

SPECIFICATION

DEMOLITION OF DWELLINGS

**11 Weber Avenue
46 Weber Avenue
61 Weber Avenue
66 Weber Avenue
9 John Street
76 Miller Avenue**

SAYREVILLE, MIDDLESEX COUNTY, N.J.

PROJECT NUMBER P1113-10

STATE OF NEW JERSEY

Honorable Chris Christie, Governor
Honorable Kim Guadagno, Lieutenant Governor



DEPARTMENT OF THE TREASURY

Andrew P. Sidamon-Eristoff, State Treasurer

DIVISION OF PROPERTY MANAGEMENT AND CONSTRUCTION

Steven Sutkin, Director
Richard Flodmand, Deputy Director

URS ARCHITECTS/ENGINEERS INC.

1255 Broad Street, Ste 201
Clifton, New Jersey 07013
Tel: 973.883.8500 Fax: 973.883.8501

A handwritten signature in blue ink, reading "James M. Gilson", written over a horizontal line.

James Gilson
New Jersey Architect - License Number 21A101194400
May 12, 2014

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STATE OF NEW JERSEY
DEPARTMENT OF TREASURY
DIVISION OF PROPERTY MANAGEMENT AND CONSTRUCTION
PO BOX 034, TRENTON, NJ 08625-0034

PROJECT #: P1113-10

A/E: URS

DATE: 8/12/14

BULLETIN "A"

Bidder must acknowledge receipt of this Bulletin on bid form in the space provided therefore.

This Bulletin is issued for the purpose of amending certain requirements of the original Contract Documents, as noted hereinafter, and is hereby made part of and incorporated in full force as part of the Contract Documents. Unless specifically noted or specified hereinafter, all work shall comply with the applicable provisions of the Contract Documents.

Pursuant to Executive Order No. 125, signed by Governor Christie on February 8, 2013, the Office of the State Comptroller ("OSC") is required to make all approved State contracts for the allocation and expenditure of federal reconstruction resources available to the public by posting such contracts on an appropriate State website. Such contracts are posted on the New Jersey Sandy Transparency website at:

<http://nj.gov/comptroller/sandytransparency/contracts/sandy/>.

The contract resulting from this RFQ/RFP is subject to the requirements of Executive Order No. 125. Accordingly, the OSC will post a copy of the contract, including the RFQ/RFP, the winning bidder's proposal and other related contract documents for the above contract on the Sandy Transparency website.

In submitting its proposal, a bidder may designate specific information as not subject to disclosure. However, such bidder must have a good faith legal and/or factual basis to assert that such designated portions of its proposal (i) are proprietary and confidential financial or commercial information or trade secrets or (ii) must not be disclosed to protect the personal privacy of an identified individual. The location in the proposal of any such designation should be clearly stated in a cover letter, and a redacted copy of the proposal should be provided.

The State reserves the right to make the determination as to what is proprietary or confidential, and will advise the winning bidder accordingly. The State will not honor any attempt by a winning bidder to designate its entire proposal as proprietary, confidential and/or to claim copyright protections for its entire proposal. In the event of any challenge to the winning bidder's assertion of confidentiality with which the State does not concur, the bidder shall be solely responsible for defending its designation.

END OF BULLETIN "A"



State of New Jersey

DEPARTMENT OF TREASURY
DIVISION OF PROPERTY MANAGEMENT & CONSTRUCTION
P O Box 034
TRENTON NJ 08625-0034

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt Governor

ANDREW P SIDAMON-ERISTOF
Acting State Treasurer

STEVEN SUTKIN
Director

September 4, 2014

SUBJECT: Bulletin "B" Dated 4-September-2014

PROJECT #: P1113-10

**DESCRIPTION: Demolition of Dwellings
11, 46, 61, and 66 Weber Ave; 9 John Street; and 76 Miller Ave
Sayreville, Middlesex Co, NJ**

The Bid Due Date has been extended to September 11, 2014 no later than 2pm.

Gentlemen:

WE ARE FORWARDING A COPY OF THE ABOVE REFERENCED BULLETIN. PLEASE
ACKNOWLEDGE RECEIPT BY RETURNING THIS FORM TO:

Division of Property Management and Construction
Attention: Richard Ferrara
Contracts & Procurement
PO Box 034
Trenton NJ 08625-0034
Fax #: 609-777-1970

Very truly yours,

Richard M. Ferrara, Assistant Deputy Director
Contracts and Procurement

Date Received

Firm Name

Address

Signature

Title

STATE OF NEW JERSEY
DEPARTMENT OF TREASURY
DIVISION OF PROPERTY MANAGEMENT AND CONSTRUCTION
PO BOX 034, TRENTON, NJ 08625-0034

PROJECT # P1113-10
Demolition of Dwellings
11, 46, 61, and 66 Weber Avenue; 9 John Street; and 76 Miller Avenue.
Sayreville, NJ Middlesex County

A/E: URS Architects/Engineers Inc.

DATE: 9/04/14

BULLETIN "B"

Bidder must acknowledge receipt of this Bulletin on bid form in the space provided therefor.

This Bulletin is issued for the purpose of supplementing, clarifying and amending certain requirements of the original Contract Documents, as noted hereinafter, and is hereby made part of and incorporated in full force as part of the Contract Documents. Unless specifically noted or specified hereinafter, all work shall comply with the applicable provisions of the Contract Documents.

1. **The Bid Due Date has been extended to September 11, 2014 no later than 2pm.**
2. Pre-Bid meeting took place on August 26, 2014. List of attendees is attached.
3. DPMC provided Pre-Bid Meeting Agenda Handout.
4. Items emphasized by DPMC at the Pre-Bid Meeting include:
 - a. Safety is paramount. Any contractor observed operating in an unsafe manner will be shut down.
 - b. Very fast paced project. Must be completed within the specified period of performance.
 - c. Contractor is responsible for taking before photos prior to starting the demolition work. Photos must have a date and time stamped. Contractor will be responsible for any pre-existing damages if no photos are available showing that the damage was present prior to commencing work.
 - d. Contractor may eliminate the middle fence between two properties that are within the same Task Order and scheduled for demolition.
 - e. Contractor will be responsible for seeding for up to one year after application.
 - f. The Contractor may utilize the existing hard surface driveway (concrete, asphalt or stone) as a "Stabilized Construction Entrance" (S.C.E.) and does not have to install a separate S.C.E. The Contractor must keep all mud, debris etc. from demolition activities on the S.C.E./Site. The Contractor will be responsible for cleaning/removing any dirt, mud, dust or debris from public streets and/or sidewalk that result from demolition activity. If this is not done then a tracking pad will be required.
 - g. There is one (1) house deemed in Danger of Collapse at 76 Miller Avenue. Contractor must make a decision in field as to whether he wants to enter the home for abatement, demolition or other purposes. If contractor selects to not

- enter the home, DPMC will provide authorization to demolish the house as a "hot house" (no abatement required). If the contractor selects to enter the home, no Change Orders will be issued for any additional effort or materials required to do so.
- h. DMPC must be provided with a 48-hour notice prior to start demolition work on a given house.
 - i. There are two different homes within Sayreville with the same 9 John Street address. Care must be taken to demolish the correct home. The correct home for this project is the one located within the Old Bridge section (9 John Street, Old Bridge, Sayreville, Middlesex County, New Jersey 08857) and is clearly identified.
 - j. Contractor is to track all generated waste by home or property.
5. Comments noted by interested bidders during pre-bid meeting.
 - a. The photo in the plans for the property at 61 Weber Avenue was too dark. A revised plan sheet with a clearer photo is attached.
 - b. Several pages were noted to be missing from the Asbestos specification. The complete Asbestos specification (Section 020590) is included herein.
 6. Questions submitted by interested bidders and related responses are included below:
 - a. Question: Does this project require a 24" silt fence or a 36" silt fence?
Response: A 24-inch height above ground silt fence is required.
 - b. Question: Is the contractor required to install Hydroseed as opposed to seed and mulch? Will the engineer supply the name of a suggested single manufacturer for the required specified product blend that the contractor can use to meet the engineer's requirements?
Response: Seed and mulch other than hydroseed is acceptable but a tackifier will still need to be used to keep the mulch in place. The name of a suggested single manufacturer will not be provided.
 - c. Question: Will a completed asbestos section of the specification be tendered in an addendum prior to bid date, since it was incomplete on the original set of specifications?
Response: Yes, included with this Bulletin B.
 - d. Question: Will there be a water meter deposit required by the Borough of Sayreville?
Response: No.
 - e. Question: Will separate landfill receipts be required for every address?
Response: Yes, all wastes are to be tracked by property.
 - f. Question: How long is the engineer allowed to review and accept or reject a submittal within the restricted time frame that we have to complete this project?
Response: Incomplete and/or inaccurate submittals (incorrect format, incomplete documentation) will be rejected within ½ day or less. Complete and accurate submittals will be reviewed and accepted or rejected within 48 hours.
 - g. Question: Are all of the individual house fences required to remain up until hydroseed is installed.
Response: Individual house fences specified to be removed must be removed prior to final seeding.
 - h. Question: How long will the town water department take to issue water cut and cap letters after inspection occurs?
Response: Two to three days.

- i. Question: Will the compaction engineer be required to be on site for all fills including site improvements? Will he be responsible to document the depth of excavation prior to compaction?
Response: The Contractor's compaction engineer must be onsite for all fills and he/she (or a designee) is responsible for documenting the depth of excavation prior to compaction.
 - j. Question: Will the clean fill and topsoil be required to meet NJ Residential re-use specifications as well as proctor and sieve.
Response: Yes.
 - k. Question: Will all cavities need to be backfilled to a point higher than surrounding grades
Response: Final grade within the backfilled area to be 3" to 6" above adjacent grade as per the specifications (see Section 312300).
 - l. Question: Does each individual project have to have a separate full time superintendent dedicated to it.
Response: Yes.
7. Winning bidder must be prepared for a meeting with the Project Engineer and the State Project Team on 9/12/14 at 9:00 am at a location yet to be determined.

