the future, and entertainment for my two kids who would love something like this that they can go to on their own now because they're driving.

This is easy, like Steve just said. It's something that has to happen for all the right reasons. Environmentally, as far as building trades guys go, we now have the opportunity and we have the technology and the knowledge to build this as environmentally friendly as anything that can be done anywhere in

the world. We have the technology and the people in this room who could do it.

So please consider all this. The opportunity is there to make a positive for everybody in this area. Please consider that. Thank you.

MS. KARROW: Marty Wymbs?

MR. WYMBS: Good morning. Madame Chair, thank you very much. And panel, thank you very much to have this opportunity to speak to everyone in this room. I was here yesterday morning, yesterday evening, and the eloquent speakers previous to me, tough to top.

But I would like to start out with the fact that it is a dream. It is someone's dream that thank God they're there for the simple reasons of everybody's previous dreams have gone to the wayside.

When the Triple Five group came to the building trades last year, the exuberance, the passion of that group instilled a positiveness in the building trades that day that this will take place, this will happen. The fact of remediation in regards to the environment, as a resident of Bergen County, I took the passion in my own town

to become a member of the Environmental Commission. I got quite an eye opener as far as how critical wetlands are.

But along with those constructive criticisms comes remediation and ways that were very, very unusual then, which are now commonplace today, to make a project of this type, this size, definitely work because of the simple fact that the engineering capabilities, the building trades involvement, everything that we do, we're very green, we're very environmentally conscious. All the products that we use today are extremely environmentally conscious.

I've been a sheet metal worker for 41 years, I've been a resident of Bergen County for every part of my life. And I think that this is going to be a fabulous destination because an eyesight away from here is a former destination place that was an amusement park, Palisades Amusement Park. It started as a trolley stop. Well, you take that concept, you multiply it by 100 years and billions of dollars that's being put into it. And you're going to come up with a fabulous destination location, American Dream Meadowlands. And, again, thanks very much for

your time.

MS. KARROW: Mr. Wymbs, before you step down, are you representing yourself or are you representing an organization?

MR. WYMBS: I'm representing all members of sheet metal workers Local 25. I got a little excited about speaking about the project. My name is Martin M-A-R-T-I-N, last name Wymbs, W-Y-M-B-S, sounds like the radio station that they're going to be taking down.

MS. KARROW: Thank you. Adolfo DiCosmo?

MR. DiCOSMO: How you doing? Adolfo DiCosmo, that's A-D-O-L-F-O D-I-C-O-S-M-O. I'm a business agent for Local 7. I'm here on behalf of -- I have about 25 members that are here today that are North Bergen residents that are out of work. Six of these members are drained of everything, unemployment.

And this project, if it goes forward, will put these people back to work and stimulate the economy, not only for my members, but for all New Jerseyans that right now are out of work. I just want to thank Triple Five for coming and trying to get this project going. And I just want

to say thank you very much.

MS. KARROW: Thank you, Mr. DiCosmo. Phil Arena?

MR. ARENA: Thank you, Phil Arena, A-R-E-N-A. I am a building trade labor organizer, I support this project. I thank Triple Five for having the vision in these difficult times to finally finance and go move forward on this economic project. It's definitely something that is needed in this area, people are really suffering and hurting, as many speakers have alluded to before I did, I was here also yesterday.

Being an organizer, you see every day what's out there, you know, true grit, real roots. And you see the concern and the pressure that people go through and I'm just here to support those members, those blue collar guys that are out there every day, struggling and trying to do the right thing.

Again, I thank Triple Five for being committed and trying to finalize this project. Thank you.

MS. KARROW: Thank you, Mr. Arena. Edmund Werner?

MR. WERNER: Good morning, Madame Chair and members of the committee. My name is Edmund Werner, E-D-M-U-N-D W-E-R-N-E-R. I'm a business representative of Local Union 164 of the International Brotherhood of Electrical Workers, representing approximately 3,000 members serving Bergen, Hudson and Essex Counties. I will be addressing the entire committee, especially the Army Corps of Engineers, regarding the American Dream Meadowlands project as it's known today.

Due to the unfortunate timing of the project -- well, first of all, I'd like to say I've been involved with this project right from the beginning, when it first started as Meadowlands Mills back in 2003. Due to the unfortunate timing of the project and the economy, the project has come to a stop until this new developer, Triple Five, came forward to reestablish it.

I see it as a win-win for everyone. Let me explain. I currently have 40 percent of my membership out of work, most for a period of close to two years. This project will help my members and the members of the other trades get back to full employment and help to replenish our funds.

It's been estimated that it will create approximately 9,000 construction jobs on-site, as well as 10,000 related off-site construction jobs for a total of approximately 18 to 19,000 jobs. It will also create an estimated 11,500 permanent jobs at the facility with an additional 6,000 off-site permanent jobs, creating new avenues for employment.

The project will also bring in new to the area, new tourism, economic activity to the region and state, not to mention generate new tax revenues. The completion of this project is a must. The project is dependent on the amusement park and water park, which have been proposed on the additional 27 acre site, including five acres of wetlands.

The developer is well known for its sites in Alberta, Canada, and the mall in Minnesota, which are both thriving today. They are a reputable firm from what we were able to establish through the building trades located in their areas.

Now, I'm not looking to let everyone know how old I am, but while growing up back in the 50's, my parents would set up day trips during

the summer and in the 60's, I was able to jump on a bus with friends and take a short trip from Leonia to Cliffside Park to a place call Palisades Park. I'm glad to see Marty remembers it, so he's got to be as old as me. I have fond memories of the park, riding the Cyclone rolled coaster, seeing a show at the outside theatre, spending a summer day at the outside saltwater wave pool. Meeting new friends, fond memories.

Well, this your Palisade Amusement Park, just bigger and better. And a place open all year long, a place where you can snow ski in the summer or swim in the winter, not to mention other attractions. This will be the biggest thing in a long time to hit Bergen County. It will give you and your children a place to explore. It will, I hope, remove teenagers from the streets and place them in a good secure environment.

There was a move once called "Field of Dreams" if you build it, they will come. I believe that if you permit Triple Five to go forward, it will be a great success and people will come.

At present, I would suggest to the committee -- no, better than that, I beg this

committee to approve the permits to allow this project to go forward, to allows us to start the economic recovery to the area of Bergen County, and the people who live and need to work here.

We need this project. Bergen County needs this project. Thank you for your time.

MS. KARROW: Gianna Dell'Olio.

MS. DELL'OLIO: Good morning. My name is Gianna Dell'Olio, G-I-A-N-N-A D-E-L-L-O-L-I-O. Madame Chair, members of the committee, I address my comments to you and all those who have the authority to approve this project.

I represent a relatively small company called the FORT Group, we have our main office in Ridgefield Park, New Jersey. And many of our offices actually overlook the proposed site of the project. In addition, we maintain a satellite office in Bloomington, Minnesota, which is also in the background of the Mall of America. So we feel we have a very compelling story to share with all of the public and with the members of the committee in favor of this project.

We are a marketing company and we host countless, countless events on behalf of our clients, as well as on behalf of ourselves, the

FORT Group at the Mall of America, based out of that Minnesota office.

These events have resulted in increased billings for our office, for our Minnesota-based business, since the office opened in 2005. This increased amount of billing has offered our company, again a small company, the opportunity to continue to re-invest in our employees and in our offices.

We firsthand feel the effects -- the positive effects that the Mall of America has had on our business. And we can only speculate as to the positive effect that the American Dream will have for us for our New Jersey-based business.

In addition, when many of our out-of-town guests or out-of-town clients come to have meetings with us in Minnesota, they always, always ask us if they'll have time -- if we have time to take them to the Mall, even if that's not part of our agenda.

Finally, we are also looking forward to participating in many of the community outreach programs that Triple Five's legacy is known for.

Thank you very much. We look forward to the project being approved.

MS. KARROW: Richard Dressel.

MR. DRESSEL: Thank you, Madame Chairman and Committee. I am Richard Dressel, D-R-E-S-S-E-L. I'm the business manager of Local 164. I'm Edmund Werner's boss, he lives with it on a daily basis. He explained to you the devastating impact of unemployment that's been felt by, not only the members of my organization, but every one of the building trades in Bergen, Hudson, Essex and northern New Jersey.

That would be beating a dead horse, but I have to tell you my involvement in this project, believe it or not, goes probably back further than anybody in this room. As a young business agent, in 1986, Terminal Construction at that time wanted to build what amounted to an indoor theme park in the city, all the way from about where George's Restaurant is up in Carlstadt, all the way to the northern property boundaries of what is now the arena. That got kicked around for a lot of years. And as far as remediation of marshlands goes, I think we would still be sitting here today going over all the permit processes for that project.

It led to a direct involvement, the cast had been set. And the idea had been put in place

to do something with the property. Then-Governor McGreevey appointed me to the original stakeholders committee of nine members, which we met right here. And we interviewed six RPF proposals for what then became Mills's project. At that time, Triple Five did put a project proposal in, but it was far beyond the scope of what we see here today. And it ultimately wasn't determined that was the way to go.

Subsequently, Governor Corzine put me on the Sports Authority, as a commissioner. And we sat and deliberated with Mills and the land lease arrangements and everything else. Importantly, where the NJSEA had given its approval to the Mills project, the one reservation that we all had as commissioners was that we didn't want just another mall. Sure, we had a ski dome in place and there was going to be a Ferris wheel and the like, but it looked like a mall. And we had severe reservations of how ugly it was on the outside. Once the thing got built, one of the commissioners compared it to the Con-Ex Box Storage ten miles south on the New Jersey Turnpike. I understand Triple Five is going to straighten that out first thing.

However, now, what it's evolved into is a place of destination with a theme park. It is the much needed hook that brings the public in, along with the retail and ski dome and everything that's going to come after it.

This is the major economic engine of northern New Jersey and everything west of the Hudson River, it's sorely needed. The state needs it, the income tax revenue generated by it. And there is an issue brought up in presentation about the land mitigation. And that was discussed way back when we had the original six proposals for the site. That's readily available and can be used for that.

So I can't stress any more how much we need this. I have members that have lost homes and we've had a suicide. We recently had to decimate our health care benefits to our members, retirees are getting hurt, the unemployed members are getting hurt, homes are being lost, kids are not going to college. We can't take it anymore. We need help and this project promises to put thousands of our members to work at a time worse than the Great Depression.

And when I say that, you're probably

alarmed because the older people in this room probably have visions of soup lines and what have you. I made a statement at a trustee's for our funds meeting back in February, that being a third generation of this organization, that this is the worth recession that Local 164 has witnessed since the Great Depression, my grandfather's time. I was summarily redressed on that issue by our actuary, who said actually, it's worse because your grandfather didn't have to worry about a pension fund, a health care fund, an annuity fund, and an apprenticeship training fund. They had to worry about going out and finding something to build.

We need something to build. This is the greatest project ever introduced into northern New Jersey. And let's get it done. And I address my issues to everyone sitting on the panel. I can't thank you enough for doing this. Thank you.

MS. KARROW: Michael Koppenal.

MR. KOPPENAL: Thank you, Madame Chair. My name is Michael Koppenal, K-O-P-P-E-N-A-L. I'm here representing myself and my company, Wilentz Carting. I'll tell you this morning, at breakfast, my daughter said what are you going to

do at work today, Dad. I said I'm going to go to a meeting and I'm going to argue in favor of an amusement park. I think that may be the first time that she ever looked at me and said, man, he's cool.

We all know that we need this project and many of the people who have spoken before me have reiterated what the issues that we face are. My company is certainly excited about this project for the specific opportunity of possibly working with Triple Five at this facility. But also based on my research, there's an enormous economic benefit to be realized by the region when a project of this size and this scope comes into play. And that's what really gets me motivated. You know, a rising tide lifts all boats. All of us have been stuck in the mud for awhile. This is something that we very much need. And I thank you for the opportunity to speak today.

MS. KARROW: Richard Rovito.

MR. ROVITO: Thank you, Madame Chair and members of the committee. Richard Rovito, R-O-V-I-T-O. I represent a company RS Snapco, we have been in business 67 years. We've been a member of the Meadowlands Chambers of Commerce

since there's been a Meadowlands Chamber of Commerce.

We've had the opportunity to work on this project with the previous developers. Since this project has not gone forward, we've had two layoffs and we're struggling. We've met with Triple Five, Jill, who took our entire company on a tour of the facility. We were very impressed with how its progressed and what their plans are for the future.

We're right here in Lyndhurst, we're at 1000 Wall Street West, so we're a local company. I personally live in Rutherford, so I'm local to this area. We need this project to go forward to sustain our company.

The environmentalists, I understand the concerns. I live here. The environment for the future, well, if we don't get this project, I don't know how much future there's going to be. We need this project, we need it now. But I do have one fear. Seeing some of the great shops that are going in there, I have a wife and three daughters. And that does scare me a little bit. But I endorse it fully. Thank you.

MS. KARROW: Janna Chernetz? I hope I

got that right.

MS. CHERNETZ: Pretty good. Madame Chairwoman, thank you for the opportunity to testify today. My name is Janna Chernetz, J-A-N-N-A, C-H-E-R-N-E-T-Z and I am an attorney and the New Jersey Advocate for Tri-State Transportation Campaign, and also a life-long resident of New Jersey. Tri-State Transportation Campaign is a non-profit organization working for more equitable and environmentally sound transportation networks and sustainable land use policies in New Jersey, New York, and Connecticut. Our primary objective regarding the American Dream Meadowlands project is to ensure adequate and reliable public transportation to the facility, and to ensure that American Dream does not pose a further drain on New Jersey's existing infrastructure and economy.

After reviewing the Supplemental EIS; paying specific attention to the transportation component, Tri-State finds that there remain too many unanswered questions.

A prominent assumption for the underlying transportation component is that Triple Five anticipates a -- quote, a substantial

increase in the use of mass transit by American Dream Meadowlands patrons and employees and a simultaneous decrease in automobile traffic. While we applaud Triple Five for its recognition of the imperative role mass transit will play in the success of American Dream Meadowlands, the underlying understanding of how this assumption was derived is absent.

Key planning documents, such as the transportation management plan, and important conversations with New Jersey Transit have yet to occur. As such, it is premature to make any conclusions about the effect the expansion will have on New Jersey's roads and the existing mass transit system and how these effects will successfully be mitigated.

According to the supplemental EIS, developers working with NJT and other transportation agencies to increase bus service to the project site and develop regular rail service to the Meadowlands complex. Details about how Triple Five plans to partner with NJT are completely missing. Throughout the supplemental EIS, Triple Five calls upon NJT to increase bus service and rail service to the Meadowlands.

Nowhere does it state how this will be funded and whether NJT and other agencies are prepared to meet the demands of Triple Five and any such timeline for the completion of the mass transit component. NJT's budget is already stretched and cannot meet demands. This can be seen through recent rail delays and ailing infrastructure. NJT's budget has shrunk from half the DOT's capital program in '04 to a third in 2012. Triple Five is relying on bus service out of the Port Authority to serve American Dream Meadowlands, but Port Authority recently slashed its capital program which included much needed garages for the bus. Without express commitment from NJT, Port Authority and New Jersey DOT and without a timeline for implementing any plans, any such plans by Triple Five remain nothing but speculation.

A positive aspect of the EIS is that Triple Five envisions a wide range of programs to be explored and potentially implemented as part of the overall transportation plan. However, more details are needed regarding the programs including how each program will affect traffic congestion and how they will be implemented so

they will be successful.

The effects that American Dream on the surrounding roads have not been fully explored. The only roads addressed in the Supplemental EIS are the immediate surrounding access roads and ramps. This is only part of the picture. These cars have to arrive from somewhere. How will roads such as Route 120, Route 3, Route 17 and the Turnpike be affected by the increase in traffic? Can the roads handle this increase in traffic? What about the effects the increased traffic will have on residential areas adjacent to the roads? What effect will the increase in traffic have on the road itself. None of the these questions have been explored. New Jersey's existing infrastructure needs are not being met, as half the roads are deficient. The added traffic as a result of American Dream will further tax these deficient roads.

In addition, the Transportation Impact Assessment relies on figures obtained by the Institute of Transportation Engineers determining increased traffic due to the addition of the amusement park. The TIA suggests the addition of the amusement park will increase traffic by less

than one percent of the previous permitted traffic volume for Xanadu. TSTC questions the reliability of the ITE to make these projections for American Dream Meadowlands. The numbers seem awfully low for an amusement park that boasts state of the art adrenaline inducing rides and the extensive water park. We need to look no further than our own back yard to illustrate this point. Westfield Garden State Plaza Shopping Mall in Paramus, New Jersey, sees approximately 20 million visitors annually. The area is chronically plagued by traffic issues despite being at the intersection of three major highways and being served by over ten bus lines. Given the estimated 55 million visitors a year and without a concrete plan and documented commitment from NJDOT and NJDEP, American Dream Meadowlands will be doomed from the start.

Prior to moving forward, the question raised by TSTC must be answered. In addition, TSTC recommends that Triple Five partner financially with NJT, PANYNJ and provide -- by providing a percentage of profits to transit operating costs to supplement the increased service on the already taxed transit agencies.

MS. KARROW: Ms. Chernetz, I need you to wrap it up.

MS. CHERNETZ: Sure. Triple Five should be also provide local aid contributions to local roadway networks to surrounding municipalities and counties and the state to pay for infrastructure demands.

Tri-State appreciates the offer for dialog with Triple Five and is encouraged by their actions to engage in discussions regarding the impact of American Dream will have on New Jersey transportation infrastructure. And we look forward to the many meetings in which these concerns will be addressed and progress accomplished.

As a prior speaker said, if you build it, they will come. Well, only if they can get there. Thank you.

MS. KARROW: Thank you. David Snyde.

MR. SNYDE: David Snyde, S-N-Y-D-E. VRI Real Estate, I'm here on behalf of myself. I started in this area back in 2003 when a new development across the river called Riverside Court came online. And I got my first listing there, after the builder sold out. From that

point on, we have 212 town homes on the waterfront, directly across from Triple Five. And one of the key things that was exciting at the time, when Xanadu was there was the fact that there's a whole new beginning coming to New Jersey. Prices will escalate because if you have 30,000 employees in a place, ten percent are going to be executives. The executives are going to want places to live and why not surround the area and be close to where you work, but yet you could be across the river, you don't have to be right here.

Subsequently, some of the major builders that I represent, one of which was going to build 2,200 units across, on Route 3 here, would have completed the project. And it was going to be a mixed residential, 55 and regular units. But because of Encap, it went away. And a lot of you know who that builder was. And I was going to be the broker representing that facility.

My feeling is when you employ 36,000 new jobs in a marketplace that is struggling and the sellers of these homes are in trouble because the price values have gone down. I only see a plus plus on Triple Five coming into this area with the

expansion of this community and the American Dream will come true. And then you're going to have the grandparents. I envision something, I'm just me. Just a Realtor. I envision because of the train service coming in and the way we have it from New York City, you're going to have skiers coming out on the train with the ski boards or snow boards. You're going to have parents want to take their kids to Disneyland, maybe this is the Disneyland.

And I can envision 55 and older communities which we're having the worst problem selling now in my new construction. All the developers say I don't want to do it. But if there's a Disneyland here, what better thing to have a parent maybe spend six months in Florida, six months here and they're in the area. So I see a win, win, win.

And one of the things that I dreamed of and that was to have a waterway situation where the ferry would come up. I didn't know anyone, I spoke to Arthur Imperatore back four years ago, and I said, what would you think, could you dredge this and be environmentally friendly.

I could see the ferry coming up and discharging all the potential people here.

Because now we have a train, it's not the Garden State Mall that you can only go by bus and get stuck on Route 17. You have a train here on the weekends that takes all the Jets out, all the Giant players. This is the best transportation system we have. And I hope you will consider this. This can be a godsend to this community and to the values of prices in the area. And the new construction that will create more jobs for the laborers and more executives coming in here. And I just want to say thank you very much. And I wasn't planning on being here, I was going to a construction site. And I said ten to twelve, I have to express myself. Thank you very much.

MS. KARROW: Ladies and gentlemen, that's the end of the speakers that have signed up so far. We are here until twelve o'clock. We will be in recess until someone else signs up. Then we'll be returning again tonight. So you can feel free to mill around. I'll call everybody back in if anybody else signs up. I want to take one moment to acknowledge that Congressman Rothman has a had a representative here also for all three hearings so far.

(Whereupon a short recess was taken.)

MS. KARROW: At this time, we have another speaker, Ron Nosiay.

MR. GRIFFIN: Will everyone please take their side conversations outside? Thank you.

MR. NOSIAY: Thank you, Madame Chair. My name is Ron Nosiay, R-O-N, N-O-S-I-A-Y. I'm a member of District Council 711, out of Local Union 1976. District Council 711 entails tapers, painters, and glaziers.

I've been in the trades for 40 years. I've seen the best of times, I've seen the worst of times. So I thought. What we have here in the trades is -- it's not bad times, it's carnage. Our unemployment numbers are -- same thing, just like everybody else, 40, 50 percent. This project is -- it's so important right now with the unemployment. I mean, it seems like an intelligent project.

And if we don't get this thing done, what's going to happen with this building out here? Who's going to pay to take this thing down, the cost of taking this thing down? Let's put the money in it to get it finished. I mean this is

called the American Dream. If this thing doesn't get done, it's going to be known as the New Jersey nightmare. And we don't need that.

This project will generate income and this is what we need at this point. You know we need the jobs. So I'd like to ask this panel to please make this work so we all can work. Thank you.

MS. KARROW: Our next speaker is Steve Orenchuk.

MR. ORENCHUK: Good morning. My name is Steve O-R-E-N-C-H-U-K. I am the Chairman of the Board of the Meadowlands Regional Chamber of Commerce. I'm here to direct my comments to the entire group. Dream America Meadowlands has been become a real thought-out project. Paul Ghermezian and his team have taken the responsibility, the role to bring this new Dream America to the Meadowlands.

This is, as you know, a 7.5 million dollar square foot retail and entertainment amusement complex. But the uniqueness of this is that they are very much involved in community. They have done this in the Edmonton Mall, they've done this in the Mall of America. And they really

want to cultivate and bring jobs and bring this project to the area.

Most importantly, the opportunities for jobs will be tremendous. They will employ almost nine -- almost 10 million jobs. When we currently have an unemployment rate of 9 percent in this country, as well as permanent jobs, part time, full time, over about 11,000.

Having been involved with this project, we went in with Xanadu and now that it's Mall of America, the difference between this group is just amazing. They are very interested in making sure that all -- anything that's a problem be handled. And they've been through this, they've done it with the other malls. They've taken on a project of this size and magnitude and have made it work and in an area of much smaller per capita of people, here we have a lot more people. This is going to be a very successful project.

Most importantly, in terms of the jobs, I'm going to speak from the standpoint of all the gentlemen in the back. I am the son of an iron worker, Paterson Local 483. And I remember the days when my father was unemployed and he had to he go drive a taxi just to put food on the table.

So I understand what you guys are feeling right now. And I respect you for all being here to support this job. Thank you.

MS. KARROW: Once again, we stand in recess until we have other speakers. We will be here for approximately another 50 minutes in this public hearing. Thank you.

(Whereupon a short recess was taken.)

MS. KARROW: Ladies and gentlemen, I'm reconvening the hearing now. We have a couple more speakers who have signed up. Our first speaker -- can you please take a seat or step out of the room if you want to continue your conversations. Jerry Keenan.

MR. KEENAN: Thank you.

MS. KARROW: Mr. Keenan, the rules are please come to the podium, state your name for our court stenographer, spell your last name, identify your organization. And you have five minutes.

MR. KEENAN: Okay. Thank you. I'll have to throw out the last 20 pages of my speech then, I guess. My name is Jerry Keenan, K-E-E-N-A-N. I'm the executive vice-president of

the New Jersey Alliance for Action. Is there anything else I need?

MS. KARROW: That's good. Five minutes.

MR. KEENAN: I want to thank you for the time and thank you for everyone sitting down and listening to me. I'm actually -- I apologize for my dress. I was on vacation today, but I wanted to make sure I come up and speak about this.

This American Dream project, as everyone here knows, is a vital project to the future, not only of north Jersey, but I consider it a project of vital economic significance for the entire state. I would call on the DEP, the state, and all of the interested officials to recognize the importance of this project and to allow it to move forward as expeditiously as possible, particularly in light of the fact with the Super Bowl coming in 2014. This is really I believe a once in a lifetime opportunity. I don't believe the Super Bowl will ever come back. I think the only reason it's here is because the NFL is a good friend of the Marra's and they're trying to help out.

But besides the economic impact that we're talking about here, the environmental concerns are also very important. And I'm

confident with the DEP's leadership that the proper protocols will be taken and followed to ensure that the environmental safety of the area is protected. A lot of people don't remember either, years ago when this project was originally conceived in various incarnations, how horrible the environmental area -- environmental condition of this area was. It was terrible. I've seen the pictures oil cans and other, you know, lousy junk was up here. And the developers from the beginning have done a fantastic job in cleaning up this area and keeping it clean.

So I'm looking forward to a fantastic opportunity both, economically and environmentally, one that could really benefit not only this region, but all of the citizens of New Jersey and all the people that would like to come here and spend their tourist dollars. And really make it a great win-win for all involved. So with that, I want to say thank you for your time.

MS. KARROW: Thank you, Mr. Keenan.

I just want to put on the record that the New Jersey Meadowlands Commission is a member of the Alliance for Action. So I don't want anybody out there thinking we have a conflict --

we do have a conflict. John Arlotta.

MR. ARLOTTA: Thank you, Madame Chairwoman. My name is John Arlotta, A-R-L-O-T-T-A. I am a representative of the IEPAD District Council 711. I just want everyone to know here that I was raised in a union household. And it was very important and drilled into my head that being a part of the trades, we had three things that were very strong to us. That I would be able to make a decent wage, have health care, and retire with dignity.

There was a comment made this morning when I walked in, there was some people talking about the trades being here and being able to speak because we were unemployed. We do not want to be here, we want to be employed. We want to be employed.

My members, which I deal with on a daily basis, they set up picket lines and political action. And I have to ask these members who have been out of work for a long time to come and stand on a picket line or to come and support a candidate that we want to support. And they ask me when am I going back to work. I spent seven months of my working life in that building, that

blue ceiling, that wood thing, I painted and stained. And the toughest day that I had was when they told me to pack my tools up and leave because there was no money in that project.