END OF BULLETIN "B"

PRE-BID MEETING SIGN-IN SHEET

PROJECT #: P1113-10

Demolition of Residential Dwellings
Sayreville
Middlesex County

DATE & TIME: 8/26/14 10AM










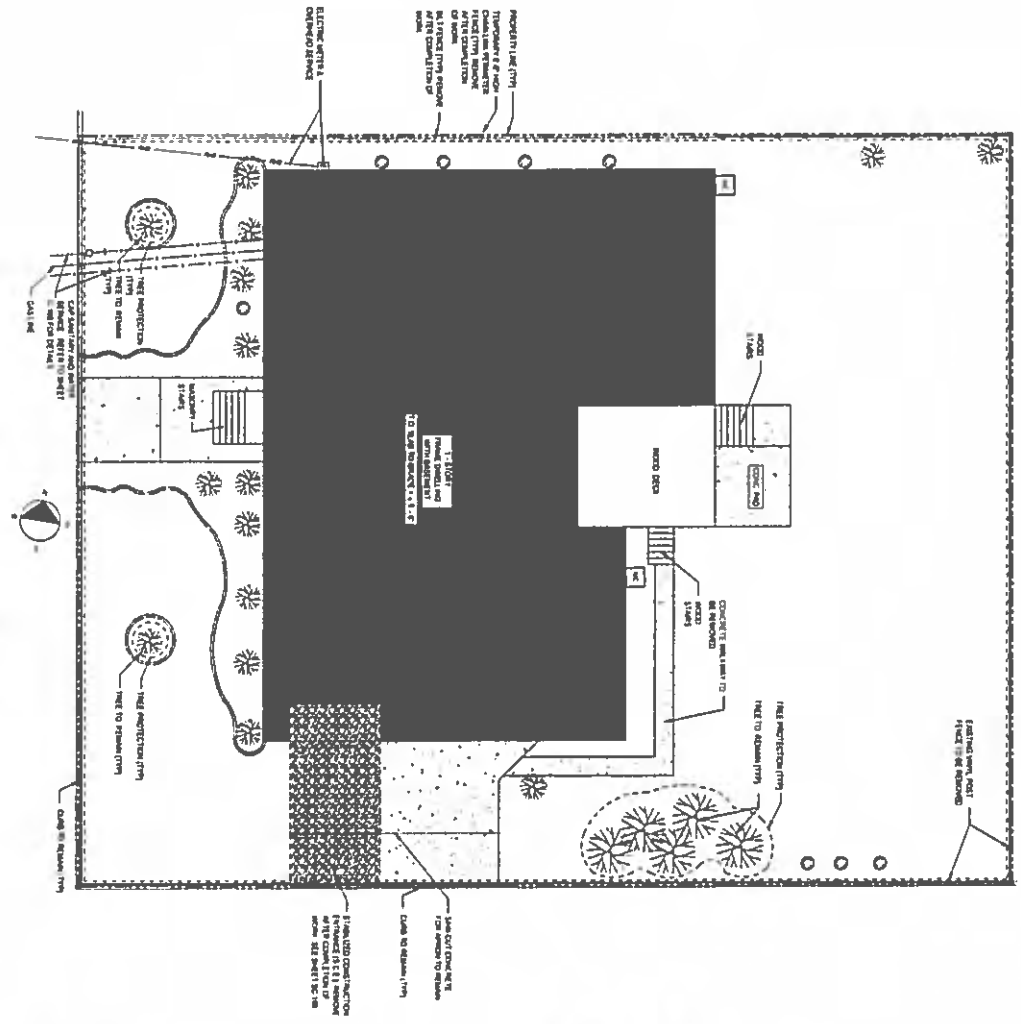
COMPANY NAME (PRINT)	REPRESENTATIVE (PRINT)	SIGNATURE	TELEPHONE NUMBER	E-MAIL
DPM&C	Walter Fernandez			
DPM&C	John Forgiore			
URS	Philipp Sieber		973 883 8659	Philipp.Sieber@urs.com
ALL PRO MANAGEMENT	ALEX MONCHIL		(201) 206-2638	
EAST COAST HAZ MAT REMOVAL, INC.	Jim Unger		973-345-0022	JU@hazmat.com @Arl.com
WASTE MANAGEMENT	Don Lucy		609-668-3200	jlucy@wmm.com
Aurora Env	Neil Marano		800-464-0519	
Wild Heart	TJ Janho		908-874-6664	tj@wildheartbulk.com HE@wildheartbulk.com
YANNUZZI Group	John Much		908-218-0800	johnm@yanuzzi.net

PHOTO 1
FRONT ELEVATION



- PLAN NOTES:**
- 1 REMOVE AND DISPOSE OF ALL STRUCTURES SITE APPROPRIATE. THESE SHALL BE LANDSCAPING SOON WITHIN THE LIMITS OF THE "SILT FENCE" LIMIT OF REMOVAL. UNLESS OTHERWISE NOTED REMOVE AND DISPOSE OF ALL DEBRIS WITHIN THE PROPERTY LIMITS. SEE NOTES ON C-11 FOR ADDITIONAL SPECIFICATION.
 - 2 REFER TO SHEET SC-108 FOR MAINTENANCE SOIL EROSION AND SEDIMENT CONTROL MEASURES AND DETAILS.
 - 3 VEAL OF DEMOLITION CONSTRUCTION 1002.

61 WEBER AVENUE (BLOCK 169 04 LOT 22, 21) LOT SIZE = .287 ACRES



SHEET IDENTIFICATION NUMBER C-103	STATE OF NEW JERSEY DPMC 94113-10 DEMOLITION SERVICES RESIDENTIAL PROPERTIES SAYREVILLE BORN ENIGH MIDDLESEX COUNTY NEW JERSEY 81 WEBER AVENUE	URS 475 RIVER STREET 1794 BRUNNEN DRIVE CLIFTON, NJ 07011 873 883 8800 FAX 873 883 8801 www.urscorp.com	APPROVED BY: [Signature] DATE: 02/14/10	DATE: _____	REV: _____	DESCRIPTION: _____	MARK: _____
				DATE: _____	REV: _____	DESCRIPTION: _____	MARK: _____

SECTION 020590

REMOVAL OF ASBESTOS MATERIALS

PART 1 – GENERAL

1.1 SUMMARY

A. Applicable Properties:

1. 9 John Street – Residence & Shed #2 (Block 2, Lot 68.01)
2. 76 Miller Street – Residence (Block 216.02, Lot 13)
3. 11 Weber Avenue– Residence (Block 169.02, Lot 9)
4. 46 Weber Avenue – Residence (Block 169.31, Lots 10 & 11)
5. 61 Weber Avenue– Residence (Block 169.04, Lots 22 & 21)
6. 66 Weber Avenue – Residence (Block 169.41, Lot 2.23)

B. Scope of work: The applicable structures located within the properties listed above have been surveyed and tested for the presence of asbestos-containing materials (ACM). ACM were found to be present at each of the above properties, except for the property at 61 Weber Avenue. Refer to Appendix A for asbestos testing and analysis data. ACM identified must be removed by a New Jersey Licensed Asbestos Abatement Contractor prior to demolition.

1.2 DESCRIPTION OF WORK

A. The Asbestos Abatement Contractor shall supply all labor, materials, services and equipment required to complete the work in accordance with all applicable federal, state, and local regulations and guidelines. The estimated location, materials, and quantities for asbestos abatement and disposal are included on the following tables:

**Estimated Quantities and Locations
Asbestos-Containing Materials (ACM)**

9 JOHN STREET - RESIDENCE (BLOCK 2, LOT 68.01)		
Materials	Location	Quantity
Gypsum Paper Drywall and Associated Joint Compound	Throughout the First Floor Bottom Layer – Original Construction	2,800 SF
Gypsum Paper Drywall and Associated Joint Compound	Throughout the Second Floor	2,170 SF
Flue Cement	Basement	3 SF

9 JOHN STREET - SHED #2 (BLOCK 2, LOT 68.01)		
Materials	Location	Quantity
Cementitious Siding (Transite)	Exterior Siding	90 SF

76 MILLER STREET - RESIDENCE (BLOCK 216.02, LOT 13)		
Materials	Location	Quantity
Interior Materials (Wall, Floor, Ceiling, etc.)	Throughout Interior	TBD*

*Building shall be wet demolished and all interior suspect materials disposed of as ACM per these Technical specifications.

11 WEBER AVENUE - RESIDENCE (BLOCK 169.02, LOT 9)		
Materials	Location	Quantity
Gypsum Paper Drywall and Associated Joint Compound	Throughout the First Floor excluding bathroom off Garage	4,800 SF
White Window Caulk at Wood and Brick Interface	Windows	18 Units, 12 LF per Unit
White Garage Door Caulk	Garage Door	36 LF
Black Joint/ Seam Flashing at Copper and Brick Chimney	Roof at Chimney	20 LF

46 WEBER AVENUE - RESIDENCE (BLOCK 169.31, LOTS 10 & 11)		
Materials	Location	Quantity
Gypsum Paper Drywall and Associated Joint Compound	Throughout Building	3,200 SF
Door Caulk	Exterior Entrance Doors	4 Units, 21 LF per Unit

66 WEBER AVENUE - RESIDENCE (BLOCK 169.41, LOT 2,23)		
Materials	Location	Quantity
Gypsum Paper Drywall and Associated Joint Compound	Throughout Building	1,540 SF

B. General Notes

1. SF – Square Feet; LF – Linear Feet
2. Erect critical barriers, as required, to seal each work area.
3. There are no utilities at the sites. Provide water and electricity and all lines, hoses and connections between source and work area to perform asbestos abatement in accordance with the requirements of this Specification.
4. Upon successful completion of post abatement air testing, the Asbestos Abatement Contractor shall remove all abatement materials and equipment.

1.3 DEFINITIONS

- A. ACM - Asbestos Containing Materials. All materials and products that contain more than 1 percent asbestos.
- B. Amended Water - Water containing a wetting agent or surfactant with a maximum surface tension of 2.9 Pa (29 dynes per square centimeter) when tested according to ASTM D 1331.
- C. Area Sampling – Sampling of asbestos fiber concentrations which approximates the concentrations of asbestos in the theoretical breathing zone but is not actually collected in the breathing zone of an employee.
- D. Asbestos – The term asbestos includes Chrysotile, amosite, crocidolite, tremolite, asbestos, anthophyllite asbestos, and actinolite asbestos and any of these minerals that have been chemically treated or altered. Materials are considered to contain asbestos if the asbestos content of the material is determined to be at least one percent.
- E. Asbestos Control Area – That area where asbestos removal operations are performed which is isolated by physical boundaries, which assist in the prevention of the uncontrolled release of asbestos dust, fibers, or debris
- F. Asbestos Fibers - Those fibers having an aspect ratio of at least 3:1 and longer than 5 micrometers as determined by National Institute for Occupational Safety and Health (NIOSH) Method 7400.

- G. Asbestos Permissible Exposure Limit (PEL) - 0.1 fibers per cubic centimeter of air as an 8-hour time weighted average measured in the breathing zone as defined by 29 CFR 1926.1101 or other Federal legislation having legal jurisdiction for the protection of workers health.
- H. Background - The ambient airborne asbestos concentration in an uncontaminated area as measured before any asbestos hazard abatement efforts. Background concentrations for other (contaminated) areas are measured in similar but asbestos free locations
- I. Contractor / Asbestos Abatement Contractor - The Contractor is that individual, or entity under contract to the Department to perform the herein listed work.
- J. Department - New Jersey Division of Property Management and Construction.
- K. Encapsulation - The abatement of an asbestos hazard through the appropriate use of chemical encapsulants.
- L. Encapsulants - Specific materials in various forms used to chemically or physically entrap asbestos fibers in various configurations to prevent these fibers from becoming airborne. There are four types of encapsulants as follows which must comply with performance requirements as specified herein.
1. Removal Encapsulant (can be used as a wetting agent)
 2. Lock-Down Encapsulant (used to seal off or "lock-down" minute asbestos fibers left on surfaces from which asbestos containing material has been removed).
- M. Friable Asbestos Material - Any material greater than one percent asbestos that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure when dry.
- N. HEPA Filter Equipment - High efficiency particulate air (HEPA) filtered vacuum and/or exhaust ventilation equipment with a filter system capable of collecting and retaining asbestos fibers. Ensure filters retain 99.97 percent of particles 0.3 microns or larger as indicated in UL 586.
- O. Negative Pressure Enclosure (NPE) - That engineering control technique described as a negative pressure enclosure in 29 CFR 1926.1101.
- P. Non-friable Asbestos Material - Any material that contains more than one percent asbestos in which the fibers have been immobilized by a bonding agent, coating, binder, or other material so that the asbestos is well bound and will not normally release asbestos fibers during any appropriate use, handling, storage or transportation. Non-friable materials are defined as either:
1. Category I - means asbestos containing packing, gaskets, resilient floor coverings and asphalt roofing products.
 2. Category II - any material, excluding Category I non-friable ACM, containing more than one percent asbestos such as transite, galbestos and window caulking.
- Q. PACM - Presumed Asbestos Containing Material
- R. Powered Air Purifying Respirator (PAPR) - A positive-pressure respirator which employs a portable, rechargeable battery pack and blower to force air from the work area through a HEPA filter cartridge, where the air is cleaned and supplied to the wearer's breathing zone.
- S. Personal Sampling - Air sampling which is performed to determine asbestos fiber concentrations within the breathing zone of a specific employee, as performed according to 29 CFR 1926.1101.
- T. Qualified Person (QP) - That qualified person hired by the Contractor to perform the required contractor's tasks, who has successfully completed training and is therefore accredited under a

legitimate State Model Accreditation Plan as described in 40 CFR 763 as a Building Inspector, Contractor/Supervisor Abatement Worker, and Asbestos Project Designer; and has successfully completed the National Institute of Occupational Safety and Health (NIOSH) 582 course "Sampling and Evaluating Airborne Asbestos Dust" or equivalent. The QP must be qualified to perform visual inspections as indicated in ASTM E 1368. Ensure the QP is appropriately licensed in the State of New Jersey.

- U. Regulated ACM - Friable asbestos containing material, category I non-friable ACM that has become friable, Category I non-friable ACM that will be or has been subject to sanding, grinding, cutting, or abrading, or Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations regulated by NESHAP.
- V. Time Weighted Average (TWA) - The TWA is an 8-hour time weighted average airborne concentration of asbestos fibers.
- W. Wetting Agent - A chemical added to water to reduce the water's surface tension thereby increasing the water's ability to soak into the material to which it is applied. An equivalent wetting agent must have a surface tension of at most 2.9 Pa (29 dynes per square centimeter) when tested according to ASTM D 1331.

1.4 PERMITS AND FEES

- A. Obtain any required project permits and pay all associated fees, including any bonds that may be required.

1.5 CODES AND REGULATIONS

- A. This sub section covers the governmental regulations and industry standards that shall be adhered to during this project. These regulations and standards are the minimal requirements for this project; therefore, if the contract documents indicate procedures that are stricter, the contract documents shall govern.
- B. It is the Contractor's full responsibility to comply with all applicable federal, state and local regulations governing asbestos abatement work practices, including hauling and disposal of waste and protection of workers, visitors, and persons occupying project and adjacent areas. The Contractor is responsible for providing medical examinations and maintaining medical records of his personnel as required by the applicable federal, state, and local regulations.
- C. Federal Regulations that govern asbestos abatement work and/or the hauling and disposal of asbestos waste materials include, but are not limited to, the following:
 - 1. U.S. Department of Labor, Occupational Safety and Health Administration (OSHA) including, but not limited to:
 - a. Occupational Exposure to Asbestos, Tremolite, Anthophyllite, and Actinolite; 29 CFR, Part 1926.1101 (amended)
 - b. Respiratory Protection 29 CFR, Part 1910, Section 134
 - c. Asbestos in Construction Industry 29 CFR, Part 1926.1101 (amended)
 - d. Access to Employee Exposure and Medical Records 29 CFR, Part 1910, Section 2
 - e. Hazard Communication 29 CFR, Part 1910, Section 1200 and Part 1926.1101 (amended)
 - f. Specifications for Accident Prevention Signs and Tags 29 CFR, Part 1910, Section 145
 - 2. U.S. Environmental Protection Agency (EPA) including, but not limited to:

- a. Asbestos Abatement Projects; Worker Protection Rule 40 CFR, Part 763, Sub part G
 - b. Asbestos Hazard Emergency Response Act (AHERA) Regulation
 - c. Asbestos-Containing Materials in Schools Final Rule & Notice 40 CFR, Part 763, Subpart E
 - d. National Emission Standard for Hazardous Air Pollutants (NESHAPS) 40 CFR, Part 61, Subpart A, and Subpart M (Revised Subpart B)
 - e. Asbestos Model Accreditation Plan 40 CFR Part 763 (amended), Appendix C to Subpart E
3. U.S. Department of Transportation, including, but not limited to: Hazardous Substances 29 CFR Part 171 and 172
- D. Local Regulations that govern asbestos abatement work and/or hauling and disposal of asbestos waste materials include, but are not limited to:
- 1. N.J.A.C. 5:23-8, Asbestos Hazard Abatement Subcode, New Jersey Department of Community Affairs.
 - 2. N.J.A.C. 12:120, Asbestos License and Permits, New Jersey Department of Health and Senior Services.
 - 3. N.J.A.C. 8:60, Asbestos License and Permits, New Jersey Department of Labor and Workforce Development.
 - 4. N.J.A.C. 7:26, Solid Waste Regulations, New Jersey Department of Environmental Protection.
- E. Standards that govern asbestos abatement work include but are not limited to the following:
- 1. National Standards Institute (ANSI)
1430 Broadway
New York, New York 10018
 - a. ANSI Standard Z9.2-79 applies specifically to the design and operation of local exhaust systems for maintaining negative pressure.
 - b. ANSI Standard Z288.2-80 applies to practices for respiratory protection.
 - 2. American Society for Testing and Materials (ASTM)
100 Barr Harbor Drive
West Conshohocken, PA 19428
 - a. Specification for Encapsulants for Friable Asbestos Containing Building Materials Proposal P-189
 - b. Safety and Health Requirements Relating to Occupational Exposure to Asbestos E 849-82

1.6 NOTICES

- A. Send written notification, as required by U.S. EPA National Emission Standards for Hazardous Air Pollutants (NESHAPS) Asbestos Regulations (40 CFR, Part 61, Subpart M), to the regional Asbestos NESHAPS Contact prior to beginning any work on asbestos-containing materials. The project has been granted a waiver from the 10 day notification period, a copy of which is included in Appendix A. Send notification to the following address:

U.S. ENVIRONMENTAL PROTECTION AGENCY
Asbestos NESHAPS Contact
Air & Waste Management Division

26 Federal Plaza
New York, New York 10007

Include the following with the written notification sent to NESHAPS contact:

1. Name and address of owner or operator.
 2. Description of the facility being demolished or renovated, including the size, age, present and prior use of the facility.
 3. Procedure, including analytical methods, employed to detect the presence of ACM and Category I and Category II non-friable ACM.
 4. Estimate of the approximate amount of ACM to be removed from the facility in terms of length of pipe in linear meters (linear feet), surface area in square meters (square feet) on other facility components, or volume in cubic meters (cubic feet) if off the facility components. Also, estimate the approximate amount of Category I and Category II non-friable ACM in the affected part of the facility that will not be removed before demolition.
 5. Location and street address (including building number or name and floor or room number, if appropriate), city, county, and state, of the facility being demolished or renovated.
 6. Scheduled starting and completion dates of asbestos removal work (or any other activity, such as site preparation that would break up, dislodge, or similarly disturb asbestos material) in a demolition or renovation.
 7. Scheduled starting and completion dates of demolition or renovation.
 8. Description of planned demolition or renovation work to be performed and method(s) to be employed, including demolition or renovation techniques to be used and description of affected facility components.
 9. Procedures to be used to comply with the requirements of US EPA National Emission Standards for Hazardous Air Pollutants (NESHAPS) Asbestos Regulations (40 CFR, Part 61 Sub part M), including asbestos removal and waste handling emission control procedures.
 10. Name and location of the waste disposal site where the asbestos waste material will be deposited.
 11. Description of procedures to be followed in the event that unexpected ACM is found or Category II non-friable ACM becomes crumbled, pulverized, or reduced to powder.
 12. Name, address, and telephone number of the waste transporter.
- B. Send written notification to any other federal, state or local agencies as required. These agencies may include, but are not limited to the following:
1. OSHA
Occupational Safety and Health Administration
201 Varick Street
Room 670
New York, New York 10014
 2. NIOSH
National Institute for Occupation Safety and Health
Region II - Federal Building
26 Federal Plaza
New York, New York 10007
 3. New Jersey Department of Health and Senior Services
Asbestos Control Program
Division of Occupational and Environmental Health
P.O. Box 360
Trenton, New Jersey 08625-0360
 4. New Jersey Department of Labor and Workforce Development
Office of Asbestos Control and Licensing

- P.O. Box 054
Trenton, New Jersey 08625-0054
5. New Jersey Department of Environmental Protection
Division of Solid Waste Management
840 Bear Tavern Road
P.O. Box 414
Trenton, New Jersey 08625-0414
6. New Jersey Department of Community Affairs
Bureau of Code Services
P.O. Box 816
Trenton, New Jersey 08625-0816

1.7 SUBMITTALS

- A. It is the intent of this section to show all submittals required after award of the Contract.
- B. Submit an Asbestos Abatement Plan with the following information for review and approval prior to beginning asbestos abatement.
1. Copy of Project Notification and list of agencies notified including the General Contractor (if applicable), Fire Department (if applicable), Police Department (if applicable) and any other person, company and/or agency, in compliance with OSHA 1926.1101 (d).
 2. Schedule narrative indicating location, dates, and type of work to be performed for each location.
 3. A plan including safety precautions such as fall protection, first aid, and safety procedures and equipment and work procedures to be used in the removal and demolition of materials containing asbestos. Include in the plan the methods and abatement techniques to be used, personal protective equipment to be used including, but not limited to, respiratory protection, type of whole-body protection, disposal plan, type of wetting agent and asbestos sealer to be used, and a description of the method to be employed in order to control environmental pollution to the surrounding areas. Include in the plan both fire and medical emergency response plans and the location and use of fire extinguishers, including evacuation procedures, source of medical assistance and procedures to be used for access by medical personnel (examples: first aid squad and physician) with telephone numbers and locations of emergency response personnel.
 4. Documentation of fit testing program conducted by the Asbestos Abatement Contractor.
 5. Explanation of the handling of asbestos contaminated waste including name, address and U.S. EPA and NJ DEP identification numbers of Waste Hauler and the landfill.
 6. Testing Laboratory - Submit the name, address, and telephone number of each testing laboratory selected for the analysis, and reporting of airborne concentrations of asbestos fibers along with evidence that each laboratory selected holds the appropriate New Jersey license and/or permits and certification that each laboratory is American Industrial Hygiene Association (AIHA) accredited and that persons counting the samples have been judged proficient by current inclusion on the AIHA Asbestos Analysis Registry (AAR) and successful participation of the laboratory in the Proficiency Analytical Testing (PAT) Program. Where analysis to determine asbestos content in bulk materials or transmission electron microscopy is required, submit evidence that the laboratory is accredited by the National Institute of Science and Technology (NIST) under National Voluntary Laboratory Accreditation Program (NVLAP) for asbestos analysis.
 7. Delineation of responsibility for work site supervision with names and resumes of the responsible parties.
 8. A list of personnel to be used on this project and licenses and training courses attended by the personnel including U.S. EPA, state, city, or other seminars, or any certifications

- obtained.
9. Report from medical examination conducted within last twelve months as part of compliance with OSHA medical surveillance requirements for each worker who is to enter the work area. Submit, for each worker, a written certification from the licensed health care provider including, at a minimum, the following:
 - a. The worker has met or exceeded all of the medical prerequisites of 29 CFR 1926.1101
 - b. The worker is able to wear and use the type of respiratory protection proposed for the project, and is able to work safely in an environment capable of producing heat stress in the worker.
 10. Submit certification, signed by an officer of the asbestos abatement-contracting firm, that exposure measurement, medical surveillance, and worker-training records are being kept in conformance with 29 CFR 1926.1101.
- C. After the completion of the project, submit asbestos abatement closeout documents and daily reports maintained during the project. This report shall include, but not be limited to the following items:
1. Meetings
 2. Visitations; authorized and unauthorized.
 3. Personnel, by name, entering and exiting the work area.
 4. Special or unusual events, e.g., barrier breaching, negative air filtration equipment failure.
 5. Air monitoring samples and results.
 6. Asbestos removal certification.
 7. Disposal Chain of Custody forms, including amount of material, waste hauler's signature, landfill operator's signature and location where material was removed.
 8. The report shall contain dates and times of all events recorded.

PART 2 – PRODUCTS

2.1 MATERIALS

- A. Provide flame resistant polyethylene of the largest sheet size possible to minimize seams. Thickness shall be six-mils, and shall be clear, frosted, or black as required. Certify that all polyethylene conforms to NFPA Standard 701 "Standard Methods of Fire Tests for Flame Resistant Textiles and Films".
- B. Duct tape, in two or three-inch widths as indicated, with an adhesive which is formulated to aggressively stick to sheet polyethylene.
- C. Asbestos warning signs, in English for posting at the perimeter of all work areas, as required by U.S. EPA, OSHA, and NJAC 5:23-8.
- D. Disposable full-body coveralls including foot and head covers. Require that they be worn by all workers in the work area. Provide a sufficient number for all required changes, for all workers in work area, authorized visitors, inspectors, and the Engineer.
- E. Provide gloves to all workers, authorized visitors, inspectors, and the Engineer. Require that they be worn by all workers inside the work area. Do not remove gloves from work area. Dispose of as asbestos- contaminated waste at the end of work.
- F. Half-face, at a minimum, or full-face type respirators for each worker. Equip full-face respirators with a nose cup or other anti-fogging device. Equip respirators with High Efficiency Particulate

Air (HEPA) type filters, labeled with NIOSH and MSHA Certification for "Radionuclides, Radon Daughters, Dust, Fumes, Mists including Asbestos-Containing Dusts and Mists" and color-coded in accordance with ANSI Z228.2 (1980). Single use, disposable, or quarter-face respirators are strictly forbidden for asbestos abatement work.

- G. Disposal bags shall be six-mil thick, leak tight polyethylene bags, labeled in accordance with U.S. EPA NESHAPS regulations, OSHA 29 CFR, 1926 and the U.S. Department of Transportation Hazardous Waste Hauling Regulation.
- H. If waste components are wrapped with polyethylene, or if fiberboard drums are utilized, provide labels to be attached to each component in accordance with U.S. EPA NESHAPS regulations, OSHA 29 CFR, 1926.1101, and the U.S. Department of Transportation Hazardous Waste Hauling Regulation.

PART 3 – EXECUTION

3.1 AIR MONITORING - TESTING LABORATORY SERVICES

- A. Description: This section describes the air monitoring responsibilities of the Contractor throughout the project. The Contractor's air monitoring responsibilities shall be conducted by an independent firm.
 - 1. Air monitoring as required by OSHA is the direct responsibility of the Contractor.
 - 2. Air monitoring at the building exterior within the limits of construction.
 - 3. Air monitoring of the building interior.
- B. Air monitoring
 - 1. Pre-Tests: Conduct pre-tests in the work area prior to the start of any work, including work area preparation of any type.
 - 2. Monitoring during Abatement: Conduct all monitoring as specified during the abatement and decontamination phases of the project.
 - 3. Post Abatement Clearance Monitoring
- C. Procedures
 - 1. Sampling and analysis methods shall be per NIOSH Method 7400, PCM and / or TEM, as applicable for the quantities of ACM and methods of abatement.
 - 2. Assemble filter cassettes and sampling chain as specified in the applicable requirements.
 - 3. Air monitoring shall be conducted by a trained technician.
 - 4. Take employee personnel samples using pumps whose flow rates are calibrated for a rate of one to four liters per minute (LPM). Calibrate all air monitoring pumps before and after every sampling period, the results of which shall be recorded.
 - 5. Air sample results shall be received verbally no later than twenty-four hours after the end of the shift during which the samples were taken.
 - 6. Post written reports of air sampling results outside the decontamination chamber on a daily basis.
- D. Laboratory services: Laboratories shall meet the following: For Phase Contrast Microscopy (PCM) analysis, laboratories shall be enrolled in the American Industrial Hygiene Association Proficiency Analytical Testing Program (AIHA PAT) or equivalent recognized program.
- E. Reports: Submit a written report of the OSHA sampling to the Engineer at the completion of the project. The report shall contain all air sampling data and subsequent results, problems encountered and corrective actions, pump calibrations, and general observations.