The American Dream and Triple Five is what it's supposed to be, the American Dream. Put us back to work. Let us spent our money in this state. The governor says that we have, you know, a bad times in this thing. You know, well, we're the tradesmen. We live in this state. We eat in this state. We play in this state. Our kids go to school in this state.

I happen to live at the Jersey shore. And people up here talking about transportation, come down to my town in June, July, August. It's the same thing, traffic yes, might be a problem. When I was a child, my father would take us from Bronx to Palisades Park.

If we build it -- I said this to Adolfo this morning. If we build it, they will come. So please, guys, put us back to work. Let us use this opportunity to help our state and my members. Thanks.

MS. KARROW: Once again, we'll be in recess unless someone comes in and signs up to

speak for about another 33 minutes.

(Whereupon a short recess was taken.)

MS. KARROW: Ladies and gentlemen, we're reconvening, you can go up to the podium, please. Our next speaker is Mr. Louie Casbar, Mr. Casbar, can you please state your name for the record, spell your last name, identify if you are representing an organization.

MR. CASBAR: You have to speak up, I can't hear too good.

MS. KARROW: I'll try. Please state your name for the record.

MR. CASBAR: My name is Louis Casbar.

MS. KARROW: Can you please spell your last name?

MR. CASBAR: C-A-S-B-A-R.

MS. KARROW: Are you representing yourself or an organization?

MR. CASBAR: Myself.

MS. KARROW: Thank you. You have five minutes.

MR. CASBAR: Okay. I read in the paper you want to expand that Xanadu. I don't know how

you pronounce it, but I say Xanadu. And you want to build a playground.

To begin with, you couldn't finish the first one you started. And now you want to start a second one. I want to know, as a taxpayer, as a Veteran of World War 2, where is the money going to come from without taxing the general public?

MS. KARROW: Mr. Casbar, this is a comment period only. We are only taking public comments. So you need to phrase your question as a comment.

MR. CASBAR: My question is --

MS. KARROW: Comment.

MR. CASBAR: If you couldn't finish the first project you started, why should you start the second one? And where is the money going to come from?

MS. KARROW: Again, Mr. Casbar, no one is here to answer questions.

MR. CASBAR: Oh.

MS. KARROW: You can only comment. You're welcome to the speak to the Triple Five group afterwards, but --

MR. CASBAR: Well, I feel you shouldn't start the second one, unless whoever is

responsible for it that wants to build it, unless they have the money to do it and complete it.

MS. KARROW: Thank you very much, Mr. Casbar.

Ladies and gentlemen, we stand adjourned. This public hearing is now closed. We will be back once again tonight from six to eight p.m. to conclude our public hearing in the beautiful and lovely Hambletonian room.

(Whereupon the matter was concluded.)

C E R T I F I C A T E

I HEREBY CERTIFY that the foregoing is a true and accurate transcript of the testimony and proceedings as taken stenographically by me at the time, place, and on the date hereinbefore set forth.

_____

SUSAN BISCHOFF, CCR, RPR

LICENSE NO. 30XI00233700

STATE OF NEW JERSEY
NEW JERSEY MEADOWLANDS COMMISSION

AMERICAN DREAM AT MEADOWLANDS PROJECT
PUBLIC HEARING

November 16, 2011
50 State Route 120
East Rutherford, New Jersey

6:00 p.m. to 8:00 p.m.

B E F O R E:

MARCIA KARROW, Executive Director
New Jersey Meadowlands Commission

SCOTT BRUBAKER, Director
Office of Permit Coordination and Environmental Review
New Jersey Department of Environmental Protection

RICHARD TOMER,
Chief of the Regulatory Branch
U.S. Army Corps of Engineers

ALSO PRESENT:
MAURICE GRIFFIN,
Deputy Attorney General
Division of Law and Public Safety
JAMES PALMER,
Assistant District Counsel

Reported by: Susan Bischoff, CCR, RPR
Certified Court Reporter

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MS. KARROW: Good evening. I'm Marcia Karrow, Executive Director of the New Jersey Meadowlands Commission, NJMC. With me to my left is Scott Brubaker, Director of the Office of Permit Coordination and Environmental Review of the New Jersey Department of Environmental Protection, NJDEP, and Richard Tomer to his left of the U.S. Army Corps of Engineers. We are the Hearing Officers for the public hearing to be held tonight. Also seated with us to my left is Maurice Griffin, Deputy Attorney General, from the New Jersey Department of Law and Public Safety. And to Rich Tomer's left is James Palmer, Assistant District Counsel. We welcome all of you who have come to attend this hearing.

This evening, we are holding the final of four public hearings on two processes related to the American Dream Meadowlands Amusement and Water Park Project. First, I will read a statement with respect to the Hearing Officers' consultation process set forth in the Sports Authority's authorizing legislation to be followed by a statement read by Richard Tomer of the Corps of Engineers related to the permit application submitted to his agency. My statement is as

follows.

We are here this evening to receive public comments on the Draft Supplemental Environmental Impact Statement, DSEIS, dated October 2011, prepared by the New Jersey Sports and Exposition Authority for the American Dream Meadowlands Amusement Park and Water Park Project to construct an amusement park and a water park within the Meadowlands Sports Complex in East Rutherford, New Jersey. The DSEIS was prepared as a supplement to the preliminary environmental impact statement for the Meadowlands Xanadu Redevelopment Project at the Continental Airlines Arena site, dated March 2004. This hearing provides you with the opportunity to comment on the DSEIS. Your comments will be considered during the preparation of the final Supplemental Environmental Impact Statement or SEIS. The DSEIS has been available since October 31st, 2011, on the website and at the offices of Meadowlands Commission, the NJDEP, and the Sports Authority. It has also been available at all public libraries in each of the Meadowlands District Municipalities.

Again, this our final session. If

anyone has not already done so, please sign in at the registration desk. If you wish to submit written or verbal comments, please indicate that on the registration sheet. Please turn off cell phones and pagers during the hearing.

Tonight's hearing is part of a consultation process set forth in the Sports Authority's authorizing legislation. When the Sports Authority proposes development projects at the Meadowlands Sports Complex, the Authority consults with the Meadowlands Commission on the location, type, and character of the project and with the Meadowlands Commission and the Department of Environmental Protection on ecological factors constituting the environment of the Hackensack Meadowlands so the delicate environmental balance of the Hackensack Meadowlands may be maintained and preserved.

During tonight's proceedings, the Hearing Officers will not respond to comments, but will receive them for review and consideration. A summary of the hearing, copies of the handouts, and copies the materials submitted by the public will be included in the final SEIS.

After the close of the comment period on

the consultative process on December 19th, 2011, the Sports Authority will complete and publish the final SEIS, which will include written responses to the public comments on the Draft SEIS and will submit it to the Hearing Officers and to the Department and the Commission. The final SEIS is expected to be available to the public in January 2012. The Hearing Officers will then review the final SEIS and submit their report and recommendations to the Department of Environmental Protection and the Meadowlands Commission for approval on or about March 9th, 2012. The Hearing Officers' report and recommendations will thereafter be available for public review at the offices and on the websites of the Meadowlands Commission, the NJDEP, and the Sports Authority and at local public libraries within the Meadowlands District.

At this time, I would like to turn over the microphone to Rich Tomer from the Army Corps of Engineers for his statement.

MR. TOMER: Thank you. I am Richard Tomer, I'm Chief of the Regulatory Branch for the New York District, U.S. Army Corps of Engineers. I will be the presiding officer for this evening's

session on behalf of the Corps of Engineers at this hearing today.

The Corps of Engineers is here today to obtain information and evidence, and receive public comment, to assist in the regulatory review of the permit application submitted by Metro Central, LLC, care of Triple Five Development. The permit applicant proposes to discharge fill material into 5.47 acres of Corps of Engineers regulated tidal and non-tidal waters of the United States to facilitate its construction of a commercial amusement park and water park.

The permit applicant has proposed to mitigate for all impacts to the aquatic environment.

Permit applicant's stated purpose for the work is to construct a commercial amusement park and water park as a component of the American Dream Meadowlands complex.

Because the proposed work involves a discharge of fill material into waters of the United States, a Department of the Army permit is required from the Corps of Engineers pursuant to Section 10 of the Federal Rivers and Harbors Act of 1899 and Section 404 of the Federal Clean Water

Act.

The Corps of Engineers is neither a proponent for nor an opponent of the proposed work. Our role is to determine whether the proposed activity is in the overall public interest. This hearing will play an important part in that determination.

This hearing will be conducted according to the procedures set forth in Title 33 of the Code of Federal Regulations, Part 327. This means that anyone may make an oral or written statement concerning the subject matter of this hearing. Anyone may appear on his her own behalf, or be represented by counsel or other representatives, to present recommendations or information, but cross examination of witnesses will not be permitted.

A verbatim record, written record of this public hearing is being made. The hearing transcript will be available on the Corps of Engineer's website and a copy will also be available for public inspection or purchase at the Corps of Engineers office in New York City. The website address where the transcript will be posted is www.nan.usace.army.mil. That website

address, as well as our New York City office mailing address, is printed on information sheets that are available at the registration tables outside this hearing room.

As a reminder, written comments on the permit application addressed to the Corps of Engineers may be submitted until the close of the comment period which is on Monday, November 28th, 2011. All written comments should be directed to our address, which is New York District, Corps of Engineers, Regulatory Branch, Room 1937, which is at 26 Federal Plaza, New York, New York 10278-0090. Again, that address is available at the registration tables if you need it. Thank you.

MS. KARROW: Thank you, Rich. At this time, I would like to Tony Armlin of Triple Five to present an overview of the proposed project.

MR. ARMLIN: Good evening. Thank you for the opportunity to present the project on behalf of Triple Five. My name is Tony Armlin, I'm the vice-president of development and construction working on the project. Thank you for the Hearing Officers for the opportunity to give you an overview of our project.

Our purpose tonight in this presentation is to present the proposed addition of a water park and amusement park, to amend the existing master plan for the overall project, which Triple Five is taking over and completing. This is a supplement to the existing Environmental Impact Statement prepared in 2004 and amends to include the amusement park and water park.

We've prepared this for the NJSEA and the consultation process with the New Jersey Meadowlands Commission and the New Jersey Department of Environmental Protection, along with our application to the Army Corps of Engineers related to wetland mitigation and permitting process.

Our focus tonight will be on the potential impacts of the addition of the proposed amusement park and water park. And to overview the major points of the Draft SEIS as prepared by Langan Engineering.

This is the project site and aerial showing the location of the proposed improvements, which would be on the tract adjacent to the existing entertainment and retail complex, ERC, Izod Center in the back.

This is a site plan of our proposed improvements, again. The amusement park and water park on this parcel of property next to the existing ERC.

And then this photograph shows an aerial depiction of the property in relationship to the ERC and the stadium with the Turnpike below and 120 cutting through the site.

Project description. The project is located on what is called the Radio Tower site immediately adjacent to the existing ERC, which is a 21.75 acre site. It is strategically located which will be an important part of our presentation as we move forward, in connection to the existing entertainment complex. The land will be incorporated into the overall lease and master plan of the NJSEA upon completion of the approval.

The use of the property is for a family amusement and entertainment use. It is scaled to promote a large scale tourist and international tourism destination. It is strategically located, as I said, in position to the ERC. Triple Five a developer of mixed use and entertainment destination projects, starting with our West Edmonton mall, which was built in the early

1980's, and followed by our Mall of America project in Bloomington, Minnesota, developed in 1992. Between the two properties, we have over 50 years in experience in developing projects that have international tourist destination appeal.

This business model is applied here to our vision of how American Dream will be redeveloped. This includes a major focus on amusement and attraction. And specifically on the inclusion of the amusement park and water park, which is the subject of tonight's discussion. The amusement park itself will be a 318,000 square foot facility, the water park a 236,000 square feet, and they will both share a shared common area of 85,000, for a total 639,000 square feet or 13 acres.

The character of the project will be to create a participatory environment, a large format, 13 acres roughly, about seven plus acres for the amusement park, five to six acres on the water park. And it will be a major element in terms of entertainment attraction that will compliment the existing entertainment retail components currently contemplated in the project.

The location again, the site plan. The

ERC and the amusement park and water, with the shared common area. And another blowup that's showing the areas.

This is a rendering of the interior of the amusement park. It shows a number of rides and attractions under an enclosed skylight area. This is an actual photograph of our facility at Mall of America, which is a seven acre amusement park, again, under skylight with a number of amusements and attractions. And another picture from a different direction, showing that format and structure.

The next picture is a rendering of our proposed improvements for the water park at American Dream. And it's followed here by an actual photograph of our installation at West Edmonton Mall, a similar five acre water park.

Purpose and need. This proposed improvement provides critical necessary elements to make our project economically feasible. Without these elements, we believe that the project is not economically viable. Again, going back to Triple Five's business model, our approach is to create not a retail center, we're not a shopping center. We're an entertainment

destination center that focuses on a long experience of entertainment, amusement, and retail mixed together in an appropriate format structure. And it needs to be an anchored by an amusement attraction of this scale and this density.

Additionally, this project fulfills in this format the original charge of the NJSEA, which was to create an entertainment based facility that had large scale tourist attraction and promoted job growth in the region, which this does.

It provides the essential components that, without this element, we don't believe the project would be able to succeed. It would not certainly create a world class tourist destination that is appropriate and necessary for the project to be economically viable.

Last but not least, we believe that this large format structure creates a destination that will not only create tourism, but will promote the project to the level and scale that will bring back the same level of entertainment and destination that the Meadowlands once had.

Alternatives analysis. As a part of the process, Langan Engineering, our consultants,

looked at a number of alternative locations to which the project could be located, both on the site and off the site.

After that evaluation, it became clear that there were no practicable alternatives that provided the linkages necessary for adjacency, for density, and for positioning of the property so that we could have this element in a successful format with the ERC.

Also as part of the process, the consultants looked through over 20 criteria of evaluation which ran from geological and soils evaluations, wetlands evaluations, flood plain, vegetation, solid waste, utilities, land use and zoning, park lands, and historical, features among others.

To put this in context from an environmental conditions impact and mitigation standpoint, you have to understand the investment. During the construction phase, we will be investing approximately 1.825 billion dollars on top of the existing 1.9 billion dollars already invested to create the improvements that you see on the site today. And that would bring the completion of the entertainment retail component,

as well as the new construction of the amusement park and water park to fruition.

In the process of making that investment, we see that the project will be generating upwards of 19,000 jobs, of which 9,100 construction jobs would be on site and over 10,000 jobs off site. As we move from the construction phase into the operations phase, we see approximately 11,490 jobs being created as permanent jobs on site, with an additional 6,000 jobs off site for over 17,000 jobs created as part of this process.

In fact, over a 20 year period, the permanent employment wages paid over that period will generate about 7.6 billion dollars of wages or over 382 million dollars of wages per year.

As a part of our evaluation, we looked to a number of terms that relate to impact. First, how do we avoid adverse environmental impacts. And we looked at the existing condition of the Radio Tower site, which is an abandoned site that is ripe for redevelopment. We also looked at the existing infrastructure of the arena site and how to maximize that's use. And we looked at the parking capacities at the existing

site and how to create and use that parking facilities in a way that did not require additional parking, as well as the proper use of materials and utilities in the site.

And then last, but not least, something That triple Five is very focused on, which is green design, energy conservation, and the best practices in the operation of the facility. All things that are fundamental to the way that we approach the design, development, and operation of our properties across the country.

Short-term impacts. During the construction period, there will be impacts related to construction run-off, erosion, issues that will have to be controlled. Increased air and noise emissions during construction, increased traffic from construction workers coming to the site, as

to this. Also the increased use of energy and potable water. The increased use of sanitary and solid waste, increased air emissions, increased traffic from patrons and employees.

Increased jobs created, increased taxes created from the jobs, and transactions and the increased regional growth through increased tourism and related spending, a major part of Triple Five's plan and business model. Over 50 percent of the visitors that come to our Mall of America facility are tourists. And we see the same level of activity here at American Dream. It brings significant dollars from outside the local economy into the economy and creates an economic lift, not only for the property, but for the region and for the state. A very important part of our overall plan.

other federal agencies, and the New Jersey Meadowlands Commission, and the New Jersey Department of Environmental Protection, along with the Meadowlands conservation trust to identify appropriate mitigation sites in the region. The 5.5 acres of protected wetlands impact will be addressed through mitigation banking, restoration, or preservation.

In that process, we have looked at five primary areas and directions to be able to affect a wetlands compensation plan that will effectively meet our needs. This starts with looking to New Jersey Meadowlands Commission Secaucus High School site, which is a three acre credit that could be available for purchase from the NJMC as a part of the process of determining how to mitigate the 5.5 acres of disturbance.

The second item would be to look at the Evergreen MRI 3 mitigation bank. The bank is currently under review and is anticipated to reach approval between January and February of 2012, with construction and planting starting in the spring. We would probably seek 2.5 acres of credit related to use of that potential site.

A third alternative would be to look at

the Keane Tract, a 40 acre parcel that Triple Five would look to purchase 5.5 acres, or some portion of thereof, to have as a part of our contribution to the mitigation plan. This would, of course, need to be reviewed and approved by the Meadowlands Conservation Trust. And we would fund the construction, maintenance and restoration of that project.

We also looked to other areas and other parcels that will qualify for wetlands preservation and, in fact, have tendered an offer on a property, we're not prepared to disclose the location or nature of that property until that comes to a potential closing, but feel that would also provide an opportunity to participate in the mitigation plan.

Last, but not least, we would also look to the possible payment of the State of New Jersey Wetland Mitigation Council Fund as part of this process.

Traffic impacts. Trip mitigation, volume reductions were not considered as part of the overall plan. What that means is when we did our evaluation of traffic impacts related to the addition of these components, our traffic

engineers found a relatively modest amount of increased traffic, but we did not discount other improvements that have been made in place. And, in fact, are taking them into consideration.

As we look at what some of those things are and how we would deal with the traffic that's being added to the site, we look at mass transit as the primary area of potential benefit, but not our least area. We have a major focus at Triple Five of trying to enhance the existing infrastructure operationally. And we'll be talking more enhancing that mass transit connection and utilization further in the presentation.

We also look at internal trips. This is the concept, again, behind our basic business model. We're not a shopping center, so people don't just come to the center to make purchases. They come to experience entertainment aspects, the amusement aspects, as well as the retail. So they're shared trips that occur because they're not independent trips, they're all shared in the longer experience. That's a major part of ho our visitors comes and it definitely decrease the level of trip generation related to the project.

Events day factor. It's clear we have other areas around this property that have trip generation. When those activities are occurring, generally, our visitors tend to stay away during those periods and come when those activities are not occurring.

Bypass trips. We also have the opportunity, as we see in other properties, for people driving by the facility to actually say I should go in there, so they come into the center and that takes traffic off the regional highways as they come into the center.

Metlife Stadium improvements. Huge improvements have been made over the past three, four years that significantly changed the original traffic evaluation that was done several years ago. We feel are major improvements that will help assist in traffic flow. As well, the down sizing of the Meadowlands Racetrack. Additionally, a major factor related to traffic is the existence of the Bergen County blue laws, which restrict retail activities in the center on Sundays. And that will obviously reduce traffic on Sundays generally related to the center.

New Jersey Turnpike improvements with

interchange 18W and that coming fully online. Variable message signs and on-site operations to make sure that we manage traffic and traffic flow efficiently, as we open the facility. The Meadowlands adapted signal system for traffic reduction, major intelligent infrastructure, improvements related to traffic flow and management, and other background traffic level changes.

Transportation improvements. As I said earlier, transportation management is a major part of how Triple Five deals with the operations of our properties. And we're not at all unfamiliar with how to deal with major traffic destination issues on our properties. We look primarily now to improve the mass transit components, rapid bus transit, and other mass transit connections to the property, including improving the linkage between the existing rail station that occurs on the west side of 120 and its connection to our property, another major opportunity to remove traffic from local roadways and enhance the use of existing infrastructure.

Just to give a highlight of some of the major infrastructure here in the area, this is the

American Dream location. And as we layer in our connections with major metropolitan airports, which we see again as international tourism being national tourism coming from the other parts, being major part of our visitation. Layering in the rail connections from Penn Station, Secaucus Lautenberg Station, Newark International Airport and Hoboken Station. The connections between those, from rail and the layering in of bus rapid transit, in connections to the Port Authority of New York and New Jersey bus terminal, Union City, and the Hoboken train station make major connection possibilities for mass transit improvement and connection.

Overall socio-economic impacts. We've dealt with a little more briefly. Again, 1.825 billion dollars of investment creating 19,000 jobs in construction and 17,000 jobs during the operational phases; 7.6 billion in wages generated over 20 years; 1.2 billion dollars worth of sales taxes and corporate business taxes generated over a 20 year period.

That wraps up our presentation. I'll turn it back over to the Hearing Officers.

MS. KARROW: Thank you, Tony. The

hearing is now open for comments. I will call the persons who have indicated on the registration sheets that they wish to comment. So far I have three people who would like to speak. So let me again remind you that all comments should be brief and directed to either the DSEIS consultative process or the Corps of Engineers permit application.

When you are called to present your comments, please come up to the podium, give your name and its spelling to the stenographer who is recording the hearing. Please, also give the name of your organization or any interest that you represent. Please indicate if you know if your comments are directed to the Corps of Engineers or to the New Jersey Meadowlands Commission and New Jersey Department of Environmental Protection.

If you have written materials, please give copies to the stenographer. Please limit your comments to five minutes, you may be afforded additional time for your comments or rebuttal after we've gone through the list of those who have signed up on the registration sheet. If you are submitting written comments, please just summarize them and do not read them at length.

The hearing record and comment period for the Corps of Engineers will remain open until the close of business on Monday, November 28th, 2011 for the receipt of written comments on the permit application. All comments should be sent to the following address so as to be received prior to close of the comment period. New York District, Corps of Engineers, Regulatory Branch, Room 1937, 26 Federal Plaza, New York, New York 10278-0090.

The New Jersey Department of Environmental Protection and New Jersey Meadowlands Commission will accept additional written comments on the DSEIS consultative process until the close of business on Monday, December 19th, 2011. They may be submitted in writing to Scott Brubaker, Director of the Office of Permit Coordination and Environmental Review, New Jersey Department of Environmental Protection, 401 East State Street, PO Box 402, Trenton, New Jersey 08625 or to myself, Marcia Karrow, Executive Director, New Jersey Meadowlands Commission, One DeKorte Park Plaza, Lyndhurst, New Jersey 07071. Copies of the public notice with instructions, should you wish to provide written comments, are available at the registration desk.

Our first speaker is -- and I apologize, this is taken off of your sign in sheets, so sometimes, I get it right and most often, I get it wrong. John Saraceno.

MR. SARACENO: My name is John Saraceno, my firm is Onyx Equities, which is the managing member and owner of the Meadowlands Complex is which is just due west on Route 3 and 17.

MS. KARROW: Can you spell your last name.

MR. SARACENO: S, as in Sam, A-R-A-C-E-N-O. I think as a developer, commercial developer, in the region with a primary and significant focus in the Meadowlands since 2005, when we purchased this asset and prior to that, we owned the Brighton Center, in Clifton which also competes in the same market, in the early and mid-1990's. We have -- as point of interest, I checked today, but we signed the lease -- we have a lease that originated in 1986. And the rent in 1986 was $24 a square foot. Well, we signed the lease last week that was $23.50 a foot. So 25 years later, the rental rate for office space in the northern part of the state is exactly the same, a bit less, than it is 25 years later. I

think it's an indication of just a lack of economic drivers in the northern part of the state. We sort of peak and fall with the financial services industry in New Jersey and New York - and we know how that sort of played out the last couple years.

So to the point previously made by the army corporation head, the interest here is the public interest. 17,000 permanent jobs and 19,000 construction jobs coming to this region cannot be accomplished in any other business affiliation that I could possibly think of in any of the life time's of anyone sitting in this room. And when the NJSEA created this area, it was called sports and entertainment for a reason, which was to expand the impact of sports and entertainment in the area.

Obviously, there's an impact as to the wetlands that was there. And it was designated a wetlands area for a reason. But I think when you look at the public interest, you look at the mission of the area that you're creating the development, which was clearly created for this purpose, and you decide whether or not the economic interest is of some important concern

with regard to it.

One of the great things about this site with the water park and the entertainment component of it is that it will introduce more sticky jobs for related office properties in the region. Because we benefit from those businesses that service the American Dream that need to have office space in the area. Retailers obviously house their employees in the retail locations, so it doesn't -- you don't see a trickle down out of it.

The entertainment component, if you look at other areas in the world, in the United States that have it, the drivers of office use are significant. So I think the two pronged approach of it is: Is there a public interest. The public interest is clearly to introduce long term permanent jobs in a region that can serve as drivers for the introduction of additional economic drivers.

And I think this is a once in a generation opportunity for this area to benefit from something like this. This is why we created the NJSEA, it's why we created the Meadowlands arena and the Izod Center, now the Metlife

Stadium. And I think this is a continuation of the plan and I'm glad they called it a dream. Because I don't think any one of us could think of something that's more viable for this location and can generate more positive impact than this can.

Jobs is the sort of key word that we keep hearing about every single today in every election that occurs in this country. We ave a lot of infrastructure. Well, I don't know of another one in the country that could have the economic impact that this one could have.

So I would appreciate on behalf of our firm and generally this area that I think it's in the best interest of the Army Corps and the DEP to look upon this for what it is, which is a great economic driver with some impact as to the environmental impact to the area, but it was created for that purpose. We're not introducing an entertainment center in the middle of an area that was never sort of thought to be that. So those are my comments.

MS. KARROW: Thank you very much, Mr. Saraceno. Mike McKernan.

MR. McKERNAN: My name is Mike McKernan, M-C-K-E-R-N-A-N. I'm the business manager of Iron

Workers Local 483, here in Hackensack. My membership is 400 members, our district council is about 2,000 iron workers.

I've heard for the last three sessions here, stories from all the other construction trades. Well, the guys here that would work side by side building this great stadium right behind us, we know what we can do when we have the opportunity to do it as construction people.

And my story is the same as theirs. We're in pretty much dire straights, financially, with the work outlook, with a lot of the guys sitting out for a long period of time. You're familiar with that story, mine's the same.

And I hesitate sometimes to tell our membership about jobs that are proposed that are coming up to give them false hope after sitting so long. But I'll tell you, since this project came forward, I've had pictures that you see here on the wall, that I took off the website. And they're hanging in my hall, okay, because I believe and I hope I'm right that this is going to happen, okay.

After the first session I went back to my union office. And on my walls, I have a lot of

pictures of the new stadium, of the original stadium that I got to work on as an apprentice back in '75. And I have a very good picture of the Izod Center, when it was just a skeleton, taken by a dock builder that we took up in the basket and suspended him over the building in the morning. And it's a great picture. And there's not much here. The only thing that I could see is the stadium, the racetrack, the barns. And there's not much else going on here. And I realize that I had worked on all them projects, and I've spent -- I'm a Passaic County lifetime resident, but I've spent half my career down here.

I put in eight or nine years on all these projects here, all that money went in my pension. I have a pension, I hope, when I retire. And it also went to my annuity. And about eight years ago, when my daughters became college age, I could borrow some of that money and put them through college.

I think this project is about going forward. Not just for the construction people, but for everybody in the community here, okay. Because I could borrow that money, I have two daughters that are very vital, one's working in

Pittsburgh in the school system. One runs a physical therapy down in Charlottesville and they've done very good. But I could have never attempted to put them through school as a single father, if I didn't have funds available.

And the funds that will be earned here will not just bail the people out that need immediate help, it's going to project into the future and help the families and help all the people in the community.

And I don't want to get corny, but what I was thinking about was one of my favorite movies with Jimmy Stewart, it's a Wonderful Life. And he had this very -- he could look at the future of a very bleak future if he had never been born. That's what I look at what's happening here. We're either going to make a choice to go forward and give birth to this project and hope to this area. Or two years from now, even though we're going to have a super bowl, even though we're going to have a great stadium and great facility, we're going to be thinking what would have happened if we only had the courage to move forward. Thank you.

MS. KARROW: Thank you. Joanne

Cimiluca.

MS. CIMILUCA: Hi, I'm Joanne Cimiluca, C-I-M-I-L-U-C-A. I'm a southern Bergen County resident who was born and raised right here in East Rutherford. From 2006 to 2010, I served as the economic development for Bergen County director. It was my job to attract businesses, large and small, to open up shop here in the Garden State.

I wholeheartedly became an advocate of what was then was called Meadowlands Xanadu, due to the tremendous impact it would have on our economy. It was more than just an entertainment destination. It was a tool to attract companies to New Jersey, and a successful one. And many times, it was a tipping point for companies deciding between New York, New Jersey, and Pennsylvania.

A commercial broker pointed out yesterday here that every time a commercial lease is signed in New Jersey, architects, engineers, PR firms, cleaning companies, and more get to work. As the director of economic development, I also touted the benefits of Meadowlands Xanadu to local developers and here's what resulted. A mostly

vacant and rundown strip mall less than two miles from here in Little Ferry, a strip mall that ordinarily would never be looked by any developer or on any developer's radar's became a subject of a redevelopment plan to add a clock tower, pavers, a Panera Bread, a wellness center and many more because of its proximity to the project. So you can only imagine this is one of many, many examples. You take this and multiple it by a thousand, 5,000. And we'll see this happening all over the area.

To everyone at Triple Five, I'd like to say thank you five times over. There's no doubt you guys could do it, you've done it successfully twice.

To the hearing officers sitting here today, I want to pose this question: Wouldn't it be nice is American Dream came up in conversation about New Jersey, instead of Snooki? So, please, please, grant Triple Five the permit and let's all go skiing. Thank you.

MS. KARROW: Thank you. Charlene Burke?

MS. BURKE: Thank you, but you answered my question about the public comment period.

MS. KARROW: You're welcome. At this

time, ladies and gentlemen, we're in recess until or unless anyone else signs up. If you choose to the registration desk is right out front. You can mark that you want to speak, otherwise I will call everybody back into order if we get any more speakers. So you're free to walk about and stay and a hang out with us. We're here in the lovely Hambletonian Room until eight o'clock.

(Whereupon a short recess was taken.)

MS. KARROW: We have another gentleman who signed up. Tom Gregorio, please come up to the podium. Mr. Gregorio, please state your name for the record, spell your last name, state any institution or organization you represent. And you have five minutes.

MR. GREGORIO: You got my name right, by the way.

MS. KARROW: Thank you.

MR. GREGORIO: My name is Tom Gregorio, G-R-E-G-O-R-I-O. I'm the president and CEO of Meadowlands Hospital. Born and raised in Hudson County, New Jersey. And since the old stadium came up, I can't think of anything more exciting

happening in the region. When you think about destinations, you know how often you hear of New Jersey being a destination place for a vacation or something to that effect? Aside from the jobs that it's going to do for the community, aside from the jobs it's going to do for the region, and all the increased revenue associated with taxes, and the increased traffic, selfishly, at the hospital, it will also benefit us. See, hospital's staff their employees to census. So that means if you have a lot of patients in the hospital, you have a lot more people working. So the incremental benefits that we'll have as part of this process will also benefit Hudson County, will benefit Secaucus, which by the way is a town of -- some of you are probably from Secaucus, 16,000 people, who swell up to 60,000 during the day when people are working.

So I can envision a lot of the those people staying around to be part of the American Dream and what's going on with the new entertainment location. So I really implore the committee to accept the American Dream proposal and give them the permit.

MS. KARROW: Thank you. Seeing no

others at this time, once again we stand in recess, unless someone signs in, until eight p.m. Thank you.

(Whereupon a short recess was taken.)

MS. KARROW: Our next speaker is Rick Sabatin -- Sabato, sorry.

MR. SABATO: That's all right. I figured I would give you a second chance.

MS. KARROW: You know the rules.

MR. SABATO: Thank you so much. Rick Sabato, S-A-B-A-T-O.

MS. KARROW: I still got it wrong.

MR. SABATO: Some say Sabato. I'm not going to go any further.

MS. KARROW: I'll give you an extra minute for that.

MR. SABATO: I represent the Bergen County Building Trades as the president. I would like to thank you, Madame Chair, for the job that the hearing officers have done. I think it went very well, very professional. I appreciate the opportunity that all representatives of the council had a chance to speak. And I'd like to

thank Triple Five, the family of Triple Five.

Briefly, we've met with them a few times and every time we meet with them, they're wonderful people. And thank God we're going to be partnering up with them as this project moves forward. And I will give the commitment that the Building Trades Council will do everything in its power to get this job over the finish line.

Also, I wanted to thank all the members of the building trades that have taken their time out and being with their families. But let's not forget why we're here. It's because of the 5,000 unemployed workers that are in our council. Tonight, they're probably thinking about how they're going to pay their morgue or feed their family or clothe their kids. So let's not lose sight of what this is all about. Thank you.

MS. KARROW: Thank you, Mr. Sabato.

Once again, we're in recess unless somebody else signs up. We'll be for approximately another 42 minutes.

(Whereupon a short recess was taken.)

MS. KARROW: Ladies and gentlemen, it is

now eight p.m., and the hearings are now officially closed. Unless somebody wants to talk? No? Good. Good night.

(Whereupon the hearing was concluded.)

C E R T I F I C A T E

I HEREBY CERTIFY that the foregoing is a true and accurate transcript of the testimony and proceedings as taken stenographically by me at the time, place, and on the date hereinbefore set forth.

SUSAN BISCHOFF, CCR, RPR

LICENSE NO. 30X100233700

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
NOVEMBER 15, 2011
10:00 a.m.-12:00 p.m.

NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
Thomas Hoffmann	DC 711			
Joe Sanchedi	DC 711			
Boris Ehrentraut	Plumber 24			
Jeff McCarthy	Local 470			
Tom Gibbons	Local 696			
FRANK DAGOSTINO	Lock 825			
LEN DiGilio	Local 825			
Mike Babroski	IBEW 164			
CARLOS CRESPO	BAC 40CAL 4			
Rich KRETZ	Local 483			

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
NOVEMBER 15, 2011
10:00 a.m.-12:00 p.m.

		ADDRESS		PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
	Rich			973 473 5547	✓
	Jeff Tittel	NJ Sierra Club			✓
	CHRIS LEN	Hackensack Riverkeeper	chris@hackensackriverkeeper.org	201 968 0808	✓
	Laurel Brennan	NY NJ Baykeeper NJ AFL CIO		609-989-8730	✓
(17)	enis Sullivan	BC BT Carp Lo 253	dsullivan@njcarps.org	(201)679-1180	✓
(19)	ank Recine	NJKE		201-460-5157	✓
	Mark Rehrig	Eisengreen			
	ED TRAWINSKI	BERGEN County Admin. Ider 'd	Ed.Trawinski@co.bergen.nj.us srousseau@co.bergen.nj.us	201 336 7305 201 336 6282	

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
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	NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
(3)	Jim Kirkos	Meadowlands Regional Chamber	JKirkos@meadowlands.org	201 939-0707	✓
(5)	Justin Post	Skanska USA Building, Inc	Justin.Post@skanska.com	973-753-3607	✓
	Capt. Bill Sheehan	Hackensack Riverkeeper	captain@hackensackriverkeeper.org	201.968 0808	
(7)	Rick Dabagian	Meadowlands Reg. Chamber	rdabagian@actiongraphics.com	201 280-3380	✓
(10)	Gregg Conte	Steelworkers Local #25	gregguniteathe@gmail.com	908 380-6905	✓

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
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NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
Kathleen A. Donovan, One BC Plaza, Hackensack, N.J. 07601	Bergen County Executive	countyexecutive@co.bergen.nj.us	201-336-7300	✓
Scott Parker 299 Madison Ave Morristown NJ 07962	JACOBS ENGINEERING	SCOTT.PARKER@jacobs.com	973 267-0555	
Richard Rovito 99W Nzwell Ave Ruthfd	—	—	201-438 1500	
(16) KEVIN MONACO PO Box 200 MAHWAH NJ 07436	NJ Subcontractors Association	Kevinc.lenahy@yahoo.com	732-223 5010	—
David Wylie	environmentalist	DWylie101@yahoo.com		
JEFF LAHULLIER	COUNCILMAN EAST RUTHERFORD		201-460 1403	
Eddie Torres	Plumber 24		201 432-7275	✓
TONI PINTO	CONCORD HOSPITALITY			✓

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
NOVEMBER 15, 2011
10:00 a.m.-12:00 p.m.

NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	PUBLIC COMMENT
(8) Jon Simonelli	Axiom	jsimonelli@axiomine.net	201 424 9017	YES/NO
David Kyle	Riverkeeper			YES/NO
				YES/NO
				YES/NO
				YES/NO
				YES/NO
				YES/NO
				YES/NO
				YES/NO

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
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	NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
	Alan C. Marace				
(4)	RICHARD BRANCH				✓
	Paul Van Gelder	CHA Consulting	PVangelder@CHAcompanies.com		
	[illegible]				
(13)	CESAR GAMIO	LOCAL 825 IUOE	CGAMIO@IUOE825.org		✓
	ROBIN CUNEO	Meadowlands Expo	rcuneo@mreypa.com		
	Joanne Cimiluca	Studio 5 Partnership	jcimiluca@studio5p.com	201-694-7314	
	JOHN FELICE	Bergen County FREEHOLDER	jfelice@co.bergen.nj.us	201-336-6275	
	Douglas Palsi	Redel's Rest.	Douge redelsrestaurant.com	201 370-3180	

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
NOVEMBER 15, 2011
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NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
Kevin McGinnis	Local 483			
Greg Kruhenbuhl	Local 483			
(17) Allan MacKeigan	local 483		201-289-1025	✓
Jim Albrecht	" "		973 545 2135	
Tony ESOLA	LOCAL 483			
Marco Mancilio	Local 483			
Mike McGeagoe	Local 7			
Jackson Galindo	Local 483			
Wolfgang Setzenek	Local 253		2013404281	
Jerry J McCarthy	Local 483			

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NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
Jorge Valentin	IRONWorkers Local 1483	ELJORGE1 @yahoo.com	973 964 3807	
DAVID LAGAS	CARPENTERS LU. #253	dnjlagas@YAHOO	973-6000??	✓
Louis DeCondo	IRONWORKER 483		201-538-380	
Skylan Moore	IRONWORKER 483			
Charles Hartung	Ironworkers 483	Chuckbfd@AOL.com	201-634-9312	
Michael Griffin	IRonworkers 483		2018325722	
Rich Veltre	Local 472			
Robert Campos	Local 472		201-481-2646	

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
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NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
(15) Scott Rang	Whiting-Turner		203 989-8500	✓
Alice Baka 744 Broad street Newark	eastern environmental law center	abaker@easternenvironment.org	—	
James Cassella	Mayor			✓

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
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NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
Steve Miller	Local 7		201-888-5502	
Anthony Carlasco	Local 7		201 2951344	
David Fuller	Local 7		201-615-9667	
Mike Ricci	Local 7		9739939362	
Thomas Gubernat	Local 7		973-758-4684	
Thomas Cacciacarne	Local 7		551-265-3578	
Jmanuel McLeod	Local 24		908-285-9737	
Rikard Szeles	Local #25		201-768-8918	
Paul Witte	Carpenters Local 253		201-487-1142	
Peter Gowing	253		201-487-1142	

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NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
Corey Caddie	Local 24 Plumbers			
Dennis Williams	Insulators Local 32			
Vincent Vasquez	Insulators Local 32			
Qasim Rahl	Insulator 32			
[signature]	Ins 32			
Liam Gallagan	Carpenters Local 253			
Mark Rhodes	Glaziers Local 1009			
James Coppotelli	Glaziers 1009			
Ron Nosiay	D.C. 711 L.U. 1976			
Robert J Restrepo	Local 46-3 Rods			

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NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
Michael Strack	IUPAT		732 770 3121	
Gerarad M. Veneziano	UA Local 24		973 912 0073	
GERALD G. VENEZIANO	"		908 892-8015	
Jim Jakucki	Plumbers Local 24		908 235 6191	
Tom Sullivan	Local 164 IBEW		201-376 2433	
Gary Nesterov	"		973-694 4469	
Shaheed Hunt	"		201-491-2327	
ALEJANDRO G MAYANA	LOCAL 164 IBEW		973 809793	
ANTHONY COSENTINI	LOCAL 274 PIPEFITTER		862-754-139	
EDSEL Baez	Local 274 Pipefitter		973-390-2992	

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NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
SALVATORE DeVITO	Local 7		973-510-8456	
CHARLIE WHITSON	LOCAL 164			
Andrew Scala	DC 711 local	1007		
Edwardo Sousa	DC 711 1007			
Edward Ubellacker	Painters		973 992 7184	
Stephen Clay	164 IBEW			
ADOLFO DiCosmo	LOCAL 7			
ED WERNER	164 IBEW		201-265-1700	
Philip R. Conklin	IRONWORKERS Local 483			
Richt Tullo	164-IBEW			
Don MEAKem	483 I.W			

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NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
Tom Genuario	Plumbers 24	+		
Leon Candura	Sprinkler Fitters 696	LCandura1@aol.com	2012590291	
Leo Lazos	Tile setter		201-247-0922	
Joe Zambrella	EUPAT Glazier	JoeRobin55@yahoo.com	732-425-9355	
John Antlotta	D-C-711 EUPAT	JFA6944@GMAIL.COM	732-455-4048	
Jairo Rivera	LOCAL 711 - 1976		845 978 2540	
Robert Wosnik	DC 711 - LU 1976	WAZFXST@AOL.COM	908 925-1874	
PETER Brown	LOCAL	455 IRONWORKERS		
Richard Miller	Ironworkers local 483			
Dennis Johnson	IRONWORKER LOCAL 483	LOCAL 483	973-697-6361	
CARL KOSMAN	IRONWORKER LOCAL 483	LOCAL 483	—	

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NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
Kevin Mahon 205 Robin Rd	IBEW 164	Kevin M @ IBEW 164	201-965-1700	
Vincent Scordo 444 Linden Ave	L.U. 24			
CARMELO TRIPODI	L.U 24		201-941-0142	
Bill DeLuito	Local 25	WDeLuito@SMW25.org	201-507-0330	
BOB COOKE	LOCAL 25	Bcooke@SMW25.ORG	201-983-9477	
Rob Ferreiro, 25 River Road N. Arlington NJ 07031	Tile Setters Local 7 NY, NJ	N/A	973-519-3445	
Peter Rioci 22 Tioga Ave Lk Hiawatha NJ	Tile Finishers Local 7	"		
Paul Pinkman 707 Goffle Rd Hawthorne	LU 24	"	"	
STEVE DODD 21-42 44TH DRIVE	SMWIA Local 137	STEVE @ Local 137		
Raul Peña 854 E 27st Paterson NJ	SMWIA Local 137	RPENA24@Gmail.com		
Kevin Bellew 41-45 E Willow St Millburn NJ.	Sprinkler Local 696		973 379-7946	

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NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
Nick Strauss 321 Mason Ave Hoboken	#10 Roofers & Waterproofers	Roofer10@optonline.net	9735955562	
Michael Stiles 1008 Mizzen Ave Beachwood NJ	Pipefitters Local 274	N/A	732-244-5515	
Robert Steller 506 Maplewood Dr Lanoka Harbor NJ	Plumber 24	N/A	609-693-0940	
Eddie Torres 32 Neptune Ave JC NJ 07305	Plumbers 24	N/A	201 432 2275	
Craig Hoffman 194 Point View Rd Pt. Pleasant NJ	Sheet Metal Workers 25	CHoffman@NJSMW25.org	201 587 0330	
Mike Fiosa 135 W. Pierrepont Ave Rutherford NJ 07070	Pipefitters 274	—	201 481-3595	
Teddy Karras 25 Lafayette Pl Kearny N.J. 07032	Local 7 Tile, Marble, Terrazo	teddykarras@gmail.com	201-521 8145	
Glen Spaith 105 W St. Lee Rd Bogota NJ 07603	LU 164 IBEW	GFS2001@Gmail.com	2019515574	
Eric Otto 55 Q. Glenwood NJ	32		201-927 1667	
Tim Wilson 114 Mapes Ave Nwk NJ	Local 32		862 218 2929	

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NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
Robert Lane North Bergen, NJ	Local 825 IUOE		(201)376-2525	
STORUM MITCHELL NEWARK N.J.	LOCAL 825 IUOE		9739918472	
FRANK IRVIN GREEN BROOK N.J	I.U.O.E Local 825		732-236-0585	
RON DISANTO 47 CUMBERLAND CT	592		201-794695[illegible]	

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
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NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
Bill Ciszkowski	Iron Workers Local 483			
Adam Plog	Iron Workers Local 483	Shmadam@yahoo.com	973 289-3093	
Joann Gilson	483 Iron Worker	ToolBeltDiva69@Gmail	973-487-0582	
ALBERT HONOVIC	IRON WORKER 483		609-812-5055	
Chris Agnoli	IRON WORKER 483	Big 976 @ Aol.com	973-525-0476	
STEVE VAZQUEZ	IRON WORKER L.U. 483			
Tom Nelson	IRONWORKER LU 483	NONE	845-662-4603	
George M Rockefeller Jr	IRONWORKER LU 483	none	570-828-6575	
Douglas Kilpatrick	Ironworker LU 483	Kilpatrick483@yahoo.com	862-354-1689	

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
NOVEMBER 15, 2011
10:00 a.m.-12:00 p.m.

NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
ANTHONY LAWLOR 124 IRVING PL. RUTHERFORD, N.J.	CARPENTERS L-253	TH2356@HOTMAIL.COM	201-870 2683	
Chris Chamberlain 272 north Blvd Saddle Brook, N.J. 07663	Pipefitters L# 274	Son of Sam II@optonline.net	201-527-8509	
Brian Gethard 38 PARK ST SD Florham Park 07932	Insulators Local 32	bGethard@Yahoo.com	973 230 0961	
Wayne Berberich	Sprinkler Fitters #696			

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
NOVEMBER 15, 2011
10:00 a.m.-12:00 p.m.

NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
ROBERT STEWART	LABORERS LOCAL 472		973-831 1459	
JAMES FALLON	LABORERS LOCAL 472		201 952-4418	
DOUGLAS PALSI	Redd's Rest.	Doug@ReddsRestaurant.com	201 320-3180	
MARK LONGO	Operating Engineers Local 825	MARKL@IUOE825.ORG	201-446-6349	

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
NOVEMBER 15, 2011
10:00 a.m.-12:00 p.m.

NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
MARK Mowery 226 Richelieu Terr Newark NJ	LOCAL 32 INSULATORS	BIGBASCL@YAHOO.COM	973-412-9687	
CARL SELERT 906 Maple Ave Linden NJ	Local 696		908-247-1578	
Fred Jasko 20 Lake Ontario Cam Mays Ville NJ	Local 696	fredj11@aol.com	732 672 2344	
Anthony Difrancesco 55 Mendel Ave Cranford NJ 07016	Local 696		908 272 5412	

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
NOVEMBER 15, 2011
10:00 a.m.-12:00 p.m.

NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	PUBLIC COMMENT
LUIS M. FERREIRA	LABORERS UNION			YES/NO
PHILIP ARENA	LEROF			YES/NO
JOHN BRENNAN	THE RECORD			YES/NO
ROBERT STAURALIS 150 HAMBURG TRPKE. POMPTON LAKES NJ	LABORERS LOCAL 472		973-831 1459.	YES/NO
Louis Casbar				YES/NO
				YES/NO
				YES/NO
				YES/NO
				YES/NO

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AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
NOVEMBER 15, 2011
10:00 a.m.-12:00 p.m.

NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	PUBLIC COMMENT
TONI PINTO	CONCORD HOSPITALITY	TPinto@concordhotels.com	201-231 3101	YES/NO
KEN MACKENZIE	TRC	KMACK@TRCSOLUTIONS.COM	914 792 4040	YES/NO
Gail Lalla	Greener by Design	glalla@gbdtoday.com	732-253 7717	YES/NO
MICHAEL MACDONALD	Local 696			YES/NO
Greg Wewers	Local 696			YES/NO
				YES/NO
				YES/NO
				YES/NO
				YES/NO

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
NOVEMBER 15, 2011
10:00 a.m.-12:00 p.m.

NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	PUBLIC COMMENT
FELIX ARENA	LEROF			YES/NO
Tom GREGORIO	Meadowlands Hospital Medical Center			YES/NO
				YES/NO
				YES/NO
				YES/NO
				YES/NO
				YES/NO
				YES/NO
				YES/NO

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
NOVEMBER 15, 2011
10:00 a.m.-12:00 p.m.

NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
J SHORTINO 380 Hoover Ave Twp Washington Town	Local 592		201 805 9085	

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
NOVEMBER 15, 2011
10:00 a.m.-12:00 p.m.

NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
Kirk Rutnik				
	Local 483		(973) 373-6128	
Dennis Deaver	Local 483		973-875-6289	
Mike McKenna	Local IW 483	mmtunaeoptonline.net	201-788-3049	
Lance Schurter	Local 483		(201) 936-3055	
CARMEN DELLAMANNA JR	LU 253		732 406 9002	
NORSON MORALES	LOCAL 483			
DAVID FONSECA	Ironworkers L.U. 483		201-937-8357	
Frank Gino	L.U. 483		973-332-5991	
Brian Kimmerle	IW 483		201/575 6221	

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
NOVEMBER 15, 2011
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NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
WARREN STELLA 15 ARMINDA AVE. MIDLAND PK. NJ	PIPEFITTER 274 BERGEN COUNTY RESIDENT	WARSTEL@MSN.COM	201 316 3521	
Dante Graziani 7315 white Birch ln.	fitters local 274	—	570-481 4200	
JIMMY Wilson 12 MARSHALL st Apt 10-D	IBEW 164		973-985 0639	
Brian Rooke 111 Rlgardens Dr.	IBEW 164	—	908-759 6667	
Chris Reilly 132 Passaic ST	IBEW 164		908 665 1935	
AC FRONTAURIA 53 TRUSY DR LODI NJ	ECOE 825		201 845-838	
Michael West 282 Deland Pl. Fairview NJ	Local 592		2018401873	

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
NOVEMBER 15, 2011
10:00 a.m.-12:00 p.m.

NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
PAT SMITH 7 CHAMBERS Brook RD WHITEHOUSE NJ	SHEET METAL WORKERS LOCAL #25		908 534 0105	
JUSTIN POTUCK 210 WEST 4th ST Clifton NJ	Sheet Metal Workers LOCAL 25		908 296 2466	
JOHN WENDLE 353 MAPLE ST MOONACHIE NJ 07074	PIPEFITTERS LOCAL 274	JOHN_WENDLE@MSN.COM	201 315 1650	
Tim Rodgers 197 W. 7th St Sayreville NJ 07663	plumbers Local 24		973-249 7183	
WILLIAM BEAVERS 70 CRAMER ST SAYREVILLE N.J. 08872	PLUMBER LOCAL 24		732 257-2046	
Philip Romano Jr. 963 Virgil Ave Ridgefield NJ 07657	Pipefitters LU 274		201-755-4133	
FRANK PASSARO 54 HENRY ST HASBROUCK HGTS NJ 07604	PIPEFITTERS LOCAL 274		201 288 5750	
SALGIAMMONA JR 8 DANIEL ST MOONACHIE NJ 07074	LOCAL 7 TMT		551 404 1462	
DAVE P-M 168 BUENA VISTA AVE HAWTHORNE	LOCAL 164			
Steve Mikulski 203 Forest Dr. Ct. Saylorsburg, PA. 18353	164 Irew		570 839 3446	

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
NOVEMBER 15, 2011
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NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
James Harper 446 Bartell Ave Carlstadt NJ	Sheet Metal Workers Local 25	jharper@smwlu25.org	201 507 0330	
MARTY WYMBS 440 BARELL AVE CARLSTADT	SHEET METAL WORKERS Co. 25	MWYMBS@SMW25.org	2015070330	
JOSEPH ESTEVEZ 55 BLACK River Rd. Long Valley NJ 07853	PAINTERS DC711	JESTEVEZ@PaintersDC711.org	732-534-1342	
CESAR CHIRIBOGA 126-67 126-67 41H. ST. apt. 2 WNY, NJ. 07093	Painters DC 711	Cesar6578@yahoo.com	201-577-6053	
Todd Schneider Bridgewater NJ 08807	Plumbers 24		908-353-9618	
AL NORTON 07849 696 SKYLINE DR 4K HOPATCONG	LOCAL #274		973-663-5670	
MARC Corso 122 46TH ST 07047	LOCAL 274	Corso 13@YAHOO	201-867-2776	
ROBERT DAUBONBURGH 69 Lincoln Ave Ormond BCH	Loca L164		201-703-3556	
MIKE SPARS Jersey City NJ	Local 164		201-532-4822	

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
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NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
David McKnight P.O. Box 1375 Fonj 0709	Local #25		973-277-457	
Mike Schweider	Business Agent Insulators #32		201 803-6461	
George Steller	LOCAL#24		732-280-7364	
Alex Montero	Local 24		201 947-5330	
Michael Conger	Local 24		732 809-0067	
Joseph LEANZO	" 24		908 736 0250	
Robert Sawyer	" 24		201 893 4897	
Brian Hulstrunk	Local 24	bhulstrunk@hotmail.com	973 714 3223	
Stanislav Hubka	HEROF		(609) 462-4413	
Rita Walsh	Local 7			
ED PAVONI	" 7			

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AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
NOVEMBER 15, 2011
10:00 a.m.-12:00 p.m.

NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
JOSEPH DEMARK	SHEET METAL WORKERS-LOCAL 25		(201) 507-0530	
MICHAEL ZACCARDI	PLUMBERS 24		973 473 5544	
Joseph LaBarca	Plumber 24		201 673 6388	
ROBERT SEBROWSKI	LOCAL 164		973-492-8616	
Scott Derecke	Local 7 IMT		973-464-427[illegible]	
Brett Schmitz	Plumbers 24		973-986-45[illegible]	
Frank M Gerard	Plumbers 24		908 616-28[illegible]	
Glenn Yaisen	Local #164 IBEW		973-534-725[illegible]	
Chris Biolletti	Local 164 IBEW		973 459 0466	
JOHN M SARAPA	LOCAL 164 IBEW		917-887-8357	

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
NOVEMBER 15, 2011
6:00 p.m.-8:00 p.m.

	NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
1	Eric Boyce	Plumbers Local 24	boycee@optonline.net	201-407-0905	✓
2	Edgar Santana	NJ Laborers	esantana@NJlaborers.org	646-481-0092	✓
3	Kevin O'Brien	IATSE Local 637	kobrien@IATSE637.com	201-262-4482	✓
4	Andrew Scala	Painters DC 711	ascala@Painters	dc711.org	✓
	Mike Speer	Ironworkers 483	glspeer6@optonline	845-821-4153	
	Richard Miller	Ironworkers 483	—	973 557-3436	
	Brian Adesso	Plumber 24	—	—	
	John Grubic	Plumber 24	—	—	—
	Angelo D'Argenio	LEROF	—	(201) 306-1660	
	Philip Arena	LEROF	—	609-462-9017	

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
NOVEMBER 15, 2011
6:00 p.m.-8:00 p.m.

NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
12 VAN DAM Ave Secaucus NJ Mike McKernan	IW Local #483	MMTUNAE@ATT.NET	201-788 3189	
740 BAREIL AVE CARL MARTY WYMBS L	LO 25	MWYMBS@SMW250.RR	201 5070330	
Eddie Torres 31 neptune Ave SECNJ	Local Plumber 24			
Chris Hazelius	Local 825	ctcH850@gmail	6054495129	
Bernard Sanca	IATSE 632	B.V.GEmail.com	908-912-6660	

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
NOVEMBER 15, 2011

~~[illegible]~~ p.m.

6:00 PM – 8:00 PM

NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
MARK ZITA 4 HAMILTON ST HAMBURG NJ	LOCAL 825		562-266/820	
Charles Haughey III 26 Cindy lane Highland Mills NY	Local 825		845-721-429	
WARREN STELLA 15 ARMADA AVE MIDLAND PK NJ	PIPEFITTERS 274 COUNTY RESIDENT		2013163521	
VINCENT SAGITAL 141 LINCOLN AVE HASBROUCK HEIGHTS	SHEET METAL WORKERS LOCAL 25		201-288-2260	
CESAR GAMIO	Local 825		201-788-6468	
LEE HOSKINS	LOCAL 825		(862) 849-8576	
TIM FREES JR.	Local 24 Plumbers		(908) 494-1678	
Louis Labetti	Local 274		201-788-264	
KEN MACKIEWICZ	TRC		914. 792.4060	
Frank Zmoth	Local 825			
CARLOS GOMEZ	Local 592		———	

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
NOVEMBER 15, 2011
6:00 p.m.-8:00 p.m.

NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
Glen Spaeth 108 W Ft Lee Rd Bogota NJ 07603	LU 164 IBEW	GFS 2001@Gmail.com	201 951 5574	
Gary Nesterov	164 IBEW		(973) 689-4469	
Grey Del Rio	Parsons Brinckerhoff	delriog@pbworld.com	516-794-9950	
Bryan Falco	Pipefitters 274	NJBryan13@yahoo.com	201-680 1861	
Denis Sullivan	Carpenters 253	dsullivan@njcarpenters.org	(201) 679-1180	
Judy Ross	MLCUB	JROSS@MEADOWLANDS.org	201-939-0107	
CHRIS MCELROY	LOCAL 825	CHRISMCELROY142@YAHOO	973 626 6163	
Charles Baumann	local 24	Phil Baumann@aol.com	9083776735	
JEAN MOREIRA	LOCAL 24		201 3362538	
Dan Wymbs	Local 75		201 403 1267	

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
NOVEMBER 16, 2011
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NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
Eric Williams	Local Union 164 IBEW	EBWRegional Lyons	201 233-0621	
JOE GAGLIOTTI P.O. BOX 1024 WASHINGTON TWSP, NJ. 07676	LOCAL UNION # 164	JGAGLIOTTI SRC AMERICA	201 820 2044	
Robert Lang North Bergen NJ	Local 825 Iuoe	—	(201) 376-2502	
Tim Roughgarden 197 N. 7th St. Saddle Brook	Plumbers Local 24		973-248-7183	
Brian Sheridan 11 Penn St Edison NJ 08820	Plumbers Local 24	—	—	
DON TORINO 6 Helen Dr. Manching	Borough County Plumbing	GRISTMILL@AOL.com	201 836-4072	
Dan Kim	Local 24 Plumbers		201-615 5478	
Stadgueri	LOCAL 825			
Mike Kashuba	Local 274		—	
LARRY VANVLIET	LOCAL 825	BRENDA VANVLIET 89 @ G-MAIL.COM	973616 0082	

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
NOVEMBER 15, 2011

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6:00 PM – 8:00 PM

NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
Richard Floster	Plumbers Local 24	rfloster@plumber24.org		
Chris Seyler	Pipefitters 274			
Lucasz Sudol	pipefitters 274			
James McManus	Plumbers LU 24	jmcmanus@plumbers24.org		
Russell Boyne	Plumbers Lu #24			
Ed Werner	LU 164 IBEW		201-265-1700	
Brian Kimmerle	Ironworkers 483		—	
Frank Ieuan JR	I.U.O.E Local 825	—	732-236-0525	
Kendria Simpson	Local #24	kendriasimpson@yahoo.com	973-157531	
Sabatino Falgiano JR	Local 825		973-479-2548	

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
NOVEMBER 15, 2011
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NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
EDWARD FEELEY ASPHALTERS IN MOTION	LOCAL 34		973 226 7857	
Gregg Thompson	Local 825		201-527-7372	
Rick O'Connell N.J.	Local 825		201 467 9775	
Scott JACOBS WANTAGE, NJ	LOCAL 825		201 874 3801	
Henry Romaen STROUDSBURG PA	Local 825			
Edgardo Wood	Local 825		201-452-4187	
Steve Sarracino	Local 274			

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
NOVEMBER 15, 2011
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NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
U.S.A. FERREIRA	LABORERS UNION			
ANTHONY SIDOTI	IBEW LOCAL 164	ANT42081@YAHOO.COM	—	
Michael Frawley	IUOE 825	—	—	
Ken Meadows	IUOE 825	—		
Sally Altman	Holiday Inn Hasbrouck Hts NJ.			✓
Dave Saunders	Local 825			
mike Ardizzone	LOCAL 592			
Anthony Martini	Local 24			
John SAMERJAN	NJSEA	JSamerjan@NJSEA.com		

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
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6:00 p.m.-8:00 p.m.

NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
Anthony Messina 116 Doherty DR Clifton NJ	Kaved Construction			
Sue Collasabella	American Dream			

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AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
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~~**10:00 a.m.-12:00 p.m.**~~

NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	PUBLIC COMMENT
JOHN BRENNAN	THE RECORD	BRENNAN@NORTHJERSEY.COM		YES/NO
Terry J. Abell	Local 825 IUOE		(570) 417 5922	YES/NO
Nick Baptistas	IUOE 825 I	Amex 38@msn.com	973 454 578	YES/NO
Leonard Tamo	IATSE 632	B1.bcm.union.net	908-312 6661	YES/NO
Ricardo Ellis	local 825			YES/NO
WAYNE Schweitzer	Local 696.	wayne696schweitzer@msn.com		YES/NO
				YES/NO
				YES/NO
				YES/NO

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
NOVEMBER 15, 2011
6:00 p.m.-8:00 p.m.

NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
DAVID BOJCZAK	LOCAL # 825		732-258-2[illegible]	

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
NOVEMBER 15, 2011

[redacted].

6:00 PM – 8:00 PM

NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
CLIFF STAUB	Local 24		201-206-5121	
JORDAN LARSEN	LOCAL 24		973-271-2480	
Joseph Buckalo 3rd	Local 24		(732)487-8054	
Zachary Boyce	Local 24		(732)-6046[illegible]	
JOE KEENAN	LOCAL 24		973-716-0345	
STEVE DODD	SMWIA 137	STEVE @ LOCAL137		
John C. Brzezowski	local 24		201 261-6107	
Pat DiSco II	local 24		908-462-2[illegible]	
MIKE RUSCIANO	local 24		973-473-5594	
PAUL BURY	LOCAL 24		973-473-5344	
Piotr Furtek	Local 24		201 396 9252	

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
NOVEMBER 15, 2011
~~[illegible]~~.
6:00 PM – 8:00 PM

NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
Michael West 282 Dolano Plz La Fe	Local 592		2018401873	
Chris Frees JR 460 E. Prospect Ave	Local 24		732-512-~~8466~~	
Chris frees 460 E Prospect Ave Woodbridge	Local 24		7329913944	
Jason Boyko 10 martin view rd Lake Hopatcong	Local 24		862-~~5~~88-6166	
Miguel Rivera Jr 641 Britton St Elizabeth NJ 07202	Local 24		908-587-6676	
SAL Simonetti PO Box 41 Whitehouse NJ 08888	Local 24		973 ~~773 5034~~	
W. Koenig	Local 24		9734735217	
David Protomastro NJ. 07424 18 washington DR. Woodland Park	Local 24		201-532-7233	
CARMINE DAMBRA 25 LINCOLN AVE. Pompton Plains	LOCAL 24		973 896-1362	
Stanislaw Hlebica	LEROF		(609) 462-8813	

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
NOVEMBER 15, 2011
[redacted]
6:00 PM – 8:00 PM

NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
Eli Staub	Plumbers Local 24	Eli.Staub4200@Gmail.com	862 268 1893	
Isaiah Evans	Plumbers Local 24			
Shayne Spagnolo	Plumbers Local 7/24		908-433-0454	
Ben Covert	Plumbers Local 24	—	—	
Bernie Reilly	Plumbers Local 24			
Joseph Graham	SPRINKLER FITTERS 669	—	—	
Luis Bravo	Plumbers local 24	—	201-736-7320	
Tom Freddo	Plumbers Local 24	—	—	
Steven Balon	Plumbers Local 24	—		
Steven Zanetakos	Plumbers Lu 24		2018931554	
Michael Vogt	Plumbers local 24	Michaelvogt@optonline.net	201 576 0864	

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
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NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
Scott Donecke 20 Post Riverdale NJ 07457	Tile Marble – Local 7	Baby Beach 462@yahoo.com		
MARTY MYMBS 440 BARELL AVE CARLSTADT	SMWIA 25	Mmymas@SMW25.org	201 507 0330	
Michael Romano 963 Valley Ave Ridgefield NJ 07657	Plumbers Local 24		201 566 3997	
FRANK CHRISTIE INTERFACE HASBROUCK HTS	TILE		201 522-0252	
Bill McMahon 2002 SAWMILL RD Brick NJ	Local 7 Tile		732-762-0074	
ANT HOMYLESEVE	LABORERS 592		9736841571	
J SHORT INC 380 HOOVER AVE Twp WASHINGTON	LABORERS 592 1301874		2018059085	
Ronald Gissubel	LOC 1008 GLAZIERS		732-673-7751	
Thomas Bushnauskas	Electronic Local Bridgewater	bushnauskas@optonline.net	973.714.0435	
Jerry ASPINWALL	592		973-579-4824	
FRANK D'AGOSTINO	Local 825			

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
NOVEMBER 16, 2011 10:00 AM - 12:00 PM

NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
STEVE DODD	SMWIA 137	STEVE @ LOCAL137.com		
Philip Romano Jr	Pipefitters LU 274		201-755-4133	
Andrew Scala	Painters DC711		973 725-5163	
GARY THUMM	" "		" "	"
Anthony Glarrow	" "		2019985625	
ARNIS IZAKS	" " TAPERS		732-991-6143	
Michael Dankanich	IronWorker's 483		973-657-9651	
Nelson Morales	" "			
MIKE MCGEAGUE	TILE -	LOCAL 7		
Nyaima S. Smith	164	Nyaima Smith@yahoo.com	———	

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
NOVEMBER 16, 2011 10:00 AM - 12:00 PM

NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
MIKE ZACCARDI	PLUMBERS 24		973 473 5544	
Richard R. Shea	Roofers #10		973 595 5862	
Leo Pazos	Local 7		(201) 247-0922	
John Haloftis	IUPAT D-C-711		732 455-4069	
Joe Zambrella	D-C 711		732-425-8555	
Thomas Gubernat	local #7		973-738-7694	
Steve Miller	Local #7		201-888-5500	
Rita Walsh	Local 7			
ADolfo D'Cosmo	LOCAL 7			
Dennis Pierre	Local 592		646 220 3906	

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
NOVEMBER 16, 2011 10:00 AM - 12:00 PM

NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
NICK STAGGS 321 MASON AVE Haledon	Roofers Local 10		9735955	
SALVATORE VIVIRITO 356 MAIN ST Lodi N.J. 07064	Local 7		973-510 8456	
Rick Polizzi 301 Grant AV. Totowa 07512	Local 696		973 904 1149	
Gary Quinn 41-43 E. Willow ST. Millburn NJ.	Local 696		973 379 7446	
Bill DeVito	Local 25		201-807-0330	
Al Mastice, 205-5th St. Fairview NJ 07022	L. U. #164		201-286-1333	
Mike Zumendola	North Bergenite		201-933-5910	
Markeljon Ago	Local 592		973-434-5375	

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
NOVEMBER 16, 2011 10:00 AM - 12:00 PM

NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
Teddy Karas 25 Lafayette Pl Kearny, NJ. 07032	Local 7	teddykaras@gmail.com	201 522 8145	
DAN SMITH 188 WESTON AVE CHATHAM	LOCAL # 25		973-652-7186	
Michael Conser	Local 29		732-809 0067	
DIXON MONCADA	Local 7		908 347 5151	
Alex Montero	Local 24		201 947-5330	
Peter Ricci	Local 7 Finishers			
Martino Hronicich	Local 24		201 341-9009	
LEO LARCINESE	LOCAL 592	Ft Lee 304 Edwin Ave	201 3468362	
Mike Schneider	Insulators Local #32			
Cesar Gamio	Local # 825 Operating Engineer			

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
NOVEMBER 16, 2011
10:00 a.m.-12:00 p.m.

	NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
	Rick Sabato	Plumbers 24		973-493-5544	
(1)	Michael West	Local 592		201-840-1873	✓
(2)	STEVE DODD	SMWIA 137			✓
(3)	Mike Schneider	Insulators #32			✓
(4)	MARTY WYMBS	SHEET METAL WORKERS		201 507 0330	✓
(6)	ADOLFO DiCosmo	LOCAL 7			✓
(7)	Edmund Werner	Local 164 IBEW		201-245-1702	✓
(8)	GIANNA Dell'Olio	FORT Group		201-270-4113	✓
	Josh Burd	NJ Biz	jburd@njbiz.com	732-246-5704	
	John Samerjan	NJSEA	jsamerjan@njsea.com		

(9)

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
NOVEMBER 16, 2011
10:00 a.m.-12:00 p.m.

	NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
(9)	RICHARD DRESSEL	LU. #164, IBEW	RICHARDD@IBEW164.ORG	201-265-17000	✓
	MATT ROSE	Cong. Steve Rothman	Matt.Rose@mail.house.gov	201-646-0808	
	Robert Gariepy	RCC Builders & Developers	Bob@RCCMail.net	973-413-1817	
	Jon Sidenstick				
(10)	Michael Koppenal	Wilenta Cartiy	MKoppenal@Gmail.com	201-674-1191	✓
(11)	RICHARD ROVITO	R.S. KNAPP NAPCO	RickR1520@AOL.com		✓
(12)	Janna Chernetz	Tri-State Transportation campaign	janna@tstc.org	212-268-7474	✓
(13)	DAVID SNYDER	DRI REAL ESTATE	DAVIDDRI5@AOL.COM		✓
	RODERICK VINSON	S-1F	Rod@RodVinson.com	201-421-4143	

(5)

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
NOVEMBER ~~15~~ 16, 2011
10:00 a.m.-12:00 p.m.

NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
(1) RON NOSIAY	P.C. 711			✓

(1)

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
NOVEMBER 16, 2011
10:00 a.m.-12:00 p.m.

NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
(15) STEPHEN ORENCHUK	CHAIRMAN of Boro. Moderator Columbia of Commons.	Stephen.a.orenchuk @wfadvisors.com	201-358-6004	✓

(1)

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
NOVEMBER 16, 2011 10:00 AM - 12:00 PM

NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
SAL GIAMMONA JR 8 DANIEL ST MOONACHIE NJ 07074	Local 164			
Steve Clay	IBEW #164	Stwec@ibew164.org		
Mike Ardizzone	Local 59 Laborers		201 344 6878	
STEVE OLSON	Local #7			
Shaheed Hunt	Local 164 IBEW		201-491-2327	
David Fuller 408 Charles Pl. Leonia N.J.	Local 7		201-615-9667	
Tim Roy's garden 197 N 7th St Saddle Brook	Local 24		973-248-7183	
GIOVANNI ROTOLO	LOCAL 164			
Stephen Mikulski	Local 164		570 814 8446	
Michael Koppenal	Wilenta (Arctic)		201-674-1171	
JAMES W STIVES	Local 696		732-494-5715	

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
NOVEMBER 15, 2011
10:00 a.m.-12:00 p.m.

NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
Thomas Hoffmann	DC 711			
Joe Sanchelli	DC 711			
Bob Ehrenstraut	Plumber 24			
Jeff McCarthy	Local 472			
Tom Gibbons	Local 696			
FRANK DIGOSTINO	Local 825			
LEN DiGilio	Local 825			
Mike Babroski	IBEW 164			
CARLOS CRESPO	BAC 4OCAL 4			
Rich KRETZ	Local 483			

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
NOVEMBER 16, 2011
10:00 a.m.-12:00 p.m.

NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
(16) Jerry Keenan Box 6438 Edison NJ 08818	NJ Alliance For Action	JKeenan@allianceforaction.com	732 225 1180	yes
(17) John Arlotta	D-C-711			yes ✓

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
NOVEMBER 16, 2011
10:00 a.m.-12:00 p.m.

NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
Rob Nosiay	D.C. 711			

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
NOVEMBER 16, 2011
6:00 p.m.-8:00 p.m.

NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
John Saracento 301 Rte. 17 N. Rutherford NJ	Onxx Equities	Jsaracento@onyxequities.com	732-362-8900	✓ 1
MICHAEL Ardizzone 253 SHERMAN AVE. JC	S92 LABORER		201 344-6272	
Tom Grego 166 Behnke Hwy Paramus NJ	Plumber Local 24		201-757 3495	
Rick Sabato	Plumbers 24.			✓ 5.
Mike McKernan	Ironworker 483	MMTUNA@OPTONLINE.NET	201-788 3129	✓ 2
Glen Horsnay 51 Woodcrest Circle SPHL	Operating Engineer 825	A. HORSNAY@ YAHOO.COM	973 477-8711	
John C. Bracco	Plumbers local 24			
Mike Dillon	Plumbers local 24			
Mike Brogan	Plumbers 24	COMMERCIALPLUMB@YAHOO.COM		
Tom Sedillo	Plumbers 24	Tomsid@verizon.net	908 688-1721	

4. Tom Gregorio

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
NOVEMBER 16, 2011
6:00 p.m.-8:00 p.m.

NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
Charlene Burke		Charlene.burke@Comcast.net	201-344-2060	✓
Patrick Mortensen	Plumbers Local 24		201-876-5095	

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
NOVEMBER 16, 2011
6:00 p.m.-8:00 p.m.

NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
Owen Cuny Secaucus OR	Plumber	—	908 577-6731	—
Boris Lopac Westwood N.J.	Plumbers 24			
Moses Uzzell Hillside, NJ	P/Plumbers Local 24			
Rasman White Scotch Plains, N.J.	Plumbers Local #24	—	(908) 208-0320	—
John Samaras	NJSEA			
Joanne Cimiluca			201-694-7314	✓
Jon DALton	592			
James DiMaria	LOCAL 825			
Sam Figueroa 440 Clifton Ave Newark NJ 07104	Local 25.		973-420-5980	
Douglas VanLenten	Local 825			

3.
00

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
NOVEMBER 16, 2011
6:00 p.m.-8:00 p.m.

NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
Stanislaw Hubka	HEROF		(609) 462-4613	
Eli Staub	Plumbers Local 24		862 268 1093	
Ernest Lehman Jr	Plumbers Local 24		(973)619-2782	
Joseph Buckalo 3rd	Plumbers Local 24		(732)484-8034	
Luis Bravo	plumber #24		201-736-7340	
Anthony Soto	PLUMBERS 24			
Piotr Furtak	Plumbers L.24		201-396 9252	
STEVE DODD	SMWIA 137	STEVE @ LOCAL 137 .com		
Michael Stiles	Local 272 Pipefitters	N/A	201-943-4700	
WARREN STELLA	" "		" "	

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
NOVEMBER 16, 2011
6:00 p.m.-8:00 p.m.

NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
Jordan Larsen	Local 24		973-271-2480	
Rebecca Lehman				
Brian O'Toole	Local 24		201 522 0798	
Isaiah Evans	Local 24		973 542-9302	
Chris Hamler	Local 24		973-508-4260	
Ed Bullock	Local 164		973 8093856	
Andrew Gall	LM		2018883939	
Tom Genovito	Local 24			
Kevin Maguire	Local 24		201 852-3600	
Jon Kiniery	Local 24		201-401-8980	

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
NOVEMBER 16, 2011
6:00 p.m.-8:00 p.m.

NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
Cliff Staub 6A Greenwood Lk Tpk Ringwood	Local 24		201-206-5121	
Charles Baumann	local 24		9083776735	
Chris Frees	Local 24		732 991 3944	
Kermit Hartman	Local 24		908 892 3198	
Robert Lane	Local 825		201-376-2522	
Ralph D'Amato	Laborer's		201-438-3939	
Cesar Gamo	Local 825 IUOE		201-788-6468	
Michael West	Local 592		2018401873	
Joseph Graham	Sprinklerfitters Local 669		2019526837	
			201 935 3225	

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING

6:00PM – 8:00 PM NOVEMBER 16, 2011

NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
TOM BRYANT RUTHERFOR.	—			
Pat Driscoll	Plumbers Local 24		9084622088	
Robert Taylor	Sheetmetal Local 25			
Robert Doyle	Sprinkler Fitter #696		973 214-3159	

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING

6:00PM – 8:00 PM NOVEMBER 16, 2011

NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
MARTY WYMBS 440 BARRELL AVE CARLSTADT	SMWIA 25		201 507 0330	
ANTHONY SIDOTI	IBEW LOCAL 164			
Rich Haviland 9 Liberty St Matawan NJ 07747	Local 825		732 492-9683	
Andrew Scala	Painters D711		973 725 5163	
Greg DeCarolis	Plumbers Local 24			
STEVE ORENCHUK	CHAIR MEADOWLAND CHAPTER		201-350 6004	
Rick Taylor	Sheet metal workers Local #25			
John Graziadei	Local 24		732-803 2424	
Tom Gregorio	MHM C			
Joseph DeLeon	L 696		973-418 1354	

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING

6:00PM – 8:00 PM NOVEMBER 16, 2011

NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
Gary Quinn BIA Sprinkler fitters	Local 696	gquinn696@msn.com	732-850-0646	
Gaby Ross	MLCUB	[illegible]@Meadowlandsag	201-939-0207	
Jim Kirkos	"	"	"	
Tim Frees Jr.	Local 24			
Jim McManus	Local 24			
Eddie Flores	Local 24			
Michael Wilson Jr	Local 24			
Brian Kimmerle	IW Local 483	—	—	
Aaron Kleinbaum	Citizen			
Nestor DeLe	Local 164			
Frank Reifir	Local 24.			

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING

6:00PM – 8:00 PM NOVEMBER 16, 2011

NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
JEAN MOREIRA	LOCAL 24		2013362538	
Paul Wilson	Local 24		201-951-0865	
Ryan Reeves	Local 24			
Robert Bonetti	Local 25 SMW		(201)935-6876	
Steven RASUCCI	LOCAL 825			
R. Strank	Local 7		201 440 8280	
JOHN BRENNAN	THE RECORD			
VINCENT SAGETTA	SMW Local 25			
[illegible]				
Jason Boyko 10 martin view Rd Lake Hopatcong	Local 24		862-588-6160	

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
NOVEMBER 16, 2011
6:00 p.m.-8:00 p.m.

NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
Business Mgr Mike McKernan	Local #483 IW	mmckernan@iatse.net	201-788 3129	
Brian Kingerle	IW Local 483	—	—	
Theresa Kinney	Local 592	149 Medford Godfrey	—	
Richard Dressel	Local 164 IBEW	Richard D@IBEW164.org		
Carlos Gomez	Local 592			
Eddie Torres	Local Plumers 24			
Peter Ordish	592		2015891653	4
James E Smith JR	Local 592		551-486-9661	
Joseph Esposito	Painters DC 711		732-854-1342	
Len DiGilio	Local 825			

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
NOVEMBER 16, 2011
6:00 p.m.-8:00 p.m.

NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
William DiGnan	Plumbers Local 24	rycodys@warwick.net	973-903 9331	
Tom Gennaro	Plumbers 24			
Anthony Soto	Plumbers 24	ASOTOL14@Hotma		
Brian Hulstrunk	Plumbers 24	bhulstrunk@hotmail.com	973 714 3223	
Patrick Kelleher	Plumbers 24	pKelleher@plu4Pen524.org	201-407-3527	
Frank Ryfic	Plumbers 24.		2013603484	
Bob Cooke	LU 25 SHEETMETAL	BCooke25.org	201 507 0330	
CARLOS CRESPO	BAC LOCAL 4			
RON GREEN	BAC LOCAL 4			
Carmine Venezia	Local 592			

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
NOVEMBER 16, 2011
6:00 p.m.-8:00 p.m.

NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
Robert Ferrigno 255 Ridge Road North Arlington N.J. 07031 Apt #11	BAC - Local 7 Tile Setters	N/A	973-519 3445	
Tom Cacciacarne	BAC Local 7 Tile Setters	tomcatch2000@yahoo.com	551-265- 3598	
James Harper	Sheet Metal Workers LU25	JHARPER@SMW25.ORG	201 507 0330	
DAVE Dunn Hawthorne NJ	Lu 164	N/A	201 38? 7847	
ART HARAWICIC	LU 164	N/A	973 402-6297	
Steven Gage	LU 164		973 3744489	
Elaine Lampe	LU 164	echaeme@yahoo.com	2013882778	
SAL Simone	Plumbers LU24		9774735548	
WARREN STELLA	PIPEFITTER 274		201 943 4700	
Michael Stiles	Pipefitters 274	N/A	201 943-4700	

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
NOVEMBER 15, 2011
~~10:00 a.m. 12:00 p.m.~~
6 - 8

NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
MAC KATCHO	423			
Michael Nardone JR	Local 696			
Greg Wewers	Local 696			
Anthony Sosa	29			
Eddie Flores	Local 24			
Thomas Painchaud	Local 825	TPAINCHAUD@GMAIL		

AMERICAN DREAM MEADOWLANDS DSEIS PUBLIC HEARING
NOVEMBER 16, 2011
6:00 p.m.-8:00 p.m.

NAME & ADDRESS	AFFILIATION	E-MAIL ADDRESS	PHONE NUMBER	CHECK TO MAKE PUBLIC COMMENT
Ralph LaForge 202 Wanaque Rd Little Falls			201-359-2099	
Jim Kuhl 201 N 17 Ave.			201 939 0707.	
Anthony Leone	LIUNA		973 684 1571	
Peter Agosta JR. P.O. Box 6551 Paterson NJ 07506	Local 592		862-686-9335	
Richard Rov. To	R.S. Kwapp/NJPCC		201-438 1500	
Darin Books	Local 825		908 421-0857	
Chris Hagreluis	Local 825		908 444 5129	

Hello everyone,

My name is Andrew Scala. I am the Business Agent for the Painters, Tapers and Glaziers of District Counsel 711.

I would like to say, as an Agent, there is no better feeling in the world than calling a member and telling him or her that you are sending them out to work. Unfortunately in these economic times, that is far and few between. So this Hearing couldn't come at a better time.

We've heard the people this afternoon talk about the plus and minuses of this project, but yet all I see is the plus side. I think the strongest asset that we have as a society is the ability to have an idea become a reality. So, I am sure, if we are willing to work together on this project, all our goals and concerns can be accomplished.

In closing, I would like to say that – "Remember, we built this country on an American Dream."

Thank you for your time.

Bergen County Audubon Society

P.O. Box 235, Paramus, NJ 07653-0235

A Chapter of The
National Audubon Society

December 8, 2011

Ms. Marcia Karrow, Executive Director
NJ Meadowlands Commission
One DeKorte Park Plaza
Lyndhurst, NJ 07071

Dear Ms. Karrow:

On behalf of Bergen County Audubon Society, I would like to express our concerns surrounding the proposed "American Dream" project by Triple Five LLC, which is planned for the former Xanadu Mall site in The Meadowlands. Our Board of Directors shares deep concerns for a project of this scale. Our concerns range from:

- ☐ Increased motor vehicle traffic on local roads and highways, clogging the whole area
- ☐ Increased power and water usage
- ☐ Added water pollution due to uncontrolled run-off into the river
- ☐ Added air pollution from car and truck exhaust
- ☐ Economic damage to local businesses, downtown shops, and to existing shopping malls
- ☐ Local flooding due to loss of wetlands (the footprint of this project is already much too large)
- ☐ The potential damage to local wildlife due to an additional loss of 5+ acres of wetlands

We, at Bergen County Audubon Society, recognize the need for jobs in our state. However, we also believe that down-sized alternatives should be considered carefully by Triple Five LLC and by the New Jersey Meadowlands Commission. The environmental impact of this project is outlandish compared to its purported benefits. To the extent possible, the project needs a smaller footprint, better mass transit links, and robust methods to funnel all surface water from the project site through a water treatment facility to eliminate any street-side pollution running back into local streams and the river.

BCAS represents about 1600 families living within the region who are concerned about the conservation of nature and about building a healthy environment for people to live and work here.

If the project is ultimately approved, the NJMC must be prepared to monitor all short and long term effects of the project on the environment and to assure that Triple Five LLC properly compensates the people of New Jersey for the loss of habitat by improving other wetlands within the Meadowlands District.

We appreciate this opportunity to express our concerns.

Sincerely,

Beth Goldberg

Beth Goldberg, President

NEW JERSEY STATE AFL-CIO
106 West State Street
Trenton, New Jersey 08608
(609) 989-8730
FAX (609) 989-8734
www.njaflcio.org

CHARLES WOWKANECH
PRESIDENT

LAUREL BRENNAN
SECRETARY-TREASURER

CHARLES H. MARCIANTE
PRESIDENT EMERITUS

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JOHN SHINN
MILLY SILVA
JOSEPH SORESI
DERRICK THOMAS
RICHARD TOLSON
BILL TRULBY
ANN TWOMEY
HARVEY WHILLE

FOR IMMEDIATE RELEASE
Tuesday, November 10, 2011

CONTACT: Charles Wowkanech
President
(609) 989-8730

New Jersey State AFL-CIO Statement In Support of the American Dream Project

TRENTON – Charles Wowkanech, President of the New Jersey State AFL-CIO and Laurel Brennan, Secretary-Treasurer of the New Jersey State AFL-CIO issued the following statement in support of the American Dream Meadowlands Project.

"This is an extremely important project that will have a significant positive effect on the regional economy and job creation. During one of the most difficult economic times our state has endured, it is important to support projects such as this one that will help to provide employment opportunities as well as stimulate the local economy" said Wowkanech.

The project is expected to create 9,000 construction jobs, 11,500 permanent jobs and have a $3.8 billion economic impact to the region annually. Furthermore, the developers plan to spend a significant amount on local road and infrastructure projects. Public hearings were conducted this week on the draft supplemental environmental impact statement for the project to be built within the NJ Sports and Exposition Authority's Meadowlands Sports Complex. Secretary-Treasurer Brennan testified at the hearing in support of the project.

"With painfully high unemployment in mind, this project will have a significant, long term positive impact on workers and their families by creating jobs and in turn will have a ripple effect of putting money back into the local economy and benefiting Bergen County and the north Jersey region. Let's come together to make this project work to put residents back to work" said Brennan.

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OPEIU:153

DIANA E. FAINBERG, P.P., AICP

Diana E. Fainberg Associates, LLC
538 Churchill Road
Teaneck, NJ, 07666

(201) 862-9090
Fax (201) 833-9026
dfainberg@verizon.net

November 21, 2011

Ms. Marcia A. Karrow, Executive Director
NJ Meadowlands Commission
One DeKorte Park Plaza
Lyndhurst, NJ 07071

RECEIVED BY REGULATORY
NOV 23 2011
NY DIST. CORPS OF ENGINEERS

Mr. Scott Brubaker, Director
Office of Permit Coordination & Environmental Review
NJ Department of Environmental Protection
401 East State Street
PO Box 402
Trenton, NJ 08625

Mr. Richard Tomer
Chief, Regulatory Permits
US Army Corps of Engineers
Jacob K. Javits Federal Building
26 Federal Plaza, Room 1937
NY, NY 10278-0090

Re: Draft Supplemental EIS - American Dream at the Meadowlands

Dear Ms. Karrow, Mr. Brubaker and Mr. Tomer:

I am writing in connection with the Draft Environmental Impact Statement Supplement submitted by Triple Five for the Amusement Park and Water Park components to be added to the American Dream at the Meadowlands. Please include this letter as part of the record.

As a licensed planner with over 30 years' experience in New Jersey and a longtime member of the Meadowlands Regional Chamber of Commerce Board of Directors, I would like to express my support for this project and, in particular, the elements that are the subject of the Supplemental EIS. The completion and operation of this project should be a top priority for the State of New Jersey. The track record of Triple Five at the West Edmonton Mall in Alberta and the Mall of America in Minnesota is undeniable. Both projects have been tremendous successes, have brought substantial construction and permanent employment to their respective home areas, and have stimulated broad economic growth opportunities for local suppliers and support services.

Those successes can be repeated in the Meadowlands with American Dream. Nowhere else in the State, in these difficult economic times, do we have a level of private investment of this magnitude. This project is the shot in the arm that New Jersey needs after years of recession. The potential of thousands of jobs, $1 billion in sales and an estimated $100 million in tax revenue can transform the region. The spinoff effect will benefit Meadowlands and New Jersey businesses and support local and state economic growth on many levels.

Inclusion of the additional entertainment elements is vital to the success of the project, creating the critical mass for an entertainment center, not "just another mall", as was the criticism of Xanadu. Tourism is expected to account for approximately half of the visits to this complex. These will be visitors from outside the region, supporting the Meadowlands economy. Perpetuation of the "white elephant" represented by the currently empty, uncompleted building would be a disservice to the citizens of the District and State and should not be an option. Approval of these additional components which would allow the project to go forward is consistent with the public interest and public need for economic revitalization.

The filling of approximately 5.5 acres of wetlands can be adequately mitigated elsewhere. These wetlands are fragmented from the regional system by the New Jersey Turnpike, Route 120 and the Sports Complex ,and have been subjected to disturbance from the installation and maintenance of the radio towers and other structures. They are dominated by common reed. Wetlands values represented by the affected areas can be compensated and improved by creation or enhancement off-site.

The recently released Draft Final State Strategic Plan takes the position that growth should be focused on areas with existing infrastructure. This is certainly the case in the Meadowlands District. A network of highways, transit, and air facilities converge in the area of the proposed project. The Strategic Plan also proposes the creation of an industry cluster-based development strategy. The Strategic Plan and its supporting documents identify the Leisure, Hospitality and Retail Industry Cluster as a significant growth opportunity for New Jersey. The American Dream project is a clear manifestation of this industry potential and is consistent with these Plan goals, being located in the most strategic location in the State with respect to infrastructure and markets, and complementing the prior investments in the Metlife Stadium, Meadowlands Racetrack, Izod Center, and, importantly, the potential of the Meadowland Rail Station.

The successful implementation of this project will create an unparalleled economic engine for the region, and I urge you to approve the subject Supplemental EIS.

Thank you for this opportunity to comment.

Very truly yours,

Diana Fainberg

cc: J. Kirkos

Edgar Santana

New Jersey Laborers

Testimony as Delivered on November 15th, 2011

Good evening everyone, my name is Edgar Santana and I am with the NJ Laborers Union. I am here tonight representing the over 20,000 members who work, live and raise their families in New Jersey.

Today's hearing is narrowly focused on permits required for completion of the entertainment/amusement component of the American Dream project. The reality, however, is that without this component there is no project. And if there is no project there is no opportunity to ease the burden of unemployment which has eroded the quality of life throughout northern New Jersey.

You will hear today from experts who will demonstrate that completion of American Dream will improve the region's aquatic environment by cleaning up a degraded wetland and improving air quality by contributing significantly to enhanced mass transit.

But the biggest improvement to quality of life will be that 9,000 construction workers will be employed completing this project. Many of these people have been without work for as much as 18 months. Overall, there is 40% unemployment in the construction trades. That is the highest level of unemployment in our sector in history. Only a project of the magnitude of American Dream can make a serious dent in that number.

The developers of American Dream have made it clear that this project cannot move forward without the entertainment/amusement component they are proposing. Given the failure of Xanadu we have no reason to question that assessment. The half-completed shell is proof positive that this project cannot be financed without these additional entertainment elements.

Mitigating a few acres of degraded wetlands in return for 9,000 construction jobs and enhanced quality of life throughout the region is a small price to pay. We are ready to go to work.

FORT
group

November 15, 2011

Marcia A. Karrow, Executive Director
NJ Meadowlands Commission
One DeKorte Park Plaza
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Scott Brubaker, Director
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Chief, Regulatory Permits
US Army Corps of Engineers
Jacob K. Javits Federal Building 26
Federal Plaza Room 2109
NY, NY 10278-0090

RE: Hearings Regarding Triple Five's Application to Build Amusement Amenities in Connection with the American Dream Meadowlands

Dear Madame and Messrs:

I am witting this letter in connection with hearings that you are conducting regarding approval of the various permits requested by Triple Five in connection with their planned development of the American Dream project; and ask that you include this letter as a matter of record as my testimony.

As a representative of the FORT Group; a company that maintains offices in both Ridgefield Park New Jersey and Bloomington, MN and as a neighbor whose office overlooks the development project; I feel strongly that the development represents an important driver to the future economic vitality of the region.

The American Dream project promises to serve as an entertainment and social hub for community residents and local businesses, in addition to its potential to help position the

Meadowlands region as a destination of choice for both personal and business travelers.

I can speak first hand of the positive impact my company experiences from a similar venue managed by Triple 5, Mall of America. As noted above, the company I represent, The FORT Group maintains a satellite office in very close proximity to the Mall of America (MoA). By virtue of its broad offering of many shops and restaurants, MoA is a venue of choice for many of our client meetings and events. In addition, we have hosted countless functions within the MoA on our behalf as well as on behalf of our clients based in the Greater Minneapolis area. In fact, many of the out-of-town clients who come to the Minneapolis area always ask if they will have time to enjoy some of the many wonders of MoA. Lastly, we have seen research that suggests that MoA remains the busiest mall in the U.S., even though Minnesota is only the 21st largest state based on population.

How does that translate into good business? We have recognized significant economic growth in our Minneapolis based billings each year since the office opened in 2005. In addition the economic vitality of our Minnesota business enables our company to continue to reinvest in our overall business. We at the FORT Group are extremely excited by the opportunities that will undoubtedly present themselves once the American Dream is open and ready for business.

Finally, from a community relations perspective, we also look forward to participating in outreach programs that are core components of the Triple Five legacy.

I appreciate the opportunity to share my testimony with you. Please do not hesitate to contact me at 201-270-4113 if you have any questions or need additional information.

Yours truly,

Gianna Dell'Olio

Gianna Dell'Olio
Vice President - Account Director

Gualberto (Gil) Medina
Executive Managing Director
Branch Manager



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November 14, 2011

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RE: Hearings Regarding Triple Five's Application to Build Amusement Amenities in Connection with the American Dream Meadowlands

Dear Madame and Messrs:

I am writing this letter in connection with the hearings that you are conducting in regards to the various permits requested by Triple Five in connection with their development of the American Dream project and ask that you include this letter in the record as my testimony.

As we anxiously await the opening of this world-class retail and entertainment complex, it is important to recognize the potential it has to dramatically transform the economies of the region and the state. American Dream already has generated thousands in construction jobs, and will create an estimated 7,000 permanent jobs, approximately $1 billion in annual sales, and an estimated $100 million in annual tax revenue.

As the former Secretary of Commerce for New Jersey, as a senior executive in the real estate industry and as a neighbor whose office overlooks the development project, I clearly see how important the American Dream project is to the nascent recovery of the region. In addition to its immediate economic contributions, American Dream has the potential to become a global tourist destination, expanding existing business and employment regionally, while attracting new investment to New Jersey.

In 2010, domestic and international travelers spent $758.7 billion in the US. The US generated a $31.7 billion travel trade **surplus**. Travel expenditures directly generated $188.4 billion in payroll income for Americans, as well as $117.6 billion tax revenue for federal, state and local governments.

Because travel expenditures produce a "multiplier" impact on the U.S. economy, in addition to the goods and services that are purchased directly by travelers, additional sales are generated (induced output). Total current-dollar travel related spending was $1.8 trillion in 2010. Total tourism-related employment was 14.1 million. One in 9 U.S. non-farm jobs are attributable, directly or indirectly, to travel and tourism.

According to reports issued by Global Insight for the New Jersey Division of Travel and Tourism, New Jersey's tourism industry generates tourist expenditures of over $40 billion a year. The total economic impact of travel and tourism represents approximately 6% of the Gross State Product and generates over $8 billion in federal, state and local tax revenue. If tourism did not exist, each New Jersey household would pay approximately $1,500 more in taxes to maintain current tax receipts.

The American Dream project has the potential to become a major driver of this important industry in the region and the nation. The state and regional demographics suggest that American Dream will be immensely successful. The New York City Metropolitan economy stands at $1.13 trillion, second only to Tokyo among all metropolitan areas in the world. There are only 14 countries with bigger economies than the New York Metropolitan area. The region is one of the world's most cosmopolitan, drawing visitors from throughout the nation and the world.

For all these reasons, I believe that American Dream at the Meadowlands will enjoy significant success as a global destination. I also believe that it will have a significant and positive impact on the region's continuing economic recovery.

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[i] **Sources: U.S. Travel Association, the Bureau of Economic Analysis, and the U.S. Department of Commerce-Office of Travel & Tourism Industry.**

Sincerely,

Gil Medina, Executive Managing Director

TRI-STATE TRANSPORTATION CAMPAIGN



Testimony of Janna Chernetz, NJ Advocate for Tri-State Transportation Campaign
New Jersey Meadowlands Commission and Department of Environmental Protection
Public Hearing November 26, 2011

Thank you for the opportunity to testify today. My name is Janna Chernetz and I am the New Jersey Advocate for the Tri-State Transportation Campaign, and also a life-long resident of New Jersey. Tri-State Transportation Campaign is a non-profit policy organization working for a more equitable and environmentally sound transportation network and sustainable land use policy in New Jersey, New York and Connecticut. Our primary objective regarding the American Dream Meadowlands project is to ensure adequate and reliable public transportation to the facility, and to ensure that American Dream does not pose a further drain on New Jersey's existing infrastructure and economy.

After reviewing the Supplemental EIS; paying specific attention to the transportation component, TSTC finds that there remain too many unanswered questions.

A prominent assumption for the underlying transportation component is that Triple Five anticipates a substantial increase in the use of mass transit by American Dream Meadowlands patrons and employees and a simultaneous decrease in automobile traffic. While we applaud Triple Five for its recognition of the imperative role mass transit will play in the success of American Dream Meadowlands, the underlying understanding of how this assumption was derived is absent.

Key planning documents, such as the transportation management plan, and important conversations with NJT have yet to occur. As such, it is premature to make any conclusions about the effect the expansion will have on NJ's roads and existing mass transit system and how these effects can successfully be mitigated.

According to the supplemental EIS "Developer is working with NJT and other transportation planning agencies to increase bus service to the Project Site and develop regular rail service to the Meadowlands Sports Complex." Details about how Triple Five plans to partner with NJT are completely missing. Throughout the supplement EIS Triple Five calls upon NJT to increase bus service and rail service to the Meadowlands. Nowhere in the EIS does it state where the proposed bus routes will be within the project site, how any called upon increase in rail and bus service will be funded, and whether NJT and other agencies are prepared to meet the demands of Triple Five and any such timeline for completion of the mass transit component. NJT's budget is already stretched and cannot meet demands. This can be seen through the recent rail delays caused by ailing infrastructure. NJT's budget has shrunk from half the NJDOT's Capital Program in 2004 to a third in 2012. Triple Five is relying upon bus service out of PANYNJ to service American Dream Meadowlands but PANYNJ recently slashed its capital program which included a much needed garage for PABT. Without express commitment from NJT, PANYNJ and NJDOT and without a timeline for implementing any plans, any such plan by Triple Five remains nothing but speculation.

Another positive aspect of the supplement EIS is that Triple Five "envisions a wide range of programs to be explored and potentially implemented as part of the overall transportation management plan." However, more details are needed regarding these programs including how each program will affect traffic congestion and how will they be implemented so they will be successful. For example:

- Expanding Meadowlink service to the American Dream Meadowlands Project Site from existing mass transit hubs –How will it be funded?
- Marketing promotions and packages encouraging the use of mass transit – What kind of packages? Which employees would take advantage of these packages (dependant on where they live, time of day traveling, etc.)
- Employee incentives to use mass transit – What kind of incentives?
- Marketing incentive for off peak visits – What kind of incentive? Who are the target patrons?
- Preferred patron carpool parking and ride/car-sharing. – How would this work?

The affects that American Dream will have on surrounding roads has not been fully explored. The only "roads" addressed in this supplement EIS are the immediate surrounding access roads and ramps. This is only part of the picture. These cars have to arrive from somewhere. How will roads such as RT 120, RT3, RT17, and the NJTPK be affected by the increase in traffic? Can the roads handle this increased traffic? What about the effects the increased traffic will have on residential areas adjacent to these roads? What effect will the increased traffic have on the road itself? None of these questions have been explored. NJ's existing infrastructure needs are not being met as half of NJ's roads are deficient, the added traffic as a result of American Dream will further tax theses deficient roads.

The Traffic Impact Assessment references peak and off-peak times, but nowhere in the TIA does it specific state the hours. Therefore it is impossible to know if the projections are realistic.

In addition, the TIA relies on figures obtained from the Institute of Transportation Engineers for determining increased traffic due to the addition of the Amusement Park. The TIA suggests that the addition of the Amusement Park will increase traffic by less than 1% of the previously permitted traffic volumes for the Xanadu development. TSTC questions the reliability of ITE to make these projections for American Dream Meadowlands. The numbers seem awfully low for an Amusement Park that boasts state of the art adrenaline inducing rides, cutting edge equipment and a water park with cutting edge water rides and attractions including a wave pool, river, spas and speed slides, tube slides, interactive water plan structures and extensive deck areas for lounging. We need to look no further than our own back yard to illustrate this point. Westfield Garden State Plaza Shopping Mall in Paramus, NJ sees approximately 20 million visitors annually. The area is chronically plagued by traffic issues, despite being located at the intersection of three major highways and being served by over ten bus lines. Given an estimated 55 million visitors and year and without a concrete plan and documented commitment from NJDOT and NJT, American Dream Meadowlands will be doomed from the start.

Prior to moving forward with the American Dream Meadowlands, the questions raised by TSTC must be answered. In addition, TSTC recommends the Triple Five partner financially with NJT and PANYNJ by providing a percentage of profits for transit operation costs to supplement the increased service demand on the already taxed transit agencies. Triple Five should also provide local aid contributions to local roadway networks to surrounding municipalities and counties and the state to pay for infrastructure demands.

Tri- State appreciates the offer for dialog with Triple Five and is encouraged by their actions to engage in discussions regarding the impact American Dream Meadowlands will have on NJ's transportation infrastructure and we look forward to the many meetings in which these concerns will be addressed and progress accomplished.

We will be provided more specific written comments by the December 19th deadline.

Thank you.

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December 20, 2011

Marcia A. Karrow
Executive Director
New Jersey Meadowlands Commission
Richard W. DeKorte Park
One DeKorte Park Plaza
Lyndhurst, NJ 07071

Re: DSEIS American Dream Expansion

Dear Ms. Karrow,

The New Jersey Chapter of the Sierra Club continues to have serious concerns with the environmental impacts related to the expansion of the American Dream Mall. We believe that the DSEIS is flawed and does not adequately address the environmental impacts from the expansion of the American Dream site. The DSEIS does not look at the entire site and the overall impacts from both the existing building and the proposed expansion on the environment and the Meadowlands region. We believe that this draft does not look at all impacts related to traffic, air and water quality, wetlands, stormwater, sewers, drinking water, energy, and a whole range of other issues associated with this huge project.

The application submitted to the Army Corps of Engineers requests permission to fill and use 5.47 acres of wetlands to expand the mall complex in the Meadowlands region. About seven acres of priority wetlands have already been filled as a result of this project. With this expansion the combined impact will exceed twelve acres of wetlands. Almost a quarter of the land being developed is in wetlands, causing a tremendous negative environmental impact.

Alternatives

We believe that there are other sites on the property to the west, northwest, east, and northeast sides of this existing mall building that would be more appropriate for the expansion. These sites are already filled and would not require the additional loss of wetlands. The only purpose for putting this project in the wetlands on the south side of the site is for highway visibility, which is not a recognized reason to fill in wetlands, especially when there are more appropriate alternatives that avoid these impacts.

In considering this permit application, the Army Corp and DEP must analyze the "No Build" alternative to determine the full extent of impacts stemming from the project. The Army Corp must also evaluate alternatives that avoid the wetlands areas on the project site, including other locations on the property for the expansion.

Wetlands, Flooding, and Stormwater

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Wetlands that are surrounded by development are more valuable for habitat and water quality because they help mitigate disturbances from the development. The loss of more wetlands ton accommodate the expansion of the mall will have serious negative impacts on the water quality of the Meadowlands. The Sierra Club is also concerned with increased flooding as a result of the wetland fill proposed under this application. Wetlands are important to prevent but fill causes flooding upstream. We need to have a more thorough assessment of the project's impact to wetlands and flooding and mitigation measures put in place to lessen those environmental impacts. A comprehensive mitigation plan that replaces the wetland values and flood storage capacity lost due to this project must be in place as part of the issuing of permits.

This site does not do an adequate job in handling stormwater currently. Given the importance of protecting water quality in the Meadowlands, stormwater management on site has to exceed Best Management Practices (BMPs). The project must not be exempted because of its redevelopemt area designation. The entire site needs to be retrofitted to properly manage stormwater, control potential flooding, and maintain water quality.

Seven acres have already been filled on the property. The applicant is requesting over five additional acres, which should trigger the need for US Environmental Protection Agency (EPA) approval. The impacts to wetlands on the site need to be viewed as a whole and the environmental review should examine the impacts of the entire 12.5 acres of wetland fill to the environmentally sensitive Meadowlands. The EPA and DEP needs to have an oversight review because they are filling in an additional five acres and the projects need to be examined as one application for a 12.5 acre wetland fill instead of piecemeal. Both EPA and US Fish and Wildlife originally had concerns with wetlands impacts under the previously proposed project and this expansion should raise further concerns from those agencies.