3.2 FINAL CLEARANCE AIR MONITORING

- A. Collect final clearance air samples at the completion of interior abatement activities and after a satisfactory clean-up inspection.
- B. Engineering controls, critical barriers and the decontamination unit shall remain during final clearance air sampling.
- C. Take all final clearance air samples using aggressive sampling techniques as follows:
 - 1. Before sampling pumps are started, sweep the exhaust from forced air equipment (leaf blower with 1 HP electric motor) against all walls, ceilings, floors, ledges and other surfaces in the room.
 - 2. Install an oscillating fan capable of creating a minimum air velocity of 500 feet per minute. Install a fan for every 10,000 cubic feet of work area. Direct and operate the fan towards the ceiling for the entire period of sample collection.
 - 3. Collect air samples in areas subject to normal air circulation away from room corners, obstructed locations, and sites near windows, doors or vents.
- D. Collect a minimum of five (5) samples from the work area and analyze them in accordance with the method set forth in the AHERA Regulation 40 CFR Part 763 Appendix A.
 - 1. For work area(s) where more than 160 SF or 260 LF of asbestos-containing materials have been removed, collect and analyze final clearance samples utilizing Transmission Electron Microscopy (TEM).
 - 2. For work area(s) where less than 160 SF or 260 LF of asbestos-containing materials have been removed, collect and analyze final clearance samples utilizing Phase Contrast Microscopy (PCM).
 - 3. Analyze TEM samples at a laboratory accredited by the American Industrial Hygiene Association, participating in the National Voluntary Laboratory Accreditation Program (NVLAP). Analyze PCM samples in accordance with the most recent revision to NIOSH method 7400.
 - 4. Acceptable Clearance Criteria for work area demobilization and re-occupancy are as follows:
 - a. TEM: Average of less than 70 structures per millimeter squared for all five (5) samples analyzed.
 - b. PCM: Less than 0.010 fibers per cubic centimeter.

3.3 SITE CONTROLS

- A. Warning signs: Supply and post caution signs meeting the requirements of OSHA 29 CFR, 1926 at any location, and approaches to a location, where airborne concentrations of asbestos may exceed ambient background levels. Post signs at a distance sufficiently far enough away from the work area to permit an employee to read the sign and take the necessary protective measures.
- B. Critical barriers: Completely isolate the work area from other portions of the project by installing warning tape, construction barriers and additional signs, as required.

3.4 WORKER TRAINING AND MEDICAL EXAMINATIONS

- A. Train workers, in accordance with 29 CFR, 1926.1101(k)(8), on the dangers inherent in handling asbestos and breathing asbestos dust and in proper work procedures and personal and area protective measures. Training for any Class I or II (OSHA designations) abatement work shall be in accordance with the U.S. EPA Model Accreditation Plan (MAP) for asbestos abatement worker training. Include, but do not limit, the topics covered in the

course to the following:

1. Methods of recognizing asbestos.
2. Health effects associated with asbestos.
3. Relationship between smoking and asbestos in producing lung cancer.
4. Nature of operations that could result in exposure to asbestos.
5. Importance of and instruction in the use of necessary protective controls, practices and procedures to minimize exposure including:
 - a) Engineering controls
 - b) Work Practices
 - c) Respirators
 - d) Housekeeping procedures
 - e) Hygiene facilities
 - f) Protective clothing
 - g) Decontamination procedures
 - h) Emergency procedures
 - i) Waste disposal procedures.
6. Purpose, proper use, fitting, instructions, and limitations of respirators, as required by 29 CFR, 1910.134.
7. Appropriate work practices for the work.
8. Requirements of medical surveillance program.
9. Review of 29 CFR, 1926.1101, including appendices.
10. Negative air systems.
11. Work practices including hands-on or on-job training.
12. Personal decontamination procedures.
13. Air monitoring, personal and area.
14. Provide medical examinations for all workers in accordance with 29 CFR, 1926.1101(m). Provide an evaluation of the individual's ability to work with respiratory protection in environments capable of producing heat stress in the worker.

3.5 RESPIRATORY PROTECTION

- A. Contractor shall have a respiratory protection program established in compliance with ANSI Z88.2 - 1980 "Practices for Respiratory Protection" and OSHA 29 CFR, 1910 and 1926. Post the written program at the job site.
 1. Anyone entering the work area is required to wear a respirator at all times, regardless of activity, airborne fiber levels or amount of time inside the work area.
 2. At no time shall single-use, disposable, or quarter-face respirators be used.
 3. No one having a beard or other facial hair in the fit area will be permitted to don a respirator and enter the work area.
- B. Conduct a fit testing program as required by OSHA 29 CFR 1926 and submit documentation of fit testing program.
- C. Asbestos abatement workers shall perform positive and negative pressure fit checks each time a respirator is donned, whenever the respirator design so permits.
- D. Provide respirators to all workers as follows: During all abatement work, negative pressure air-purifying respirators equipped with high-efficiency (HEPA) filters shall be utilized, at a minimum.

3.6 PROJECT DECONTAMINATION

A. INITIAL CLEANING

1. Carry out initial cleaning of all surfaces which came into contact with the asbestos-containing materials removed, including any tools, etc., by use of damp-cleaning and mopping, and/or a HEPA filtered vacuum. Do not perform dry dusting or dry sweeping. Use each surface of a cleaning cloth one time only, and then dispose of as contaminated waste. Continue this cleaning until there is no visible debris from removed materials or residue on substrate surfaces.

B. COMPLETION OF ABATEMENT WORK

1. Remove any small quantities of residual material found on-site with a HEPA filtered vacuum cleaner and local area protection. If significant quantities, as determined by the Engineer, are found then decontaminate the entire area affected as specified herein.

3.7 FINAL INSPECTION

- A. Perform a final inspection of the work area in accordance with New Jersey Department of Labor and Workforce Development requirements. If analytical results are obtained that are higher than the allowable threshold, re-clean the work area and re-test the area. Repeat this sequence until the final test results are acceptable.

1. Provide any additional cleaning, contractor services and final clearance air sampling and analysis at no cost to the Owner.

- B. Upon receipt of acceptable final air tests, demobilize all critical and separation barriers, decontamination unit and engineering controls from the abatement work areas. All waste containers shall be off-site and en-route to an USEPA ID #27 approved landfill for final disposal.

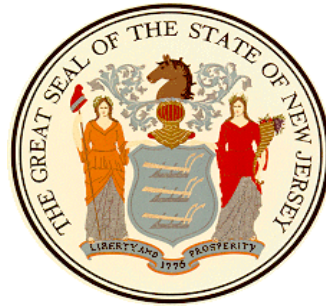
- C. Perform a final visual inspection of the abatement work area(s) to document the project has been completed in accordance with these specifications and all applicable Local, State and Federal regulations.

- D. Provide a letter certifying the following: The asbestos building materials identified have been properly removed utilizing appropriate personal protection, wet removal techniques, engineering controls and enclosures as required. The asbestos materials have been properly transported and disposed of in accordance with prescribed regulations.

1. Utilize this correspondence as part of the demolition permit submission for meeting the New Jersey Uniform Construction Code requirements of N.J.A.C. 5:23 2.4, 2.17 (d), as well as the United States Environmental Protection Agency (USEPA) National Emission Standards for Hazardous Air Pollutants (NESHAP) 40 CFR, Part 61, Subpart M requirements.

END OF SECTION

STATE OF NEW JERSEY
DEPARTMENT OF THE TREASURY
DIVISION OF PROPERTY MANAGEMENT AND CONSTRUCTION



REVISED
MAY 2014

INSTRUCTIONS TO BIDDERS
AND
GENERAL CONDITIONS

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INSTRUCTIONS TO BIDDERS

IB 1 Bid Proposals

IB 1.1 Sealed proposals for the work described herein must be received and time-stamped in the Plan Room, Division of Property Management and Construction (DPMC), 9th Floor, 33 West State Street, P O Box 034, Trenton, NJ 08625-0034. The closing date and time for bids will be stated in the Advertisement for Bid. Bidders are cautioned that reliance on the US Postal Service or other mail delivery or courier service for timely delivery of proposals is at the bidders' risk. Failure by a bidder to have a sealed proposal reach DPMC by the prescribed time will result in rejection of the unopened submission.

IB 1.2 Bids may be accepted on the following branches of work, as applicable:

- a. Lump Sum All Trades
- b. General Construction
- c. Structural Steel
- d. Plumbing
- e. Heating, Ventilating and Air Conditioning
- f. Electrical
- g. Special Categories as may be required

IB 1.3 Contractors classified by DPMC may obtain contract documents at the DPMC address above, or upon written request, subject to payment of applicable fees. Each bidder is herewith put on notice that its general classification by DPMC is not the sole basis for qualification for the award of work. The Director reserves the right to deny award to any bidder that is not clearly responsible, based upon experience, past performance, financial capability or other material factors, to perform the work required herein.

IB 1.4 The schedule of non-refundable bid fees below is based upon individual trade construction cost estimates. Upon request and at no cost the DPMC will furnish a set of the contract documents for review in the offices of the division at the address noted in paragraph IB1.1 above.

DPMC BID DOCUMENTS FEE SCHEDULE (PER PACKAGE):

<u>TRADE ESTIMATE</u>	<u>DOCUMENT FEE</u>	<u>MAILING FEE</u>
\$100,000 or less	No charge	\$25.00
Greater than \$100,000	\$ 65.00	\$25.00

IB 1.5 Bid proposals based upon the plans, specifications, general, special and supplementary conditions and bulletins shall be deemed as having been made by the contractor with full knowledge of the conditions therein. Bidders are required to visit the site prior to submitting proposals for the work herein described, and to have thoroughly examined the conditions under which the contract is to be executed, including those reasonably observable conditions of the premises which would hinder, delay, or otherwise affect the performance of the contractor required under the terms of the contract. The State will not allow claims for additional costs as a result of the contractor's failure to become aware of the reasonably observable conditions affecting its required performance. The bidder is required to make appropriate allowances in the preparation of the bid for the

accommodation of such conditions. Bidders must warrant in the bid documents that the bidder is familiar with conditions existing at the site at the time the bid is submitted.

IB 1.6 Bid proposals shall be submitted on the standard form provided by DPMC, enclosed in a sealed envelope issued by DPMC. The name and address of the bidder must be indicated on the envelope, as well as indication of the DPMC project number, project location and other appropriate identification.

IB 1.7 All amounts in the bid documents shall be stated in numerical figures only.

IB 1.8 The bidder must include in the bid envelope: (1) the proposal signed by the bidder, (2) the executed affidavit of non-collusion, (3) the executed Source Disclosure Certification Form as further described in section IB1.11, (4) the executed Disclosure of Investment Activities in Iran Form and (5) bid security as further described in Section IB6.