Toxic Waste

We believe there needs to be additional surveys and analysis for toxic materials on this site. We believe most of this site is not just fill, but there was an active oil processing facility in the area prior to the construction of the sports and entertainment facilities and more waste could be found on site. After previous surveys, 39 barrels of toxic waste were found on the site that New Jersey taxpayers had to pay to remove. Project reviews needs to identify any of these potential areas and address the safe removal of that waste.

Water Usage

Water usage impacts need to be included in the DSEIS as Bergen County already has a water shortage. Given the number of visitors and employees to site and the facilities such as the ski area and water park, a water use analysis must be completed as part of the environmental review. There is no evaluation of exactly how much potable water will be used on site. Our best estimate is that the site will use at least 3.5 billion gallons of water per year, but it could be more. This would have the same impacts on our water supply as a city of 85,000 people. An analysis is critical to fully understanding the impacts to our water supply.

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More water conservation measures need to be implemented on the project site, such as green and blue roofs and grey water recycling for non-potable uses. Implementing water conservation techniques is the only way to mitigate the water usage on site, especially in Bergen County which does not have enough water to meet peak demand during low flow conditions.

Wastewater Capacity

The DSEIS must look at wastewater management as this project will require a significant amount of wastewater availability to run properly in an area that already experiences combined sewer overflows. The facility will discharge the amount of wastewater of a small city. There should be a wastewater treatment facility on site as the Bergen Utility Authority is already over capacity and discharges when it rains. During Hurricane Irene this summer, the BUA discharged about 50,000 gallons of polluted water and partially treated sewage.

Energy Use

A tremendous amount of energy will be used on site to run the amusement park, water park, ski slope, and shopping center. There has been no plan to implement a LEED design or energy efficiency initiatives in the mall. This project will be the largest greenhouse gas emitter and biggest water and air polluter in the state. In the original approval the mall did not implement any green building standards, did not recycle water, or use renewable energy. Renewable energy technologies should be used at this facility to generate electricity and for heating and cooling requirements of the facility. Those impacts and lack of mitigation measures must be examined in the environmental review.

The project needs to be retrofitted to meet a LEED gold design standard for the entire site. The project is being proposed in one of the only areas in New Jersey that has problems with energy reliability. The amount of energy this facility will use is probably as much as a city of 100,000 people but there is no energy analysis in the DSEIS.

Traffic

The Sierra Club also has significant concerns with the impacts the American Dream project will have on traffic in the region. The applicant projects the complex will generate more than 200,000-220,000 cars a day, gridlocking an area of the state already overburdened with traffic. That is the equivalent of 12 lanes of traffic moving at capacity for 10 hours. The applicant has yet to produce a plan for how our infrastructure system will handle that significantly increased stress.

We believe the projections in the traffic component are extremely flawed. For example the analysis states that the amusement park will not impact rush hour traffic since it does not open until ten am. However people will be coming to get breakfast or go shopping beforehand, adding traffic to the morning rush hour. Their analysis finds that a 25% expansion will have minimal impact on traffic. We believe this is flawed and we need an outside expert to do an independent evaluation. On an average day, traffic coming to the American Dream would be triple the amount if all three existing facilities in the Meadowlands- the racetrack, MetLife Stadium, and

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Izod Center- held an event at the same time. The roadways currently cannot handle the traffic created when those facilities have simultaneous events and this project would create those conditions every day. What happens to the traffic in the region if on a Saturday shoppers are coming to the American Dream, the circus is at the Izod Center and there is a Saturday football game for high school or college students at the Meadowlands?

This additional traffic will significantly add to air pollution in the area. This project could put New Jersey in violation of our State Implementation Plan under the Clean Air Act since we are moving forward with a large trip generating project without any trip reduction programs in place or any significant program to develop mass transit. There needs to be development of bus and light rail to service the site. The site should also be connected to the Bergen Main Line, allowing trains to run through the site and back to New York City.

Right now the developer is expecting New Jersey Transit (NJT) to increase service to the Meadowlands complex but there has been no firm commitment from NJT as their funding has been significantly reduced and fare hikes in recent years have been over 20 percent. Before permits are issued for this project, there must be a real, finalized plan in place to address the substantial increase in traffic in the region as a direct result of this project.

Economic Impacts

The economic impacts the American Dream will have on surrounding businesses should also be included in the environmental impact statement. This project will negatively impact the economies of surrounding communities by taking away business from their shopping centers. This new shopping complex will draw business away from existing shopping centers. We will be subsidizing one developer, while hurting existing centers in Paramus, Jersey City, and Elizabeth.

The Sierra Club believes that because of this expansion request, the Meadowland's Commission needs to hold a new 5X hearing and prepare a new environmental review and environmental impact statement of the **entire site,** not just the expansion. EPA should also do a review based on their pollution concerns.

This project is dependent on taxpayer subsidies. Because of this the impacts to our environment from this project but be minimized to the maximum extent **possible**, not to the most the developer is comfortable paying for or that allows environmental impacts to serve the developers needs when there are better alternatives on site. Since the project is being financed with public money, proper environmental mitigation will not add significantly to the cost to the developer, but it will alleviate the multiple negative environmental impacts caused by the project.

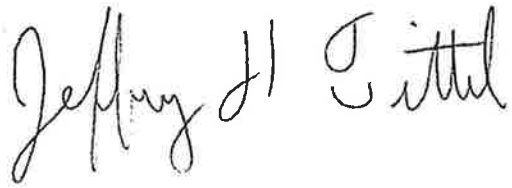
This will cause more traffic, more air pollution, more water pollution, and more flooding in an area that has too much of that already. The previous plans and approvals on this site were not holistic as they ignored secondary and cumulative impacts to the site and environment. The DSEIS for this project must look at the cumulative impacts of the 12.5 acre fill on the project site and look at all possible alternatives.

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Thank you for considering these comments.

Sincerely,



Jeff Tittel

Director, New Jersey Chapter of the Sierra Club

November 15, 2011

Public Hearing regarding the Application by Triple Five Worldwide to build an Amusement Park and Water Park on NJSEA property.

Hearing Officers:

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Madame and Messrs,

My name is Jim Kirkos and I address you this morning as Chief Executive Officer of the Meadowlands Regional Chamber of Commerce. I am also a 45 year resident of the Township of Lyndhurst, which is a Meadowlands Community. For more than 20 of those years I operated a small business whose success was directly attributable to the economic growth of the Meadowlands during the 80's and 90's with the nucleus of that economic spark coming from the Meadowlands Sports and Entertainment Complex.

My comments this morning are a blend of being a local resident, a small business owner and now as leader of a business organization that represents close to 1100 companies and 140,000 employees with a majority of those members being small businesses.

The Chamber has been a long supporter of the continued expansion of the Meadowlands Sports Complex including the original Xanadu project because we inherently understand the economic impacts of such development. This complex where we sit today was once the envy of the world with three great venues all operating with worldwide acclaim. Over the years, hundreds of businesses grew and flourished throughout the Meadowlands region from those operations and as I stated earlier, I was one of those businesses, so I speak from firsthand experience.

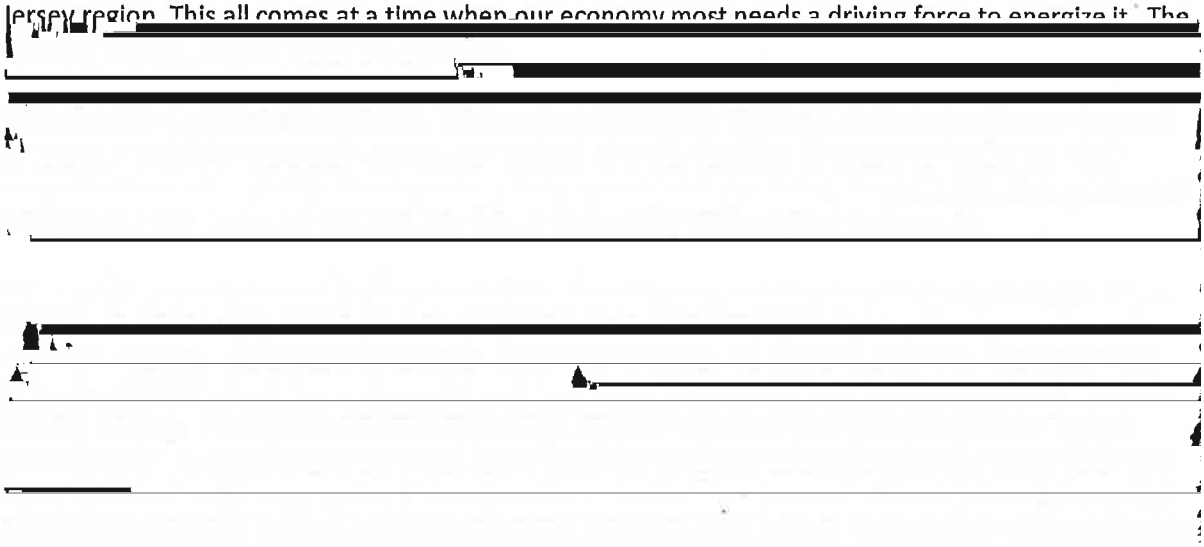
Over the next few days you will hear testimony from many people regarding Triple Five's application to build a water park and amusement park to complement their vision for the American Dream at the

Meadowlands project. So let me say at the onset that the Meadowlands Regional Chamber is in full support of that application.
The American Dream project provides much hope for the future economic prosperity of this region much like this Racetrack along with then Glants Stadium and the Arena did 30 years ago. Only this time, the stakes are much higher and our economy is in a much different place.

The sad fact is I have watched the marvel of this Meadowlands Sports Complex deteriorate and along with that a regional economy that has stagnated, but there is hope for a great revival. And that revival began with the building of the New Meadowlands Stadium now called the MetLife Stadium and can continue with the approval of the American Dream project.

To add some strength to my testimony I will refer to an economic analysis the Chamber commissioned in 2007 where the Heldridge Center of Rutgers University prepared a study of the Meadowlands economy and workforce. The results revealed a few very important facts. Specifically the emergence of a destination related component of our economy. That fact reinforced the Chamber's efforts to grow the Meadowlands Liberty Convention and Visitors Bureau, a division of the Chamber, into a strong destination marketing organization so we could capitalize on this new component of our economy.

After a few years of studying the effects of growing a destination and tourism related economy here in the Meadowlands I can say to you today that the American Dream project will propel that into the next century. The American Dream vision for a world class shopping and entertainment facility along with the other components of this complex have the promise of returning this piece of geography into the world's most recognized sports and entertainment venues that will attract tourists domestic and international tourist in the millions. Along with that recognition come thousands of new jobs, millions in tax revenue and even more importantly, millions of new investment in and around the entire North Jersey region. This all comes at a time when our economy most needs a driving force to energize it. The



America Dream project is that driving force.

Over the past 9 years as an advocate I have come to know this project in its many renditions along with its many principal owners and I can tell you with all sincerity that the Ghermezian Family and their executive team at Triple Five has been the most approachable, the most respectful and clearly the most capable thus far. I say that not because they sit here today but because it is the truth.

bureau, Ms Bonnie Carlson, and everyone in between all had stories of positive impact. Those communities worked to embrace those projects so they could reap the rewards for which they still enjoy today.

As hearing officers for this application I urge your approval because the water park and amusement park components are critical to the success of the project. Facts will reveal that at this moment in time we have aligned the most capable entity to oversee the successful opening of the American Dream at the Meadowlands. Lets collectively identify any concerns and find solutions for them so we too can reap the rewards that this project can bestow on the entire North Jersey region. Let's not allow those who would relish in having nothing done here at this project cast a shadow over great opportunities. Let's find a way to make this project a win/win for the Meadowlands at a time when we most need a win.

Thank you

James Kirkos
Chief Executive Officer
Meadowlands Regional Chamber
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Rutherford, NJ 07070

201-393-0707
Jkirkos@meadowlands.org

Meadowlands Liberty

convention & visitors bureau

November 17, 2011

Ms. Marcia A. Karrow, Executive Director
NJ Meadowlands Commission
One DeKorte Park Plaza
Lyndhurst, NJ 07071

Mr. Scott Brubaker, Director
Office of Permit Coordination & Environmental Review
NJ Department of Environmental Protection
401 East State Street
PO Box 402
Trenton, NJ 08625

Mr. Richard Tomer
Chief, Regulatory Permits
US Army Corps of Engineers
Jacob K. Javits Federal Building
26 Federal Plaza, Room 1937
NY, NY 10278-0090

Dear Madame and Messrs:

On behalf of the Meadowlands Liberty Convention and Visitors Bureau, a division of the Meadowlands Regional Chamber, I respectfully submit this letter as formal testimony in full support of the American Dream at the Meadowlands project.

As the primary Destination Marketing Organization for the region, it is our responsibility to promote and market this geography as a tourist destination on behalf of our stakeholders to visitors and locals alike. American Dream at the Meadowlands with the inclusion of the Water and Amusement Park will put us on the map and undoubtedly make the Meadowlands Liberty Region a primary destination of choice in the next few years and long thereafter.

Now the third largest industry for the state of NJ, tourism is essential to the growth of the Meadowlands Liberty Region. In 2010, Meadowlands tourism supported almost 8,500 jobs in the area, 2200 of which were in businesses that do not directly serve visitors. Meadowlands travelers generated federal, state and local tax revenue totaling $ 174.5 million in 2010, up 1.6% over a recessionary 2009. Meadowlands Liberty region sent $48m to Trenton in 2010, sales taxes and hotel occupancy fees comprising about 70%. State tourism-initiated taxes from Meadowlands grew by 2.1% in 2010. This compares to an overall NJ state tax decline of -1.1%

These statistics and more were included in a recent economic impact report that we hired Vantage Strategies of Annapolis, MD to provide for us. Another positive number to come from this report is that of every tourism dollar spent in the Meadowlands in 2010, 81 cents stayed local and contributed directly to Meadowlands gross metro product. With 50% of MoA patrons coming from domestic and international travelers, imagine the growth in these figures with the addition of the American Dream Entertainment Retail Complex.

As noted by Jim Kirkos, our President and CEO in earlier testimony, our office has been one of the biggest advocates of this project since its' inception and we have been selling the dream from day one. With the Ghermezian Family and Triple Five Group now at the helm of the project, we are confident the dream will become a reality as we have seen what Mall of America has done for Bloomington, MN

We look forward to working with the Triple Five Group in promoting the American Dream Entertainment and Retail complex and partnering with them to bring the Meadowlands Complex back to its original acclaim and further excel the region to become the world's best destination.

Sincerely,

Judith Ross
Director

TRI-STATE TRANSPORTATION CAMPAIGN

Mobilizing the Region

December 19, 2011

Marcia A. Karrow
Executive Director
New Jersey Meadowlands Commission
One DeKorte Park Plaza
Lyndhurst, NJ 07071

Scott Brubaker
Director, Office of Permit Coordination & Environmental Review
New Jersey Department of Environmental Protection
401 East State Street
P.O. Box 402
Trenton, NJ 08625

RE: Proposed Transportation Improvement Program Amendment

Dear Ms. Karrow and Mr. Brubaker:

Thank you for the opportunity to submit comments on the American Dream Meadowlands Draft Supplemental Environmental Impact Statement (DSEIS) for the proposed additions of an Amusement Park and Water Park to the Redevelopment Project at the Arena Site. The Tri-State Transportation Campaign (Tri-State) is a nonprofit working for a more balanced, equitable and environmentally sustainable transportation network. We have been involved in the Xanadu/American Dream Meadowlands project (American Dream or Project) for over almost a decade.

EIS Background

The DSEIS supplements the Meadowlands Xanadu Redevelopment Project (Xanadu Project) EIS prepared in 2004 and therefore necessitates that some information from that process be discussed herein as it is relevant to Tri-State's comments.

Since the issuance of the 2002 New Jersey State Exposition Authority (NJSEA) request for proposals for "Redevelopment of the Continental Airlines Arena Site," Tri-State has been very concerned with the traffic problems that will be created by the Project. Although the Xanadu Project was ultimately abandoned by the Mills Corporation and Mack-Cali realty Corporation (collectively Mills) because of lack of funding in 2009, both a draft and final EIS were presented

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by NJSEA to the New Jersey Meadowlands Commission (NJMC) and New Jersey Department of Environmental Protection (NJDEP) in 2004.

Public hearings were held and NJMC and NJDEP issued a Joint Consultation Report (JC Report) on August 19, 2004 pursuant to N.J.S.A. 5:10-23. In addition, the NJMC Commissioner issued a Commission's Report on August 19, 2004 pursuant to N.J.S.A. 5:10-5(x). On August 26, 2004, NJMC approved both reports by resolution. On October 1, 2004 the NJDEP Commissioner entered an order adopting and revising the Hearing Officer's Report.

Both the JC Report and public comments, including comments submitted by Tri-State, criticized the insufficient scope and analysis of the traffic impacts in the EIS. That report specifically noted:

> The study area for a complete traffic impact analysis for a project of Xanadu Meadowlands' scale must extend far beyond the requirements set forth by the State Highway Access Management Code. A new traffic impact analysis must be prepared evaluating the impact to roadways, intersections, and merges from the proposed development for applicable peak time periods. Such a report should also include recommended ways to mitigate impacted locations. In order to properly evaluate the traffic impact, the applicant is advised to assess all major nodes and links within a regional context (recommended minimum radius of four (4) mile from the proposed project boundaries).

JC Report at pg. 27. This four mile radius included the following locations: "NJ Route 3 corridor from NJ Route 21 to Interstate 495," "NJ Route 17 corridor from Interstate 80 to NJ Route 3," "NJ Route 17 and Moonachie Avenue intersection," "Paterson Plank Road from the New Jersey Turnpike to NJ Route 17," "NJ Route 120/Washington Avenue/Moonachie Road from NJ Route 3 to Route 46," and "New Jersey Turnpike Interchange[s] 16W and 18W." In re The Proposed Xanadu Redevelopment Project, 402 N.J.Super. 587 (App. Div. 2008).

Unfortunately, that study was never done, a problem that has become particularly more acute now that Triple Five Worldwide (Triple Five) is now seeking to revive and expand the development with the American Dream.

American Dream Meadowlands DSEIS

Triple Five rebranded the project American Dream Meadowlands and decided that an expansion of 14.7 acres is necessary. That expansion includes an amusement park and water park and is the basis for this DSEIS. Triple Five and NJSEA project that American Dream will attract 55 million visitors annually, or approximately 150,000 per day. This is in addition to 35,000 employees going to and from work every day.

Four public hearings sessions were held on the DSEIS over two days, November 15 and 16, and not unlike the prior Xanadu project, these hearings raised more questions than answers

concerning transportation. The traffic analysis is far from adequate and comprehensive. The focus of the analysis continues to be restricted to access roads and roads located within the project area site and furthermore, it relies solely on improvements made under the framework of the Xanadu project with no new improvements planned for the new larger American Dream project. The new Developers fail to address in any fashion the effect American Dream will have on the four mile radius the JC Report determined must be evaluated.

This study must be done before the American Dream project is allowed to proceed. Every day, half the population of Pittsburgh is expected to travel to American Dream. Because of American Dream's physical location, they will have to travel on the already congested roads in the four mile radius. Failure to analyze the effects and potential remedies of this problem would be an abdication of responsibility by NJMC and NJDEP and do a great disservice to the people of East Rutherford and the surrounding communities. Moreover, although the recommendations NJMC and NJDEP provide under N.J.S.A. 5:10-5(x) and N.J.S.A. 5:10-23, "NJSEA should give the agencies' recommendations every consideration; and if it were to ignore same, it would proceed at its peril, as it would then be faced with potential prerogative writs suits questing its action as in conflict with its statutory authority." In re The Proposed Xanadu Redevelopment Project, 402 N.J.Super. 587 (App. Div. 2008).

DSEIS Specific Comments

Traffic Impact Analysis – Insufficient Scope

The Traffic Impact Analysis prepared for Triple Five and NJSEA by TRC Engineers, Inc. does not analyze the four mile radius recommended by the JC Report and is therefore insufficient. A larger study area must be analyzed in order to determine the impacts of the traffic generated by the increased development. This must include key points along Route 120, Route 3, Route 17, Route 46, I-80, I-495 highlighted in the JC Report as well as inbound and outbound lanes to New York City on Route 3 and the NJ Turnpike.

Traffic Impact Analysis – Flawed Methodology

1. Public Transportation

The Traffic Impact Analysis asserts that additional trip mitigation factors were not included in calculating the additional trips generated by the Amusement Park development. However, the Traffic Impact Analysis does rely on the Xanadu Traffic Impact Study for the assumption that 30% of traffic would access the Amusement Park from Exit 18W. The problem with this assumption is that because the Xanadu Traffic Impact Study did account for mass transit, the 30% number might be too high, resulting in an underrepresented volume increase.

Attachment C to the Traffic Impact Analysis includes the methodology used for the Xanadu Traffic Impact Study. That methodology concludes that 10% of daily trips – up to 15% of PM Peak Hour Trips – are done using mass transit. That methodology assumes regular service from 9 bus lines and heavy rail – none of which is actually anticipated since NJ Transit is already stretched thin and has no apparent plans to drastically increase service as imagined by the

analysis. (As noted below, none of this service currently exists and NJ Transit, much like the State, is in no position to expand service, so are these changes realistic and if so, who is going to pay for them?)

If these additional trips had been included as normal trips in the Xanadu Traffic Impact Study it is possible that, amongst several potential effects, the 30% Alternative Access is too high. The reason is that the 30% number assumes that Exit 18W an additional 3% - 5% of volume (30% of 10% of daily trips and 15% of PM Peak Hour trips). If not, that traffic would be forced to reroute, possibly to Route 120. If so, the Peak Saturday Hour increase in trips on page 12 of the Traffic Impact Analysis may be 200 or more, requiring a Major Permit Application. This must be analyzed before the DSEIS is approved and work proceeds.

2. Peak Hour

Studies should be conducted during accurate AM peak, off peak and PM peak hours and all hours should be defined. The distinction between the peak and off peak hours are not delineated in the current DSEIS.

3. ITE Trip Generation Rates

a. Local Character

Much of the analysis done both by Mills for Xanadu and Triple Five for American Dream is based on standard figures that do that take into account the particular character of the surrounding area. A large mall in an otherwise sparsely populated area will not produce the same roadway effects that the same mall would have in an area like the Meadowlands that is already heavily trafficked. This should be factored into any analysis that uses generic trip generation rates.

b. Facility Type

The DSEIS and Traffic Impact Analysis assert that the proper ITE Trip Generation rate for the Amusement Park is "'Amusement Park' (LU 480)." This proposition appears to be flawed for two reasons, with the resulting possibility that traffic volumes are underrepresented. First, it is frequently asserted that many visitors will do more than just go to the Amusement Park. Shouldn't the amount of time and the nature of their visits affect what trip generation rate is used? That is, does a patron with a multiple purpose visit necessitate a different trip generation rate than a typical amusement park patron? This must be answered. Second, the last page of Appendix C includes a trip generation rate for Mall or America (another Triple Five Property) that is different than the Amusement Park (LU 480). Why is it is different? Should it be used instead of Amusement Park (LU 480) since the character of the two overall facilities are similar? This must also be answered.

Failure to adequately account for additional trips as a result of expansion

Developers assert that the expansion of Xanadu to include an Amusement Park and Water Park is essential to the success of American Dream, yet in the DSEIS, the Developers assert the expansion will not generate any "significant increase in traffic" based on calculations utilizing the ITE. These two assertions are logically inconsistent. It is implausible that increasing the physical size of the project by 10 percent will not increase the amount of patrons. It is even more implausible when the nature of the expansion is completely different from the currently planned facilities, i.e. it is unlikely that the same people that go to shop, see a movie or go skiing will also go for a swim or spend the day in the amusement park.

Some questions that should be answered can be seen using a simple example. For a patron (assuming this type of person exists) that intends to go to American Dream to shop and visit the amusement park:

> Does this type of patron exist?
> Which attraction would the patron go to first?
> Where will the patron put its personal effects and purchases (although storage facilities are planned, will they truly be able to accommodate this type of patron)?
> What is the most likely method of transportation the patron would use?
> Is it likely this type of patron would take public transportation to visit the amusement facilities whether or not that person intends to also do other things during the visit?

All of these questions should be answered, yet it appears that none have even been asked.

Failure to prepare a traffic management plan

The DSEIS admits a traffic management plan has not been completed but will provide a plan to increase mass transit service to American Dream. This is an essential document that should be made available with the DSEIS so that the public may comment on it. In addition, the DSEIS advises that the plan is being developed in concert with NJ Transit and "others" without providing their identities. A complete picture of the traffic impacts of American Dream cannot be ascertained without a complete traffic management. There is very limited public transportation service to the Meadowlands now and nothing more than conjecture for future transportation service. Worse still, even if concrete plans were made, NJ Transit's fiscal situation makes it unlikely that the State can afford to provide the large amount of service provided at Triple Five's other major malls without raising fares, cutting service elsewhere or perhaps both.

Unreasonable expectation of future public transportation service

Page two of Appendix C of the Traffic Impact Analysis is indicative of the unreasonable expectations of Triple Five, much like Mills before them, that NJ Transit will be ramping up public transportation service to the site. A realistic plan for providing public transportation and paying for it must be included in the DSEIS. Public transportation allegedly has the potential to reduce traffic by 10-15% based on Mills' analysis. That reduction in traffic (or increase if there is no public transportation) can have a significant impact on the environment and area.

However, the plan must be realistic. It is not realistic to depend on NJ Transit, in this economy and era of tight budgets, to foot the bill. Nonetheless, Triple Five anticipates regular service on the Meadowlands Rail Line – which currently only provides service for certain events – as well as other opportunities for bus service. The following is a comparison of public transportation services at Triple Five's three largest malls in North America:

Facility	Yearly Visitors	Public Transportation
Mall of America	40 Million	15 bus lines, 1 light rail train line
West Edmonton Mall	22 Million	27 bus lines
American Dream	55 Million	Very limited bus service and special event service

Taxpayers must not be asked to pay for significant amounts of increased service that only service one location. If Triple Five wants to move into a new area and needs public transportation, it should be required to pay for it.

Traffic impacts of other events in the Meadowlands

It does not appear that all possible event scenarios are analyzed in the DSEIS. The DSEIS must include an analysis of the traffic situation when football games, arena events, racetrack events individually as well as any possible combinations event occurrences at those facilities while American Dream is open. Football games must be included not only because the NFL holds games on Thursday and Saturdays but also Bergen County's Blue Laws do not require all of American Dream be closed on Sundays, when football games occur, and there is no certainty that the Blue Laws will remain in effect in perpetuity.

These issues must be addressed and resolved before the DSEIS is approved. More public hearings should be held as they could help identify other issues and resolve all traffic related issues.

Sincerely,

Kate Slevin, Executive Director

Janna Chernetz, Esq., New Jersey Advocate

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Kathleen A. Donovan
County Executive

November 15, 2011

US Army Corps of Engineers
441 G. Street NW
Washington, DC 20314-1000

Good morning everyone:

I am testifying today both in my official capacity as Bergen County Executive but also as a near life-long resident of south Bergen who knows firsthand the beneficial impacts developments such as American Dream can have on the environment and overall quality of life in this region.

I grew up in neighboring Lyndhurst and currently reside in Rutherford. I know the Meadowlands from before the act creating the New Jersey Meadowlands Commission was passed, before the Sports Authority was created and when garbage from New York City and throughout northern New Jersey was land filled here. There is no question that we have come a long way.

It should be noted that I strongly support the development of American Dream in general and the entertainment/amusement components in particular. It should also be noted that members of my staff and I have met on several occasions with representatives of Triple Five the developers of American Dream. They have been totally forthcoming. They have not – I underscore not – asked Bergen County to provide funding or assume financial risk for this project (and if they ever should, I do not and would not support it). They have provided compelling evidence that American Dream cannot be developed without the entertainment/amusement component we are discussing here today. They have made a very strong case. One only need look at the previous failures to see that without a family-oriented component – similar to those Triple 5 incorporated into Mall of America in Minnesota and the Edmonton Mall in Canada – we could very well face another failure. The cost of another failure will be astronomical both in terms of social impact and the very real financial cost to the public. Let's face it. Just like in baseball, three strikes and you're out. But who is going to pay to clean up the mess that was left behind?

Alternatively, completion of American Dream will serve as a catalyst for improved infrastructure and environmental improvements as well as a center for economic development and my goal of making Bergen County a major tourism attraction in partnership with our neighbors to the east. It will significantly contribute to the overall quality of life throughout the region.

Triple Five has utilized cutting edge technology since opening its Mall of America location in 1992, and I am pleased that these initiatives will be replicated here in New Jersey.

The Mall of America recycles more than 60 percent of its waste – an average of 32,000 tons per year, recycles 100 tons of glass bottles each year, converts the fat from restaurant fryers into more than 4,000 pounds of biodiesel per month. More than 30,000 live plants and 300 live trees act as natural air purifiers and by using water efficient plants and irrigation techniques there is a 50 percent reduction in the use of potable water.

Of particular interest, is the fact that the mall does not use a central heating system; instead, the comfortable 70 degrees is maintained year-round with passive solar energy from 1.2 miles of skylights and heat generated from store fixtures and lighting and the body heat from more than 40 million visitors. These environmental benchmarks are among the reasons the Mall was chosen to host the Big Green Conference in 2010. When this exemplary environmental record is combined with Triple Five's corporate commitment to establishing business opportunities for Native American groups, its philanthropic outreach to Big Brothers and Big Sisters, Special Olympics and The Make-a-Wish Foundation, to name just a few of the 200 charities and organizations they support, Bergen County residents will have a willing partner in making our community an even more wonderful place to live.

Right now the most important contribution this project will make is in reducing unemployment in the region. This is the most critical quality of life issue we face. Over 9,000 construction workers will be employed on this site and they will give way to some 15,000 permanent employees. The economic ripple will ultimately be felt throughout the region. Support for this project could stand on job creation alone. But in addition, the project will contribute significantly to improved air and water quality. A rail connection already exists between the sports complex and Lautenberg rail station. It is underutilized. American Dream will provide the critical mass to maximize the effectiveness of this connection and greatly improve transit opportunities for auto-dependent commuters and visitors alike. The best way to reduce traffic congestion and improve air quality is to get motorists out of fossil fuel burning cars by giving them an alternative. American Dream provides that alternative. But without the entertainment/amusement component there is no American Dream and the dominos fall from there.

Another critical impact: improved quality of wetlands. The site in question is degraded, non-performing and in a word, a swamp. The region will benefit from the mitigation required by this project.
Bergen County has borne the brunt of expensive failures here and in neighboring communities caused by unholy alliances between inept developers and irresponsible public officials. Tens of millions of dollars of public funds have been spent with no discernable public benefit. Communities like Lyndhurst, Rutherford, East Rutherford and North Arlington have been left holding the bag. Completion of American Dream can reverse much of that and fulfill the long held promise of employment and opportunity.

Thank you.

Kathleen A. Donovan
Bergen County Executive

SPRINKLER FITTERS LOCAL UNION No. 696

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RECEIVED BY REGULATORY
NOV 25 2011
NY DIST. CORPS OF ENGINEERS

November 22, 2011

Western Section

New York District, Corps of Engineers
Regulatory Branch, Room 1937
26 Federal Plaza
New York, NY 10278-0090

NO FILE NUMBER

Dear Sir/Madam:

I am submitting this letter as Sprinkler Fitters and Apprentices ~~Local Union 696 written~~ comments regarding the proposed changes to the Xanadu, now The American Dream project at the Meadowlands. As Business Manager of Sprinkler Fitters ~~and Apprentices~~ Local Union 696, I have carefully considered the environmental affect on the area and weighed that against the needs of my membership and have come to the conclusion that I must encourage moving forward with the proposed project changes. With economic times as they are, I have many loyal and hardworking members of my Local out of work. They have exhausted their unemployment benefits and health care benefits, and many are facing the loss of their homes and even their marriages. The jobs that this project would create would be of great assistance to my members as well as other members of the NJ State Building Trades. It would provide a much needed shot in the arm for the economy of the State of New Jersey.

We at Sprinkler Fitters and Apprentices Local Union 696, as members of The United Association of Journeymen and Apprentices of the Plumbing and Pipefitting Industry of United States and Canada, are proud of our involvement, through the New Jersey Building Trades Helmets to Hardhats program as well as our United Association's Veterans in Piping (VIP) Program.

The United Association of Plumbers, Pipefitters and SprinklerFitters (UA) has partnered with the U.S. military to create the UA Veterans In Piping (VIP) Program, which provides returning vets with 16 weeks of accelerated welding training. But before that career training begins, they kick off the program with an additional two weeks of transitional training to help returning veterans to adjust to civilian life – a process that can be especially difficult for those who joined the military right after high school.

Scott LaMorticella, President | John Madden, Vice President | Robert E. Doyle Jr., Financial Secretary | Kevin P. Bellew, Business Manager | Lewis J. Candura, Business Agent | Gary Quinn, Business Agent | Jeff Dransfield, Recording Secretary

EXECUTIVE BOARD
Anthony Barboza Chris Colfer James Lynch Phil Mancini

The training is free to veterans who are placed in construction careers nationwide, helping to replenish an aging workforce while rebuilding America's infrastructure. Welders are in high demand nationwide, making job opportunities plentiful for welders who are well-trained and highly-skilled after their intensive training program.

With nearly 200 veterans already trained through VIP programs in Washington and California, the next site will be at Camp Williams, Wisconsin. Many more veterans are in need of the career opportunities available through the UA VIP Program. The UA and the U.S. Military can provide a positive re-entry into civilian life, and long-term, lucrative careers for those who have served their country with bravery and honor. As UA General President William P. Hite says, "It's the right thing to do."

I encourage you to move ahead with the American Dream Meadowlands Project, helping the working men and women of New Jersey to once again live their own "American Dream" of being able to provide for their families both now and in the future and to give deserving United States veterans even more opportunity to begin careers in the construction industry.

If you would like to discuss this issue with me, please feel free to call me at anytime, either at my Union hall or on my cell phone.

Thank you for your time and consideration.

Sincerely,

Kevin P. Bellew

Kevin P. Bellew
Business Manager
Cell: 732-887-3008

International Alliance of Theatrical Stage Employees, Motion Picture Technicians, Artists and Allied Crafts of the United States and Canada. AFL-CIO, CLC

LOCAL 632 IATSE

Serving the Meadowlands and Northern New Jersey
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Testimony to the New Jersey Meadowlands Commission Regarding Draft Supplemental Impact Statement for the Triple Five American Dream Project

Mister Chairman and distinguished members of the New Jersey Meadowlands Commission, thank you for having me.

I'm Kevin O'Brien, President of Local 632 IATSE, representing the theatrical stagehands at the Meadowlands Complex.

We are the behind-the-scenes artists and technicians who construct and execute the theatrical shows, concerts, ice shows, and circuses, at the IZOD Center and the MetLife Stadium. In the interest of full disclosure, I am a working president, meaning, in addition to being a union official I'm a theatrical rigger employed at various times by the NJSEA at the IZOD Center, as well as the Jets-Giants at the MetLife Stadium.

A destination-related economy, driven by tourism to the Meadowlands, can be a sustaining economic tool creating thousands of jobs and needed tax revenue. Nowhere is this more evident than the awarding of Superbowl 2014 to the MetLife Stadium.

However, this is just one part of the equation. I commend Governor Christie's administration and the NJSEA for having secured the second part of the equation by partnering with Triple Five to insure that the "American Dream" comes to fruition at the Meadowland's Complex.

Our Local Union has a long history with the Meadowland's Sports Complex, and a vested interest in its future. In addition to the 3000 seat amphitheatre which Triple Five is proposing, in a recent address before the Meadowlands Regional Chamber of Commerce Triple Five Senior Vice President Paul Ghermezian related that the IZOD Center dovetails perfectly into the entertainment business model of the American Dream concept. Mr. Ghermezian commented on the "foot traffic" of 20,000 people attending a concert at the IZOD Center and what it would mean to the merchants and restaurants in the "American Dream"? You can't attract that kind of built-in foot traffic anywhere....so it will be a win-win for everyone.

In closing, I'm here mainly to advocate for jobs and economic development which will enhance revenues to our state and help us grow out of our fiscal dilemma. Indecision is no longer an option. Triple Five has brought fresh solutions which should be implemented and there is an urgency to do so today. New Jersey's Entertainment, Sports and Tourism entities can once again become a great economic engine, ***not only for the Meadowlands, but for all of New Jersey***.

As my valued friend Jim Kirkos from the Meadowlands Regional Chamber of Commerce is fond of saying, "We must have the courage to dream about what the possibilities are and act on them, because that is what those before us did with their vision". We wholeheartedly concur with the prevailing wisdom that Triple Five's "American Dream" project within the Meadowlands will be an incalculable asset to the Meadowlands region. At stake are 9,000 construction jobs, 11,500 permanent jobs, and a 3.8 billion economic impact to the region annually.

Again, Mr. Chairman and members of the Commission, I thank you for the opportunity to address these issues.

Kevin M. O'Brien, President
Local 632 IATSE
International Alliance of Theatrical Stage Employees, Motion Picture Technician Artists & Allied Crafts of the United States & Canada
AFL-CIO, CLC

November 15, 2011

THE PORT AUTHORITY OF NY & NJ

December 15, 2011

Mr. James Cannon
US Army Corps of Engineers
New York District
Jacob K. Javits Federal Building
New York, NY 10278-0090
ATTN: Regulatory Branch

RE: Public Notice Number NAN-2011-01158-WCA

Dear Mr. Cannon:

The Port Authority's Aviation Department strives to provide safe and secure air transportation within the New York metropolitan area. We have reviewed Public Notice Number NAN-2011-01158-WCA and believe that the proposed mitigation project may attract wildlife hazardous to aircraft using Teterboro Airport (TEB). The Port Authority requests that that US Army Corps of Engineers and the applicant reconsider certain aspects of the proposed mitigation project to help lessen potential wildlife hazards.

The proposed mitigation site is located less than two miles from TEB. As detailed in the Federal Aviation Administration (FAA) Advisory Circular (AC) 150/5200-33B, "Hazardous Wildlife Attractants on or near Airports," the FAA recommends that all wetlands mitigation be conducted at a distance of at least 5 miles from any airport. If purchase of credits from an approved wetland mitigation bank within the same watershed or preservation of wetlands is approved, we request that efforts be made to exclude Canada geese (*Branta canadensis*) from these sites and/or to reduce the attractiveness of these sites to Canada geese. This may include planting of vegetation that is not attractive to Canada geese or installation of exclusion devices (e.g. overhead wire grids or goose-deterrent fencing) to prevent access to these sites by Canada geese.

Additionally, the site may be attractive to gulls (*Larus* spp.) and could result in increased gull activity near TEB. We recommend that the applicant make efforts to reduce the attractiveness of

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the site to gulls during construction and require all trash containers to have lids that prevent access to wildlife.

Feel free to contact me with any questions or concerns.

Sincerely,

Laura Francoeur

Laura Francoeur
Chief Wildlife Biologist

Cc:
Evelyn Martinez, FAA
Jayme Patrick, FAA
Andy Clapper, USDA
Wendy Anderson, USDA
Renee Spann, TEB
Pam Phillips, TEB
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December 19, 2011

New Jersey Meadowlands Commission
Attn: Ms. Marcia Karrow, Executive Director
One DeKorte Park Plaza
Lyndhurst, NJ 07071

New Jersey Meadowlands Commission
Attn: Mr. Scott Brubaker
Director, Office of Permit Coordination & Environmental Review
One DeKorte Park Plaza
Lyndhurst, NJ 07071

Re: Public Comment

Dear Ms. Karrow and Mr. Brubaker:

As a member community of the New Jersey Meadowlands Commission, the Borough of Little Ferry would like to provide the following comments in regards to the Draft Supplemental Environmental Impact Statement (DSEIS) for the proposed American Dream Meadowlands Project (the Project).

As we understand, Triple Five intends to complete the main building (referred to by Triple Five as the ERC) with minor modifications and build a new entertainment component consisting of an integrated, indoor Amusement Park and Water Park facility immediately adjacent to and connecting to the ERC. We understand that Triple Five contends the Amusement Park and Water Park facility is necessary to accomplish the State's and the new developer's objectives of creating an economically viable world class tourist destinations. The Borough also understands that the Amusement Park and Water Park facility is subject of the DSEIS.

The Borough offers the following comments:

Environmental comments:
On page ES-8 of the Executive Summary, there are statements that "approximately 5.24 acres of tidal and non-tidal emergent wetlands would be filled on the Radio Tower site,....an additional 0.23 acres of tidal emergent wetlands would be filled to complete drainage improvements within the adjacent Turnpike right-of-way." "Approximately 13 acres of lands on the Radio Tower Site currently within the 100-year tidal floodplain of the Hackensack River will be filled." "A stormwater management system will be designed, permitted, constructed and maintained on the Project site it minimize (emphasis added) any potential flooding..."

The Borough is greatly concerned with these statements. Minimizing potential flooding creates an increase in flooding elsewhere. In this situation, this will negatively impact the residents of municipalities in which storm water drains towards the meadows, in which Little Ferry is one.

The Borough strongly recommends that all water that is proposed to be displaced be "replaced" elsewhere on site. We have great concerns to simply minimize potential flooding in surrounding residential areas and communities for a world class tourist destination.

The Borough suggests that Triple Five begin the process of cleaning various "ditches" that lead to the meadows in the surrounding municipalities in an all-encompassing effort to further minimize potential flooding. Additionally, the installation of a pump station near the industrial areas of the Hackensack River, specifically Industrial Avenue, would be beneficial for storm mitigation and economic development.

Section 4.0 – Environmental Conditions, Impacts and Mitigation (page 4-29) states that the peak water surface of the existing culvert is determined by the Hackensack River and not runoff from the Radio Tower Site. This concerns the Borough as our existing stormwater system disposes water into the River. The Borough approves of the dredging of the 96-inch culvert but is equally dismayed that there appears to be no mention of dredging of the 108-inch culvert. More troubling is that the statements that overall impacts on the existing watershed will be minimal while increasing the drainage area to the smaller 96-inch culvert by 3 acres. It flies in the face of common sense to route 3 acres of water to the smaller 96-inch culvert and away from the 108-inch culver; especially since the Hackensack River is the feeder. Lastly, the effects on tidal surges should be discussed. As Little Ferry faced a tidal surge during Hurricane Irene, the effects of similar storms should be discussed. Especially since Irene was not a 100 year storm. Lastly, there is no discussion of maintaining the culverts once they are cleaned. This should be a responsibility of Triple Five. A tidal study and not just a fluvial study should be conducted.

While we understand that there will be minimal sewage generated from this project, there is no discussion on handling sanitary sewer overflows.

Energy comments:
On page ES-9 of the Executive Summary there is discussion on limiting the adverse environmental impacts from the operations of the Project to energy resources in the region. The statements continue in limited detail concerning energy-efficient fixtures, etc.

Power is an invaluable commodity that has shown to be delivered in an unstable manner during storms in this region of New Jersey. The Borough requests that Triple Five provide estimated energy consumption data and its effect on the region. The Borough recommends that Triple Five provide funding to the Commission municipalities for similar energy efficiency projects. By saving tax dollars through energy efficiency, Little Ferry (and the other impacted municipalities) might be able to allocate resources to combat the traffic that this project will bring. Traffic will be addressed elsewhere in these comments.

Traffic comments:
To begin, C-8 of Appendix C of the Final Traffic Impact Assessment is of major concern. *"The Bergen County Blue Laws, which bans most retail sales on Sundays, will prohibit a portion of ERC component from operating on a Sunday and will further reduce the trip generation of the ERC on Sundays."*

It is important to note that "further reducing trip generation of the ERC on Sundays" is plainly double-talk. This clearly states that traffic will be increased on Sunday due to a portion of the ERC being open.

The Borough feels that the Final Traffic Impact Assessment is negligent on its discussion of local roads. As Triple Five is marketing the American Dream as a tourist attraction, the impact on Teterboro Impact needs to be discussed. It can safely be assumed that the American Dream will market the Airport as a mechanism for shoppers to arrive. There is a direct roadway that can serve as a main artery to travel from the Airport to the ERC is through Little Ferry, Moonachie and Carlstadt (Liberty Street in Little Ferry which turns into Moonachie Ave in Moonachie). The Borough requests that travel to and from the Parks coordinated by Triple Five utilize Moonachie Road which is located at the "rear" of the airport.

Section 5.1 of the Final Traffic Impact Assessment is entitled LOCAL & REGIONAL ROADWAY/TRANSIT IMPROVEMENTS. Every item in this section details State roads. There is simply no discussion on how secondary and tertiary roads will be impacted. This is an incredibly large oversight that needs to be corrected.

It is illogical to believe that State roads will be entirely utilized for ERC and Park visitors. Drivers west of Little Ferry will not "hop onto a State Highway" instead of cutting through the Borough (and Moonachie & Carlstadt). This will destroy the local infrastructure as our roadways become parking lots and could impact emergency services.

The Final Traffic Impact Assessment includes Mall of America data. This is disingenuous and the Borough feels that this is useless filler information that should be removed. Bergen County and the surrounding area's population is greater than the existing location of the Mall of America and is not comparable for any study. Even more so when counting "tourists" via NYC and the various airports that can bring more individuals. This is especially true as the Mall of American brings upwards of 40 million annual visitors and the goal of the American Dream is 55 million. Lastly, from various internet searches, it appears that the amusement park facility at the Mall of America is 8 acres; the American Dream calls for upwards of 15 acres of amusement parks.

The Borough thanks everyone involved in this project for listening to our concerns.

Sincerely,



Michael Capabianco
Little Ferry Borough Administrator.

EVERGREEN ENVIRONMENTAL

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COMMISSIONER'S OFFICE

December 15, 2011

Mr. Scott Brubaker
Director, Office of Permit Coordination & Environmental Review
New Jersey Department of Environmental Protection
401 East State Street
P.O. Box 402
Trenton, New Jersey 08625

Re: Draft Supplemental Environmental Impact Statement (DSEIS)
American Dream Meadowlands by Triple Five LLC
Amusement Park and Water Park Redevelopment Project at the Arena Site
Comments

Dear Mr. Brubaker:

Evergreen Environmental, LLC is pleased to present comments on the above-mentioned DSEIS. Evergreen supports the American Dream Meadowlands (ADM) project and offers comments on environmental mitigation. Our comments pertain to environmental mitigation especially as it relates to wetland impacts and mitigation as is addressed in the DSEIS in Section 4.3.3, Mitigation, on pages 4-22 and 4-23. Additionally our comments pertain to mitigation as described at the Public Hearing of November 15, 2011 where further details and specifics related to wetland mitigation were presented.

Wetland mitigation alternatives at five (5) locations were outlined to compensate for 5.47 acres of wetland impact in a power point presentation at the public hearing as follows:

1) Three (3) acre-credits from the Secaucus High School Mitigation Site.

2) Mitigation credits from the Evergreen MRI3 Mitigation Bank expected to be approved in January or February 2012.

3) Use of the Kane 40-acre parcel (we assume this refers to the Lower Kane Tract of 43 acres).

4) Buy land, specific parcels not identified. We assume this refers to preservation.

5) Payment of an in lieu fee to the State Freshwater Wetlands Mitigation Council.

Our comments relative to each mitigation alternative are as follows:

1) Three (3) acre/credits from the Secaucus High School Mitigation Site.

The Secaucus High School Enhancement Site (SHS) is described on the New Jersey Meadowlands Commission (NJMC) web site as follows:

This 43-acre site was acquired from the Town of Secaucus under a 99-year lease agreement. The Secaucus High School Wetlands Enhancement Site is located between Mill Creek Point Park and Secaucus High School. The NJMC began enhancement activities at the site on March 12, 2007, including increasing tidal flow to allow for greater biodiversity of fish, mammal, and bird species, notably the state-endangered yellow-crowned night heron which nests in the nearby Schmidt's Woods. The NJMC is also constructing a 1,500-foot elevated wooden boardwalk that will allow visitors to walk along the marsh and students from Secaucus High School to view the growth of a restored urban wetland. The boardwalk will feature several observation benches and award-winning wildlife signage on the rails. Enhancement activities were complete at the end of 2007.

Evergreen has observed the SHS wetland enhancement site and by all accounts it is a highly successful marsh restoration project. As we understand it, 3-4 acres of the site are undedicated and available to be used as compensatory mitigation for an impact. At a typical 3:1 ratio for enhancement, this would mitigate for 1 1.3 acres of permitted fill

The ADM presenter specifically cited an outdated mitigation banking terminology used in the Meadowlands back in the 1990's when mitigation was referred to in units of "acre-credits". The acre-credit system is no longer employed and was used at only one mitigation bank in the Meadowlands, the MRI 1&2 Meadowlands Mitigation Bank which is 206-acres in size and was commensurately awarded 206 acre-credits. As per the MRI 1&2 Mitigation Banking Instrument (MBI) (1999), a permitted applicant was required to buy, on average, three (3) acre-credits for every one acre of permitted impact (essentially a 3:1 ratio as is often the mitigation ratio awarded wetland enhancement). Therefore, assuming that SHS is determined to be an approved mitigation site and has acre-credits designated for sale then the 3-4 acre-credits will compensate for 1-1.3 acre of impact.

2) Mitigation credits from the Evergreen MRI3 Mitigation Bank (the "Bank") expected to be approved in January or February 2012.

The Evergreen MRI3 Mitigation Bank has filed all permits and MBI documents in early November 2011 and expects permits and approvals to allow construction in early 2012 and planting by the spring of 2012 At the time the Bank receives permits and approvals, it will be granted a 10 percent release of the total 21.38 credits or 2.14 credits, where one credit mitigates for one acre of impact. When grading is complete, the Bank will be granted an additional 20 percent credit release, or an additional 4.28 credits, and when planting is complete, the Bank will receive an additional 10 percent release, or an additional 2.14 credits. These credits will be released and available for purchase in advance of or concurrent with the rate of impacts to regulated features and represent more than the total of mitigation required by ADM.

Because of the presence of historical manmade fill throughout the Evergreen MRI3 site, its construction will result in the net gain of more than 11 acres of wetlands in the Meadowlands. Use of credits from this bank will not only result in the replacement of lost functions and values, but also in the replacement of actual lost acres of wetlands.

Note that use of mitigation bank credits is the preferred form of mitigation under the Federal Rules. Implementation of the Clean Water Act of 1972 and the associated Rules have been assumed by the State of New Jersey.

It is important to note that Evergreen MRI3 is a mitigation bank using the credit system used nationally and statewide, currently; the system that has replaced the old "acre-

credit" system. The 51-acre bank has been categorized into mitigation types of various mitigation values resulting in a total of 21.38 credits; therefore the 51-acre bank can mitigate for 21.38 acres of permitted impact. As a result, on average it takes 2.43 acres of mitigated wetlands at MRI3 to compensate for 1 acre of wetland impact elsewhere. Applicants purchase one credit for each acre of permitted impact.

The entire proposed impact of 5.47 acres would require the purchase of 5.47 credits from MRI3. Even if 3 acre-credits from SHS were used, the SHS mitigation accounts for mitigation to compensate for only 1 acre of impact leaving 4.47 acres of impact unmitigated; therefore 4.47 credits would be required from MRI3

Evergreen has reserved 5.50 credits from Evergreen MRI3 Mitigation Bank for ADM's exclusive use while ADM and Evergreen are discussing a more formal arrangement.

3) Use of the Kane 40-acre parcel (we assume this refers to the Lower Kane Tract of 43 acres).

This parcel is owned by the land steward Meadowlands Conservation Trust (MCT) as a result of the Mills Mall to Xanadu, Empire Tract project relocation and land transfer (2004). The land is subject to a Deed and Conservation Restriction (DCR) dated March 16, 2005. The DCR clearly limits the use of the land to mitigation of transportation projects only on page 3, section 2. b., Wetland Mitigation Restrictions, as excerpted:

> 2. **Reservation of Rights.** Notwithstanding the prohibitions referenced in paragraph 1 above, it is expressly understood that the conveyance made by this deed is subject to the following reservations relating to the Property.
>
> a. The Mills shall maintain the right to utilize the Empire Tract for mitigation required in connection with the development approvals and USACE Permits issued for the Meadowlands Xanadu Project ("Project"), in accordance with the requirements of such development approvals and USACE Permits (attached hereto and made part hereof);
>
> b. Subordinate to the rights of Mills and at the sole election of the New Jersey Sports and Exposition Authority ("NJSEA"), the right shall be reserved for the NJSEA's and other governmental bodies designated by the NJSEA, to utilize the Empire Tract for mitigation required in connection with the development approvals and USACE Permits issued for transportation projects in the Meadowlands District and Meadowlands Region. Nothing in this instrument shall preclude the MCT from undertaking wetland restoration or enhancement activities in furtherance of its mission (but not in fulfillment of third party wetland mitigation requirements) provided that such activities do not divest the NJSEA or other governmental body with jurisdiction over the transportation projects from utilizing the Empire Tract for mitigation as set forth herein.