IB 1.9 Proposals shall remain open for acceptance and may not be withdrawn for a period of 60 calendar days after the bid opening date.

IB 1.10 Proposals not submitted and filed in accordance with instructions contained herein and in the Advertisement for Bids may be rejected as non-responsive.

IB 1.11 Procurement Reform

- a. **RESTRICTIONS ON POLITICAL CONTRIBUTIONS** – In accordance with N.J.S.A. 19:44A-20.13, et seq., bidders submitting a bid on or after October 15, 2004, shall be required to submit a Certification and Disclosure Form and Ownership Disclosure Form for all Business Entities. These forms must be submitted by the bidder and approved prior to contract award.

N.J.S.A. 19:44A-20.13, et seq, prohibits State departments, agencies and authorities from entering into a contract that exceeds \$17,500 with an individual or entity that has made a contribution to that political party committee. N.J.S.A. 19:44A-20.13, et seq, further requires the disclosure of all contribution to any political organization organized under section 527 of the Internal Revenue Code that also meets the definition of “continuing political committee” within the meaning of N.J.S.A. 19:44A-3(n) and N.J.A.C. 19:25-1.7. The successful bidder shall also be required to adhere to all continuing obligations contained in N.J.S.A. 19:44A-20.13, et seq, regarding contributions and disclosures as required in N.J.S.A. 19:44A-20.13, et seq.

- b. **Source Disclosure Certification** - Pursuant to N.J.S.A. 52:34-13.2, et seq., all bidders submitting a proposal shall be required to complete a Source Disclosure Certification that all services will be performed in the United States. The bidder shall disclose the location by country where services under the contract will be performed and any subcontracted services will be performed. The Source Disclosure Certification will be attached to the bid proposal.
- c. **MacBride Principles** - Pursuant to N.J.S.A. 52:34-12.2, a bidder must complete a certification on the DPMC form provided prior to contract award to attest, under penalty of perjury, that neither the person or entity, nor any of its parents, subsidiaries, or affiliates pursuant to N.J.S.A. 52:34-12.2, that the bidder has no ongoing business activities in Northern Ireland and does not maintain a physical

presence therein through the operation of offices, plants, factories, or similar facilities, either directly or indirectly, through intermediaries, subsidiaries or affiliated companies over which it maintains effective control; or will take lawful steps in good faith to conduct any business operations it has in Northern Ireland in accordance with the MacBride principles of nondiscrimination in employment as set forth in N.J.S.A. 52:18A-89.8 and in conformance with the United Kingdom's Fair Employment (Northern Ireland) Act of 1989, and permit independent monitoring of their compliance with those principles. If a contractor who would otherwise be awarded a contract or agreement does not complete the certification, then the Director may determine, in accordance with applicable law and rules, it is in the best interest of the State to award the contract or agreement to the next responsible bidder who has completed the certification. If the Director finds the contractor to be in violation of the principles which are the subject of this law, s/he shall take such action as may be appropriate and provided for by law, rule or contract, including, but not limited to, imposing sanctions, seeking compliance, recovering damages, declaring the contractor in default and seeking debarment or suspension of the contractor.

- d. Investment Activities in Iran - Pursuant to N.J.S.A. 52, 32-55, et seq., any person or entity that submits a bid or proposal or otherwise proposes to enter into or renew a contract must complete a certification with their bid on the DPMC form provided to attest, under penalty of perjury, that neither the person or entity, nor any of its parents, subsidiaries, or affiliates, is identified on the Department of Treasury's Chapter 25 list as a person or entity engaging in investment activities in Iran. The Chapter 25 list is found on the Division of Purchase and Property's website at www.state.nj.us/treasury/purchase/pdf/Chapter25List.pdf. Bidders must review this list prior to completing the certification. Failure to complete the certification may render a bidder's proposal non-responsive. If the Director finds a person or entity to be in violation of law, s/he shall take action as may be appropriate and provided by law, rule or contract, including but not limited to, imposing sanctions, seeking compliance, recovering damages, declaring the party in default and seeking debarment or suspension of the party.

IB 2 Bid Modification

IB 2.1 A bidder may modify its bid proposal by electronic mail or letter at any time prior to the scheduled closing time for receipt of bids, provided such communication is received by the DPMC prior to such closing time. A mailed confirmation of any modification signed by the bidder must have been mailed and time-stamped by the US Postal Service prior to the specified closing time. Such confirmation, whether transmitted electronically or by mail, shall be accompanied by a newly executed affidavit of non-collusion.

IB 2.2 Communications shall not reveal the basic bid price but shall only provide the amount to be added, subtracted or modified so that the final prices or terms will not be revealed until the sealed proposal is opened. If written confirmation of the telegraphic modification is not received within two working days after the scheduled closing time, no consideration will be given to the telegraphic modification.

IB 2.3 Bids may be withdrawn upon receipt of a bidder's written request prior to the time fixed for the bid opening. A bidder's right to withdraw a bid is lost after a bid has been opened. If an error has been made in the bid amount, request for relief from the bid may be made in writing to the Director. The written request shall be signed by an authorized corporate officer. A determination of whether the bidder will be released shall be at the sole discretion of the Director, who shall issue a finding within five working days of receipt of all pertinent information relating to such request for relief.

IB 3 Consideration of Bids

IB 3.1 Award of Contracts or Rejection of Bids:

- a. Contracts will be awarded to the lowest responsible bidder. The awards will be made, or the bids rejected, within 60 calendar days from the date of the opening of bids. At the discretion of the Director, a bid extension may be requested from the bidders if circumstances warrant an extension.
- b. The Director reserves the right to award the contract on the basis of the single bid for the entire work, or on the basis of a separate bid and alternate, or any combination of separate bids and alternates, which the Director deems best serves the interest of the State.
- c. The Director reserves the right to waive any bid requirements when such waiver is in the best interests of the State, and where such waiver is permitted by law. Such waiver shall be at the sole discretion of the Director.
- d. The Director reserves the right to reject any and all bids when such rejection is in the best interests of the State. The Director also may reject the bid of any bidder which, in the Director's judgment, is not responsible or capable of performing the contract obligations based on financial capability, past performance, or experience. A bidder whose bid is so rejected may request a hearing before the Director by filing a written notice.

IB 3.2 The bidder to be awarded the contract shall execute and deliver the requisite contract documents, including payment and performance bonds, within the time specified. Upon the bidder's failure or refusal to comply in the manner and within the time specified, the Director may either award the contract to the next low responsible bidder or re-advertise for new proposals. In either case, the Director may hold the defaulting bidder and its surety liable for the difference between the applicable sums quoted by the defaulting bidder and the sum which the State may be obligated to pay to the contractor which is contracted to perform and complete the work of the defaulting bidder.

IB 4 Awards

IB 4.1 In executing a contract, the successful bidder agrees to perform the required work in a good and workmanlike manner to the reasonable satisfaction of the Director, and to complete all work within the number of calendar days specified in its contract.

IB 4.2 Successful bidders will be notified of the time and place for the signing of contracts. Key requirements in the contract, including, but not limited to, the number of days of performance of the contract, manner and schedule of payments, and other administrative details will be reviewed at the award meeting. The time and place of the first job meeting will be announced at the award meeting.

IB 4.3 The State reserves the right to award the contract upon the basis of a single bid for the entire work, or on the basis of separate bids for each prime trade when the total of the separate bids is less than the single bid. Alternates will be accepted or rejected in numerical sequence as cited in the bid documents and shall not be selected at random except as provided herein. Add alternates and deduct alternates will be specified separately. The State may choose from the add and deduct alternates without priority between the two groups so long as selection within each group is in numerical sequence from the first to the last. This limitation shall not apply, however, to any alternates concerning proprietary items. The Director, with the approval of the Using Agency, may accept alternates out of sequence, provided the Director states the reasons for so doing, in writing, within five working days following the opening of bids.

IB 4.4 Should submission of unit prices be required for specified items of work in bid proposals, they will be considered in the evaluation of bids as set forth in the bid proposal form.

IB 4.5 The successful bidder and all of its subcontractors are required to comply with the requirements of N.J.S.A. 10:5-31 et seq., regarding Equal Employment Opportunity in Public Works Contracts.

IB 5 Qualification of Bidders

IB 5.1 If the successful bidder is a corporation not organized under the laws of the State of New Jersey or is not authorized to do business in this State (foreign corporation), the award of the contract shall be conditioned upon the prompt filing by the said corporation of a certificate to do business in this State and complying with the laws of this State in that regard. This filing must be made with the Division of Revenue. No award of contract will be made until the Division of Revenue confirms this authorization.

IB 5.2 The State requires that each contractor, except in the case of a single contractor, shall perform a minimum of 35 percent of the contract work by the contractor's own forces. However, the Director has the sole discretion to reduce this percentage depending upon the nature and circumstances in any particular case, if the Director determines that to do so would be in the best interests of the State, and provided that the bidder submits a written request with the original bid proposal.

IB 5.3 The State reserves the right to reject a bidder at any time prior to the signing of a contract if information or data is obtained which, in the opinion of the Director, adversely affects the responsibility and/or the capability of the bidder to undertake and to complete the work, regardless of the bidder's previous qualification or classification. The State may

conduct any investigation as it deems necessary to determine the bidder's responsibility and capacity, and the bidder shall furnish all information and data for this purpose as requested by the State.

IB 5.4 Each bidder must be classified by DPMC in accordance with the provisions of the classification statute, NJSA 52:35-1, et seq.,. In the case of a single bid for all of the work, the bidder shall include in the bid the names of its principal subcontractors (in categories as listed in IB1.2 above), which must also be classified in accordance with the said statute.