Additionally, MCT has entered in to an agreement with the neighboring Evergreen MRI3 Mitigation Bank and the agreement precludes the use of the Lower Kane tract for mitigation except as preservation as follows:

> 8. Future Use of the Lower Kane Tract. For five (5) years from the date the first mitigation credit is released, MCT agrees that the Lower Kane Tract shall not be used as a mitigation site for a permittee or a mitigation bank. Nothing in this Agreement shall prohibit MCT from using the Lower Kane Tract for preservation to satisfy the mitigation needs of a third party.

Lastly, the MCT parcel is a *Phragmites*-dominated wetland owned by an environmental land steward and protected under a conservation restriction. The dedication of this land as preservation mitigation affords little compensatory mitigation value as it is already preserved. In general, a 27:1 ratio is employed for preservation mitigation where 27

acres preserved mitigate for 1 acre of impact. However, the 2008 federal rules generally require a rationale to support preservation such as if the land were subject to development threat and therefore preservation would preserve a valuable wetland in imminent danger of being lost. This is not the case as the land is already preserved, legally protected from development and owned by an environmental land trust.

4) Buy land, specific parcels not identified.

Both Federal and State rules establish a hierarchy of mitigation alternatives with mitigation banks as the preferred alternative, followed by on site mitigation or off site mitigation in the watershed, followed by land preservation, followed by in lieu fee payment. Use of bank credits as well as on and off site mitigation takes the form of wetland creation, restoration or enhancement. Wetland preservation, or land donation, is an inferior choice and is further limited as described above. Wetland preservation does not replace lost wetlands. Wetland creation, restoration and enhancement increase wetland acreage as well as functions, values and services thereby replacing wetlands lost as a result of a permitted impact.

Evergreen supports wetland preservation as compensatory mitigation only if no other alternatives are available. We oppose the preservation of lands as wetland mitigation in this case as other mitigation alternatives that result in a net gain of wetlands are available.

5) Payment of an in lieu fee to the Freshwater Wetlands Mitigation Council.

The federal rules clearly establish requirements for in lieu fee programs. In lieu fee programs must collect money for permitted impacts and then implement mitigation to the same standard as mitigation banks and thereby replace lost wetlands in the same watershed. The Freshwater Wetlands Mitigation Council in lieu fee program was established before the issuance of the 2008 Federal Rules, under the Freshwater Wetlands Protection Act (FWWA), and does not meet the Federal Rules in lieu fee program requirements. The Council only operates where the state has assumed jurisdictional authority over freshwater wetlands in the state. The Meadowlands is not part of this assumed area and the Meadowlands are under Corps jurisdiction. The Council is authorized under the FWWA and currently uses in lieu fee payments from freshwater wetland permitted projects. The ADM impact is mostly tidal. The Council has had limited success implementing wetland mitigation for lost wetlands. Currently the Council has amassed more than $9M in monies that are not being used for mitigation. This means that impacted wetlands from years ago have gone unmitigated as the Council unsuccessfully attempts to find non-profit entities with land to build wetland mitigation sites. When the Council does find a qualified mitigator and grants them a portion of their in lieu fee monies, the mitigation can be done anywhere in the state. This means that in lieu fee money from lost wetlands in the Meadowlands is not guaranteed to result in mitigation in the Meadowlands, it could occur anywhere in the state. This violates NJMC policy on mitigation.

The state in lieu fee program is not an approved program for use in the Meadowlands for tidal impacts in accordance with the 2008 Federal Rules. In lieu fee payment should be the last alternative when and only if all other mitigation alternatives are unfeasible and it should result in mitigation in the Meadowlands.

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Conclusion:

The American Dream Meadowlands proposal will result in the filling of wetlands. The need for compensatory mitigation has been recognized by Triple 5 and is warranted. We do not believe that in lieu fee payments or land preservation serve mitigation requirements of this impact and believe viable mitigation options of tangible wetland creation, restoration and enhancement are available.

We support the use of Secaucus High School Mitigation Site acreage as part of the mitigation plan as it will supply immediate, in the ground, successful mitigation prepared in advance of impact. However, we request that this mitigation acreage be evaluated in a manner equitable to other mitigation sites and banks in the region in terms of the number of mitigation acres required to offset an acre of impact; namely mitigation ratios and resultant mitigation credits. It would appear that 3-4 acres of enhanced wetlands at SHS would compensate for 1-1.3 acre of ADM impact at the typically required ratio of 3:1.

Evergreen requests that the mitigation alternatives analysis take into consideration our comments presented above and consider the use of mitigation bank credits from the Evergreen MRI3 Mitigation Bank as part of the mitigation plan for the American Dream Meadowlands project. The MRI3 mitigation bank state and federal permits were filed November 7, 2011. We hope that the review and approval of the permits to restore wetlands could be processed as soon as or sooner than the permits to fill wetlands. In this way the Evergreen MRI3 Mitigation Bank would have 2.14 credits released in January 2012, followed by another 4.28 credits in April when bank construction is complete, and 2.14 credits in May upon completion of planting, for a total of 8.56 credits. The MRI3 mitigation bank, like its predecessors MRI 1&2, has been planned for many years to serve the needs of important permitted projects in a region where wetland impacts are difficult to avoid and wetland mitigation is extremely limited and difficult. We appreciate your consideration of these comments as our mitigation bank may be a key component to the solution of mitigation for the American Dream Meadowlands project.

Evergreen is prepared to contractually commit to deliver as many credits for the American Dream Meadowlands project as are required.

Should you have any questions, please feel free to contact me at 973/305-0643 or mrenna@evergreenenv.com.

Sincerely,
EVERGREEN ENVIRONMENTAL, LLC

Mark Renna
Vice President

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November 21, 2011

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The Honorable Marcia A. Karrow, Executive Director
New Jersey Meadowlands Commission
One DeKorte Park Plaza
Lyndhurst, New Jersey 07071

Mr. Scott Brubaker, Director
Office of Permit Coordination & Environmental Review
New Jersey Department of Environmental Protection
401 East State Street
PO Box 402
Trenton, New Jersey 08625

Mr. Richard Tomer
Chief, Regulatory Permits
US Army Corps of Engineers
Jacob K. Javits Federal Building
26 Federal Plaza, Room 1937
New York, New York 10278-0090

Re: Response to Request for Comments on the Draft Supplemental Environmental Impact Statement for the Proposed American Dream Meadowlands Project to be Constructed Within the NJSEA's Meadowlands Sports Complex

Dear Madame and Messrs:

It is with great enthusiasm that I submit my comments in ***support*** of the American Dream at the Meadowlands project. New Jersey has a long history of missed opportunity and the unfortunate result has been a negative effect on our state's ability to realize greater economic benefits for our residents and smarter land use for our environment.

I am a small business owner in New Jersey and as such more acutely understand the economic potential a development such as American Dream at the Meadowlands will bring to our region. Since its beginning, the Meadowlands Sports Complex always has been viewed as an exceptional sports and entertainment venue. Yet, the fan experience historically has fallen short of exceptional. The old saying was: "there's no *there* there." Sure, it originally was the most

advanced sports venue in the world but, as is common with such things, as time passed the old Giants Stadium had to be razed to make room for the construction of the world's most advanced football stadium. While the new stadium at the Meadowlands is fantastic, American Dream at the Meadowlands will give the boost to the economic potential that the Meadowlands Sports Complex should be.

As for American Dream at the Meadowlands' plans to expand the experience with an indoor waterpark and amusements -- this is exactly what makes sense for the Meadowlands Sports Complex. Tourists, regional and local families and business travelers will soon find that, in addition to the games at the Stadium and Arena, and the races at the Meadowlands Racetrack, there are activities which one could enjoy for a few days. There now will be more compelling reasons to stay in the Meadowlands prior to and long after the game, concert or other event. Ultimately, the development will infuse millions of dollars of new revenue to our state's economy.

Lastly, the region is suffering under the weight of unemployment. Not just for our skilled tradesmen and tradeswomen, but entrepreneurs who are watching for how our state will decide on such worthy projects such as American Dream at the Meadowlands. One of the unfortunate cyclical effects of a down economy is that investors hold onto their money and don't invest in new businesses. New Jersey has an opportunity to show that our state is a smart investment. Conversely, if we decide to delay or deny American Dream at the Meadowlands, it will send an equally negative message and the economic opportunity will go elsewhere.

It is time to move beyond the mistakes of the past and grasp opportunity to be smart and strategic about our region's economic future. We should carefully consider the objections of the project's critics, but not be paralyzed by those who create fear, uncertainty and doubt to promote themselves over the greater economic good.

I therefore urge the timely and appropriate approval of the Draft Supplemental Environmental Impact Statement for the American Dream at the Meadowlands project.

Sincerely,

Michael P. Turner
President

MPT/sd

New Jersey Business & Industry Association

Melanie Willoughby
Senior Vice President

NJBIA

November 16, 2011

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NJ Meadowlands Commission
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PO Box 402
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WESTERN

Richard Tomer
Chief, Regulatory Permits
US Army Corps of Engineers
Jacob K. Javits Building 26
Federal Plaza Room 210
New York, NY 10278-0090

RE: ***Hearings Regarding Triple Five's Application to Build Amusement Amenities in Connection with the American Dream Meadowlands***

Dear Madame and Messrs,

On behalf of the New Jersey Business & Industry Association (NJBIA), I am writing this letter in connection with the hearings that you are conducting in regards to the permits requested by Triple Five in connection with their development of the American Dream project. I respectfully request that you include this letter in the record as my testimony.

NJBIA is the largest statewide employer association in New Jersey and the country. We represent over 22,000 member companies, with 1.2 million employees. NJBIA strongly supports the American Dream project. American Dream has the potential to become a global tourist destination, expanding existing business and employment regionally, while attracting new investments to New Jersey. American Dream has generated thousands in constructions jobs, and will create an estimated 7,000 permanent jobs, approximately $1 billion in annual sales, and an estimated $100 million in annual tax revenue.

According to reports issued by Global Insight for the New Jersey Division of Travel and Tourism, New Jersey's tourism industry generates tourist expenditures over $40 million a year. The total

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economic impact of travel and tourism represents approximately 6 percent of the Gross State Product and generates over $8 billion in federal, state and local tax revenue.

The American Dream project has the potential to become a major driver of this important industry in the region and the nation. The state and regional demographics suggest that American Dream will be immensely successful. The New York City Metropolitan economy stands at $1.13 trillion, second to Tokyo among all metropolitan areas in the world. There are only 15 countries with bigger economies then the New York Metropolitan area. The region is one of the world's most cosmopolitan, drawing visitors from throughout the nation and the world.

NJBIA supports this vital economic development project which will have a positive impact on the state's continuing economic recovery.

Sincerely,

Melanie Willoughby
Senior Vice President

SULLIVAN & CROMWELL LLP

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January 18, 2012

VIA HAND DELIVERY AND FACSIMILE

Marcia A. Karrow,
Executive Director,
New Jersey Meadowlands Commission,
One DeKorte Park Plaza,
Lyndhurst, NJ 07071.

Scott Brubaker,
Director, Office of Permit Coordination & Environmental Review,
New Jersey Department of Environmental Protection,
401 East State Street,
P.O. Box 402,
Trenton, NJ 08625.

Re: Comments of New Meadowlands Stadium Company, LLC, New York Jets LLC, and New York Football Giants, Inc. on the Draft Supplemental Environmental Impact Statement for the Proposed American Dream Meadowlands Project

Dear Ms. Karrow and Mr. Brubaker:

On behalf of the New Meadowlands Stadium Company, LLC and its principal tenants, the New York Jets LLC ("Jets") and New York Football Giants, Inc. ("Giants") (collectively "the Stadium Entities"), we write to identify certain material deficiencies in the Draft Supplemental Environmental Impact Statement ("DSEIS") for the new American Dream Meadowlands project ("American Dream," formerly the "Xanadu" development) proposed by Triple Five Development ("Triple Five").

Specifically, the DSEIS does not address the increased traffic congestion and parking demand that will occur during National Football League ("NFL") game days

("Game Days") if the expanded American Dream project, with its newly proposed Amusement and Water Park, is constructed and operates as currently planned. Because the DSEIS does not address the impact of the expanded American Dream project on traffic and parking on Game Days or during other major stadium events, the Stadium Entities are now in the process of retaining one or more experts to address this important issue.

In addition, the Stadium Entities believe that implementation of the current plans for the expanded American Dream project, including the Amusement and Water Park, would breach their contractual rights, including, among others, their contractual guarantee that: "Any amendments, modifications, and/or waivers with respect to the Xanadu Project that would have an adverse effect on the development, use or operation of the Stadium Project Development Rights ... shall require the prior written consent of the [Stadium Entities]." There can be little doubt that this expanded American Dream project—at least as currently constituted—will have an adverse effect on the Stadium Entities. To date, no party has sought the Stadium Entities' consent for this expanded project.

To avoid a dispute, the Stadium Entities and Triple Five are currently meeting to attempt to diagnose the underlying issues and to determine if realistic solutions are available to resolve the Stadium Entities' concerns about the expanded American Dream project.

Accordingly, we respectfully urge that the Panel postpone a decision on the DSEIS for at least 60 days. Such a delay will benefit all concerned, including the State of New Jersey, by allowing the completion of a needed study on the impact of the expanded American Dream project on traffic and parking, particularly on Game Days, as well as giving the parties time to continue their ongoing discussions over ways to diagnose and address the Stadium Entities' concerns.

The Stadium Entities' Longstanding Commitment to the Meadowlands

Beginning in 1971, the Giants, later joined by the Jets, provided the commitment and impetus to build and improve the Meadowlands Sports Complex. The Stadium Entities recently renewed their commitment to the Meadowlands by investing approximately $1.6 billion (without any public financing or assistance, and at great personal risk to the owners) into the construction of MetLife Stadium, which opened in April 2010. This new, enlarged stadium and its related facilities are successfully attracting more NFL fans, concerts, and college teams, among others, all injecting jobs and income to the State of New Jersey. We are proud that for over four decades, and now increasingly with our new facilities, the Stadium Entities have contributed to the commercial success, economic growth, and national reputation of this region.

The continued success of the Meadowlands remains the Stadium Entities' major focus, and that interest now includes our prospective new neighbors at American Dream. For the good of the Meadowlands and the State of New Jersey, the Stadium Entities support the State's efforts to create jobs by rescuing this troubled project. At the same time, the Stadium Entities must take steps to ensure that any new development in the Meadowlands does not adversely affect the Stadium Entities' project development rights, including the use, operation, leasing and management of MetLife Stadium.

Traffic Congestion and Parking Issues on Game Days

NFL Game Days can attract crowds of more than 80,000. Except for additional non-NFL events at the stadium, such as concerts, there are no other days during the year when there is more traffic congestion and demand for parking at the Meadowlands. The Stadium Entities have long been concerned about traffic congestion and parking shortfalls on Game Days, and the resulting environmental impact and personal toll on NFL fans.

The ability of Jets and Giants fans to access and park conveniently at, and exit, MetLife Stadium is of critical importance to their overall customer experience at NFL games. The current American Dream proposal undoubtedly will adversely affect traffic patterns and parking at MetLife Stadium. If these effects are not carefully and properly considered during the planning phase for this project, the Stadium Entities will suffer serious commercial harm, potentially impacting their ability to repay the substantial debt incurred to privately finance the new stadium.

The Jets and Giants each play 10 pre-season and regular season home games each year, for a total of 20 games between the two teams. In some years, there may be a few additional playoff games. Most NFL games are played on Sundays, but some are played on Monday nights, Thursday nights, and even on Saturdays late in the NFL season. On those 20+ Game Days, the Stadium Entities enjoy 100% of their annual attendance revenues, and there are no alternative days when Jets or Giants fans can attend NFL games at the stadium. During these Game Days, the Stadium Entities must fulfill their commitments to the NFL fans whose loyalty and attendance—and continued support—are essential for the Stadium Entities to continue to play the integral role that they have long had in ensuring the sustained growth and success of the Meadowlands Sports Complex. By contrast, retail and entertainment establishments like American Dream can remain open virtually year-round, with numerous alternative days when consumers can enjoy their facilities.

The Stadium Entities' concerns about access, traffic and parking in the Meadowlands were the subject of extensive study and negotiation during the planning phase of the initial Xanadu development. The public record confirms that the prior

development approvals concerning MetLife Stadium and the former Xanadu development were premised on the assumption that local traffic impacts would be mitigated by a coordinated traffic and parking plan between the two project sites, particularly on Game Days.

The new American Dream proposal, with the Amusement and Water Park, inevitably will make matters much worse on Game Days than the smaller Xanadu project. Triple Five projects up to 55 million visitors to American Dream annually, which averages to approximately 150,000 each day.[1] But the Traffic Impact Assessment, attached as Appendix F to the DSEIS, provides no calculation for the number of additional trips expected on Sundays, which include most Game Days. This study projects that the new Amusement and Water Park will increase traffic by approximately 2,700 trips on Saturdays. If the new American Dream project results in a similar increase—or even any increase—in traffic on Game Days, that increase will represent traffic and parking demands that are not accounted for in any current plan.

The Stadium Entities are concerned that Triple Five has not provided a detailed traffic and parking plan that addresses the increased demand for on-site parking spaces, or the inconsistent and conflicting traffic movements, on Game Days generated by NFL fans and patrons of the American Dream project, including the new Amusement and Water Park. Indeed, Section 1.1.2.2 of the DSEIS acknowledges that "[t]here are no new parking surface lots or parking structures proposed as part of the Amusement Park and Water Park facility" and speculates that the additional parking demand will be "substantially decreased" by the development of new rail and bus service. Triple Five's failure to provide such a plan is a serious deficiency in the DSEIS, because traffic and parking issues in the Meadowlands are most acute on Game Days.[2]

Because of the absence of a thorough study in the DSEIS on the impact of the proposed American Dream project on Game Days, the Stadium Entities have requested parking and traffic studies directly from Triple Five. But Triple Five thus far has not produced sufficient data to the Stadium Entities concerning the potential effects of its new proposed development, particularly on Game Days. As a result, the Stadium Entities are engaging traffic experts to study these issues more fully. This effort is ongoing, and we hope to obtain such a study within 60 days.

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1 *See* http://www.americandream.com/retail.

2 These potential traffic issues at American Dream recently have become the focus of attention in the press. *See* Janna Chernetz, Op-Ed., *American Dream a Road Nightmare*, STAR-LEDGER, Jan. 12, 2012, at 17.

The Stadium Entities' Contract Rights

The Stadium Entities are parties to a Cooperation Agreement ("Cooperation Agreement"), effective August 16, 2007, with the New Jersey Sports and Exposition Authority ("NJSEA") and Triple Five (which succeeded to the obligations of the prior Xanadu developers that executed the Cooperation Agreement). The Cooperation Agreement grants certain rights and guarantees to the Stadium Entities intended to ensure that any development in the Meadowlands will not adversely affect the Stadium Entities' use and operation of MetLife Stadium, and its ancillary uses. The Cooperation Agreement addressed the traffic and parking issues generated by the smaller Xanadu development that are now wholly unaddressed in the DSEIS as to the newly proposed Amusement and Water Park.

Foremost among the Stadium Entities' contract rights is that: "Any amendments, modifications, and/or waivers with respect to the Xanadu Project that would have an adverse effect on the development, use or operation of the Stadium Project Development Rights ... shall require the prior written consent of the [Stadium Entities]." The "Stadium Project Development Rights" expressly include the "use and operation of the new stadium [*i.e.*, MetLife Stadium] and parking and sponsorship areas outside of the new stadium...." Although the proposed Amusement and Water Park clearly would create an adverse effect on the Stadium Entities' Stadium Project Development Rights as defined in the Cooperation Agreement, neither Triple Five nor the NJSEA has obtained—or even sought—the Stadium Entities' consent to this new development.

The resolution of the Stadium Entities' concerns could alter the current plans for construction and operation of the American Dream project.[3] We have invited Triple Five and the NJSEA to continue a dialogue concerning these important contractual issues.

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[3] As a quasi-legislative, rather than quasi-judicial, proceeding, this review process obviously is not the proper forum in which to address the Stadium Entities' contract rights, *see In re Sports Complex Hackensack Meadowlands*, 62 N.J. 248, 252 (1973), and, in any event, this Panel lacks the authority to decide those issues, which would have to be the subject of a judicial proceeding.

The Stadium Entities' Request for a Delay in the Panel's Determination on the Current DSEIS

Consideration of the DSEIS should occur only on the basis of complete information in order to ensure that this large-scale project enhances, rather than detracts from, the overall Meadowlands experience—especially on NFL Game Days when attendance at the Meadowlands is at its peak. The Panel should not take action on the DSEIS or American Dream project in the absence of such information, nor should the American Dream proposal be finally approved, while important contractual issues remain outstanding among the NJSEA, Triple Five and the Stadium Entities—the resolution of which could change the current plans for the American Dream project.

* * *

For the forgoing reasons, the Stadium Entities respectfully urge that the Panel postpone any decisions on the DSEIS for at least 60 days so that: (i) Triple Five can supplement the DSEIS with a proper traffic study assessing the effects of the new development on Game Day traffic and parking; (ii) the Stadium Entities can generate a similar traffic and parking study; and (iii) the parties can try to diagnose and resolve the significant contractual issues that will arise from the newly proposed American Dream development, including the Amusement and Water Park.

If you have any questions, please contact me at (212) 558-3121. We stand ready work with you as this process moves forward.

Very truly yours,

Robert J. Giuffra, Jr.

cc: Joseph C. Shenker, Esq.
Ivan D. Deutsch, Esq.
(Sullivan & Cromwell LLP)

Paul C. Dritsas, Esq.
(McCarter & English LLP)

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RECEIVED BY REGULATORY
NOV 30 2011
NY DIST. CORPS OF ENGINEERS

November 28, 2011

VIA MESSENGER
New York District
Corps of Engineers
Regulatory Branch
26 Federal Plaza
Room 1937
New York, NY 10278-0090

ATTN: Richard L. Tomer
Chief, Regulatory Branch

Re: Public Notice Number: NAN-2011-01158-WCA;

Applicant: Metro Central, LLC c/o Triple Five Development
60 East Broadway
Bloomington, Minnesota 55425

Location: Borough of East Rutherford, Bergen County, New Jersey:

This letter is submitted on behalf of New Meadowlands Stadium Company, LLC ("Meadowlands Stadium"), owner of the MetLife Stadium in East Rutherford, New Jersey, where the National Football League Giants and Jets play their home games, and where other stadium events are conducted year round.

Meadowlands Stadium is reviewing Applicant's request (the "Application") for approvals, which was filed in connection with Triple Five Development's proposed expansion of the "American Dream" retail and entertainment development project (the "Project") within the New Jersey Sports and Exposition Authority's ("NJSEA") statutory project area.

Meadowlands Stadium understands that, in addition to the Application pending before the U.S. Army Corps of Engineers (the

"Corps"), there are related applications pending before the NJSEA and NJMC (together, the "Review Agencies") as principal land use regulators for the Project. Meadowlands Stadium understands that comments may be filed on or before December 19, 2011, and it intends to file comments at that time.

Meadowlands Stadium respectfully requests that the Corps and the Review Agencies continue to take into account and weigh the entirety of impacts and interests that the Project presents so that adjustments and compromises emerge for the ultimate benefit of all affected parties and the public at large.

Meadowlands Stadium is confident that its participation will be received in the spirit of mutual cooperation in which it is intended.

Respectfully submitted,

WATERS, MCPHERSON, MCNEILL, P.C.

By: Steven R. Gray

684471.2

TRAVEL 15

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NJ Meadowlands Commission
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Scott Brubaker, Director
Office of Permit Coordination & Environmental Review
NJ Department of Environmental Protection
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PO Box 402
Trenton, NJ 08625

Richard Tomer
Chief, Regulatory Permits
US Army Corps of Engineers
Jacob K. Javits Federal Building 26
Federal Plaza Room 2109
NY, NY 10278-0090

RE: Hearings Regarding Triple Five's Application to Build Amusement Amenities in Connection with the American Dream at the Meadowlands Project

Dear Madame and Messrs,

I am witting this letter in connection with hearings that you are conducting regarding approval of the various permits requested by Triple Five in connection with their planned development of the American Dream project; and ask that you include this letter as a matter of record as my testimony.

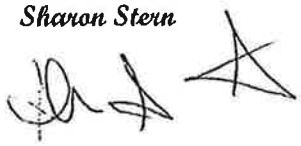
As the Business Development Manager for Travel 15, a privately owned New Jersey based Travel Management Company rated one of the top ten women owned business in NJ as well as one of the Top 10 Travel Agencies in New Jersey; I feel strongly that the development of this project will make the Meadowlands region a primary destination choice for travelers world wide. We are experts in understanding what brings travelers to certain destinations and the American Dream Project including the Water Park and Amusement Park offers an array of components that have proven to bring travelers into various regions.

The combination of a Retail Complex, Amusement Park and a Water Park will undoubtedly make the Meadowlands Region a premiere destination choice not only for vacation travelers but also for meeting planners and trade show organizers. This in turn will bring in service providers and other support business's to the region. Additionally, The American Dream will turn the Meadowlands into a four season destination for years to come.

As a global travel agency founded in 1976 we have seen first hand how the Triple Five Group has turned Bloomington, MN and Mall of America into a world class travel destination. As a proud New Jersey business, We anticipate with excitement the positive impact all the newly created jobs The American Dream Project with the inclusion of the Water and Amusement Park will have on our own State of New Jersey.
From a community service perspective, we look forward to contributing and participating in the community outreach programs that are a key component to the Triple Five legacy

We look forward to promoting and supporting this important project, The American Dream Entertainment and Retail complex, which will undoubtbly, bring huge revenue dollars into the Meadowlands Region and the State of New Jersey and turn the region into a premier travel destination.

Sincerely,
Sharon Stern



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