IB 5.5 At the time of the bid due date, the bidder and the subcontractors must be registered in accordance with “The Public Works Contractor Registration Act”, N.J.S.A. 34:11-56.48, et seq. All questions regarding registration shall be addressed to:

Contractor Registration Unit
New Jersey Department of Labor
Division of Wage & Hour Compliance
P O Box 389
Trenton NJ 08625-0389
Telephone: 609-292-9464
FAX: 609-633-8591

IB 5.6 In accordance with N.J.S.A. 52:32-44, et seq. Public Law 2001, Chapter 134, all contractors and subcontractors providing goods/services to State agencies and authorities are required to provide the contracting agency or authority with proof of registration with the Department of Treasury, Division of Revenue. The basic registration process involves the filing of Form NJ-Reg., which can be filed online at www.state.nj.us/njbgs/services.html or by calling (609) 292-7077 or (609) 292-1730.

IB 6 Deposit and Bid Bond

IB 6.1 The Proposal, when submitted, shall be accompanied by a Bid Bond satisfactory to the Director, for the sum of not less than fifty percent (50%) of the Total Bid including alternates, if applicable.

IB 6.2 The Bid Bond shall be properly filled out, signed, and witnessed.

IB 6.3 The Bid Bond shall be accompanied by a copy of the power of attorney executed by the surety company or companies. The power of attorney shall set forth the authority of the attorney-in-fact who has signed the bond on behalf of the surety company to bind the company and shall further certify that such power is in full force and effect as of the date of the bond.

IB 6.4 If the bidder whose proposal is accepted is unable to provide the performance and payment bonds or fails to execute a contract, then such bidder and the bid bond surety, where applicable, shall be obligated to pay to the State the difference between the amount of the bid and the amount which the State contracts to pay another party to perform the work. The bidder and the surety shall pay, upon demand, the entire amount of the State's difference in cost. Should there be a deficiency in excess of the bid deposit, the bidder shall make immediate payment to the State for any such deficiency. Nothing contained herein shall be construed as a waiver of any other legal remedies that the State may have against the contractor.

IB 6.5 Attorneys-in-fact who sign bid bonds or contract bonds must file a certified power-of-attorney with the State indicating the effective date of that power.

IB 7 Performance and Payment Bond

IB 7.1 The successful bidder shall furnish within ten (10) calendar days after notice of award both a performance bond in statutory form in an amount equal to one hundred percent (100%) of the total contract price as security for the faithful performance of this contract and a payment bond in statutory form in amount equal to one hundred percent (100%) of the contract price as security for the payment of all persons and firms performing labor and furnishing materials in connection with this contract. The performance bond and the payment bond may be combined or in separate instruments in accordance with law. If combined, they must be for 200% of the award amount. No contract shall be executed unless and until each bond is submitted to and approved by the State. The surety must be presently authorized to do business in the State of New Jersey. In addition to the other coverage provided, the Bond shall cover all Contract guarantees and any other guarantees/warranties issued by the Contractor.

IB 7.2 The cost of all performance and payment bonds shall be paid for by the successful bidder.

IB 7.3 If at any time the State, for justifiable cause, is dissatisfied with any surety which has issued or proposes to issue a performance or payment bond, the contractor shall, within ten calendar days after notice from the State to do so, substitute an acceptance bond (or bonds). The substituted bond(s) shall be in such form and sum and executed by such other surety or sureties as may be satisfactory to the State. The premiums on such bond(s) shall be paid by the contractor. No contract shall be executed and/or no payment made under a contract until the new surety or sureties shall have furnished such an acceptable bond to the State.

IB 7.4 Bonds must be legally effective as of the date the contract is signed. Each must indicate the contractor's name exactly as it appears on the contract. Current attorney-in-fact instruments and financial statement of the surety must be included with the bonds. Bonds must be executed by an authorized officer of the surety. Bonds furnished under this section shall conform in all respects to the requirement and language of NJSA 2A:44-143 to 147.

IB 8 Bulletins and Interpretations

IB 8.1 No interpretation of the meaning of the plans, specifications or other pre-bid documents will be provided to any bidder unless such interpretation is made in writing to all prospective bidders prior to the opening of bids. Any such interpretations must be identified in bid proposals submitted. Any interpretations which are not entered in accordance with this provision shall be unauthorized and not binding upon the State.

IB 8.2 Every request for an interpretation relating to clarification or correction of the plans, specifications, or other bid documents must be made in writing, addressed to the architect/engineer and the DPMC Director, and must be received at least five (5) working days prior to the date fixed for the opening of the bids. Any and all interpretations, clarifications or corrections and any supplemental instructions must be issued by the Director in the form of written bulletins and mailed by certified mail, return receipt requested, or by electronic notice to all prospective bidders not later than three (3) working days prior to the date of the opening of bids. All bulletins issued shall become part of the

contract documents and shall be acknowledged in all bid proposals. Failure of a bidder to acknowledge receipt of all such bulletins and interpretations by the time of bid opening shall result in its proposal being considered non-responsive, at the option of the Director.

IB 8.3 Each bidder shall be responsible for thoroughly reviewing the contract documents prior to the submission of bids. Bidders are advised that no claim for expenses incurred or damages sustained as a result of any error, discrepancy, omission, or conflict in the contract documents shall be recognized by the State unless, and only to the extent that, a written request for interpretation, clarification or correction has been submitted in compliance with Section IB8.2 and provided the matter has not been addressed by the State through the issuance of a bulletin interpreting, clarifying or correcting such error, discrepancy, omission or conflict.

IB 9 Assignments

IB 9.1 The contractor shall not assign all or any part of this contract without written consent of the State. Money due (or to become due) the contractor hereunder shall not be assigned for any purposes whatsoever.

IB 10 Federal Excise Taxes and State Sales Tax

IB 10.1 In general, bidders, in preparing bids, must take into consideration applicable Federal and State tax laws.

IB 10.2 Materials, supplies or services for exclusive use in erecting structures or buildings or otherwise improving, altering or repairing all State-owned property are exempt from the State sales tax. The successful bidder must submit Division of Taxation form ST13, Exempt Use Certificate, to the seller of all materials, supplies or services that will be incorporated into the Work.

IB 10.3 Bidders must determine the current status and applicability of any tax laws, and the contractor may make no claim based upon any error or misunderstanding as to the applicability of any tax laws.

IB 10.4 Purchases or rentals of equipment are not exempt from any tax under the State Sales Tax Act.

IB 11 Restrictive Specifications

IB 11.1 Should any bidder determine before the bid due date that any portion of the specifications or drawings specify a particular product which can be provided by only one supplier or manufacturer, with the result that competitive prices are not available, the bidder shall immediately notify the Director in writing of such fact.

IB 11.2 If such notice is not given in a timely manner, it shall be assumed that the bidder has included the estimate of such sole source in the bid. However, if the Director is notified in a timely manner of the sole source of supply or manufacture, the Director may order the product re-bid or take other lawful action. Such action shall be at the Director's sole discretion.

IB 12 Offer of Gratuities

IB 12.1 Bidders are advised that the laws of New Jersey (NJSA 52:34-19) make it a misdemeanor to offer, pay or give any fee, commission, compensation, gift or gratuity to any person employed by the State. Also, Executive Order #189 (1988) requires that all requests for proposals and contracts issued by the State specify prohibitions on vendor (contractor) activities, the violation of which shall render the vendor liable to ineligibility for State contracts, pursuant to the debarment procedures set forth in N.J.A.C. 17:19-4.1., et seq. These prohibited activities include the following:

- a. No vendor shall pay, offer to pay, or agree to pay, either directly or indirectly, any fee, commission, compensation, gift, gratuity, or other thing of value of any kind to any State officer or employee or special State officer or employee, as defined by NJSA 52:34D-13b. and e., in the Department of Treasury or any other agency with which such vendor transacts or offers or proposes to transact business, or to any member of the immediate family, as defined by NJSA 52:13D-13i., of any such officer or employee, or any partnership, firm, or corporation with which they are employed or associated, or in which such officer or employee has an interest within the meaning of NJSA 52:13D-13g.
- b. The solicitation of any fee, commission, compensation, gift, gratuity or other thing of value by any State officer or employee or special State officer or employee from any State vendor shall be reported in writing forthwith by the vendor to the Attorney General and the Executive Commission on Ethical Standards.
- c. No vendor may, directly or indirectly, undertake any private business, commercial or entrepreneurial relationship with, whether or not pursuant to employment, contract or other agreement, express or implied, or sell any interest in such vendor to, any State officer or employee or special State officer or employee having any duties or responsibilities in connection with the purchase, acquisition or sale of any property or services by or to any State agency or any instrumentality thereof, or with any person, firm or entity with which he is employed or associated or in which he has an interest within the meaning of NJSA 52:13D-13g. Any relationships subject to this provision shall be reported in writing forthwith to the Executive Commission on Ethical Standards, which may grant a waiver of this restriction upon application of the State offer or employee or special State officer or employee upon a finding that the present or proposed relationship does not present the potential, actuality or appearance of a conflict of interest.
- d. No vendor shall influence, or attempt to influence or cause to be influenced, any State officer or employee or special State officer or employee in his official capacity in any manner which might tend to impair the objectivity or independence of judgment of said officer or employee.
- e. No vendor shall cause or influence, or attempt to cause or influence, any State officer or employee or special State officer or employee to use, or attempt to use, his official position to secure unwarranted privileges or advantages for the vendor or any other person.

- f. The provisions cited above in paragraphs IB12.1.a. through e. shall not be construed to prohibit a State officer or employee or special State officer or employee from receiving gifts from or contracting with vendors under the same terms and conditions as are offered or made available to members of the general public subject to any guidelines the State Ethics Commission on Ethical Standards may promulgate under paragraph IB12.1.c. above.

END OF INSTRUCTIONS TO BIDDERS

GENERAL CONDITIONS

ARTICLE 1 - GENERAL PROVISIONS

1.1 DEFINITIONS:

1.1.1 Architect/Engineer: The Architect/Engineer (“A/E”) is the consultant engaged by the DPMC to prepare the design and perform certain contract administration functions in accordance with the provisions of its contract with the DPMC.

1.1.2 Bulletin: A document, issued by DPMC prior to the opening of bids, which supplements, revises or modifies the bid document(s).

1.1.3 Change in the Work: A change in the Project and the Contract Documents, including, but not limited to, an increase or decrease in the Work, an acceleration or extension of time for the performance of the Work.

1.1.4 Change Order: A written order, directing or authorizing a Change in the Work executed by the DPMC and agreed to by the Contractor (except in the case of unilateral change orders executed by DPMC) that includes all adjustments to work, compensation and/or time warranted by the Change in the Work.

1.1.5 Code Official: the individual licensed by the NJ Department of Community Affairs authorized to enforce the NJ Uniform Construction Code (UCC) and approve or reject the Work for NJ UCC compliance.

1.1.6 Construction Management Firm or “CMF”: A person or firm that may be engaged by the DPMC to assist DPMC in the administration of its contracts.

1.1.7 Contract: The entire and integrated agreement between the Contractor and the DPMC encompassing all of the Contract Documents.

1.1.8 Contract Documents: The executed form of Contract, General Conditions, Supplementary Conditions, Supplementary Instructions, Bulletins, plans, specifications, instructions to bidders, addenda, responses to requests for information, Price Proposal, Change Orders, other amendments, including construction change directives, and all exhibits, appendices and documents attached to or referenced in any of the foregoing materials.

1.1.9 Contract Limit Lines The lines shown on the Contract Drawings that define the boundaries of the Project, and beyond which no construction work or activities may be performed by the Contractor unless otherwise noted on the drawings or specifications.

1.1.10 Contractor: The business entity with whom the DPMC enters a contract for the performance of the construction of a construction Project by the terms set forth in the Contract Documents.

1.1.11 Contract Price: The sum stated in the Contract, as it may be adjusted in accordance with the Contract Documents, that represents the total amount payable by the DPMC to the Contractor for performance of the Work.

1.1.12 Day: A calendar day, unless otherwise designated.

1.1.13 Director: The person authorized by statute to administer the design, engineering and construction of all State buildings and facilities. The Director is the contracting officer representing the State personally or through authorized representatives in all relationships with Contractors, consultants and Architects/Engineers. This includes designees or an authorized administrative contracting officer acting within the limits of his or her authority. The Director or his or her duly authorized representative is the interpreter of the conditions of this contract and the judge of its performance.

1.1.14 Division of Property Management and Construction (DPMC): The State of New Jersey's contracting agency for the design and construction of State facilities.

1.1.15 Final Acceptance and Completion: The date following receipt and acceptance by DPMC of all administrative and close-out documents. Following acceptance, the DPMC will issue a Certificate of Final Acceptance and Completion for the Project.

1.1.16 Generally Accepted Accounting Principles: The common set of accounting principles, standards and procedures that companies use to compile their financial statements. Accounting records must identify all labor and material costs and expenses, whether they are direct or indirect. The identity must include at least the Project number for direct expenses and/or account number for indirect expenses.

1.1.17 NJUCC or Code: The New Jersey Uniform Construction Code which governs the permit and approval process for construction projects.

1.1.18 Notice: A written directive or communication given by DPMC to the Contractor to act or perform work or carry out some other contractual obligation, or a written communication to be served by the Contractor upon the State. A notice served on the Contractor will be deemed to have been duly served if delivered to an individual or member of the firm or entity or to an officer of the corporation for whom it was intended. This includes regular mail, e-mail, delivery by courier, or registered or certified mail, or facsimile to the Contractor's business address cited in the Contract documents. A notice from the Contractor to the State shall be deemed to have been duly served only if delivered to the Director or the Director's duly authorized representative.

1.1.19 Notice to Proceed: The written communication issued by the DPMC to the Contractor directing the Contractor to begin the Work. The contract calendar day duration period will commence on the effective date noted.

1.1.20 Project: The term for the entire public works engagement. It includes the design, construction work and all administrative aspects required to fully complete the engagement.

1.1.21 Punch List: The list of incomplete or defective Work, compiled by DPMC and/or its authorized representative, which remains to be completed after achievement of Substantial Completion.

1.1.22 Schedule: The time tracking mechanism that establishes the Project's allotted time requirements for completion as more specifically described in Article 6 of these General Conditions. When the construction activity items of the schedule have a monetary value associated with them, the schedule is referred to as a "costed" or "cost-loaded" schedule.

1.1.23 Site: The geographical location of the facility or property at which the Work under the Contract is to be performed.

1.1.24 State or Owner: The State of New Jersey, acting through DPMC.

1.1.25 Subcontractor: The business entity that enters into an agreement with the Contractor for the performance of work or materials under this Contract. Also refers to any agreement between a Subcontractor and any of lower tier Subcontractors. Such an agreement creates no relationship, legal or otherwise, between the DPMC and the Subcontractor(s) and/or lower tier Subcontractor(s).

1.1.26 Substantial Completion: The date when all essential requirements of the Contract Documents have been satisfied so that the purpose of the Contract Documents is accomplished, as determined by the DPMC including training of staff by the Contractor on all equipment, and resulting in the issuance of a temporary Certificate of Occupancy, a permanent Certificate of Occupancy or a permanent Certificate of Acceptance and when the Work and the facility can be safely occupied and used in accordance with its intended purpose. DPMC may condition issuance of a Certificate of Substantial Completion upon satisfactory receipt of critical documents.

1.1.27 Unit Schedule Breakdown: A detailed list of the Work activities required for Project construction, other elements associated with fulfilling the requirements of the Contract (bonds, insurance, etc.), major items of material, labor or equipment, and the prices associated with each of them.

1.2.28 Using Agency: The State department or agency for whom the construction project is being completed.

1.1.29 Work: All construction, supervision, labor, material and equipment necessary to complete the obligations under the Contract including Operation and Maintenance Manuals, Punch List completion, and As-Built Documents.

1.2 CONTRACT DOCUMENTS TO BE PROVIDED BY DPMC

Upon Contract award, the DPMC will furnish to the Contractor, free of charge, three copies of the drawings and specifications, and any additional instructions by means of supplemental contract documents as otherwise necessary for the proper execution of the Work, unless otherwise provided in the Contract Documents. Upon request, additional copies of the contract documents will be furnished at the Contractor's expense.

1.3 INTENT OF THE CONTRACT

1.3.1 The drawings, specifications and all of the Contract Documents are intended to require the Contractor to provide for everything necessary to accomplish the proper and complete finishing of all work. For the Project, the Contractor shall perform all of the obligations and work identified in the Contract Documents, regardless of the manner in which it is divided among the trades or the order in which it appears in the Contract Documents. All work and materials included in the specifications and not shown on the drawings, or shown on the drawings and not in the specifications shall be performed and/or furnished by the Contractor. The Contractor shall include any incidental materials

and/or Work not indicated in the drawings and/or the specifications which are nevertheless necessary for the development of the Project and are reasonably inferable from the contract documents and industry practice. The Contractor shall perform all such work and furnish all such materials as if particularly delineated or described in the contract documents as part of the bid proposal.

1.3.2 The Contractor acknowledges that in preparing its bid, the Contractor had the obligation to raise any reasonably observable errors, omissions, ambiguities or discrepancies and request an interpretation of the alleged errors, omissions, ambiguities or discrepancies. If the Contractor failed to do so, it will have waived all rights to a Change Order or claim and the Contractor will be responsible to complete the Work as required, consistent with the intent of the Contract Documents as interpreted by the DPMC, without additional compensation.

1.3.3 No interpretation of the meaning of the plans, specifications or other Contract Documents provided prior to bid submission shall be binding upon the State for any purpose unless issued in a Bulletin.

1.3.4 The Contractor shall abide by and comply with the intent and meaning of the Contract Documents taken as a whole, and shall not take advantage of any error or omission, should any exist. Should the Contractor become aware of the existence of any error, omission or discrepancy, the Contractor shall immediately notify the DPMC and the Architect/Engineer of any such errors, omissions, ambiguities or discrepancies and seek correction or interpretation thereof prior to commencement of the Work at issue. The Architect/Engineer shall issue a written interpretation. The Contractor shall do no work outside of the Contract Documents, unless written authorization to proceed from the DPMC is received by the Contractor.

1.3.5 Each and every provision required by law to be inserted in the Contract Documents is deemed to have been inserted therein. If any such provision has been omitted or has not been correctly inserted, then upon application of either party, the Contract may be modified to provide for such insertion or correction.

1.3.6 The order of precedence pertaining to interpretation of Contract Documents is as follows:

- a. Executed Contract
- b. Bulletins and Instructions
- c. Supplemental General Conditions
- d. Specifications and General Conditions
- e. Drawings, in the following order of precedence:
 - (1) Notes on drawings
 - (2) Large scale details
 - (3) Figured dimensions
 - (4) Scaled dimensions

1.3.7 Where there may be a conflict in the Contract Documents not resolvable by application of the provisions of this Article, then the more expensive labor, materials, or equipment shall be assumed to be required and shall be provided by the Contractor.

1.3.8 On all work, it shall be the responsibility of the Contractor, by personal inspection of the existing building, facility, plant or utility systems, to ascertain the accuracy of any information given. This shall be the case, whether or not such information is indicated on the drawings, included in the specifications, or shown in any other documentation that is available. The Contractor shall have an affirmative duty to make reasonable inquiry for all available information. The Contractor shall include the costs of all material and labor required to complete the Work based on inspection and reasonably observable conditions.

1.4 WORKDAYS

Regular working hours will be defined in the Contract Documents. Changes thereto may be granted with written approval of the DPMC representative. Any work required to be performed after regular working hours or on Saturdays, Sundays, or legal holidays as specially set forth in the Contract documents, as may be reasonably required and consistent with contractual obligations, shall be performed at the amount set forth in the Contractor's bid without additional expense to the State. The Contractor shall obtain written approval of the DPMC representative for performance of work after regular working hours or on non-regular workdays at least forty-eight (48) hours prior to the commencement of overtime, unless such overtime work is caused by an emergency. If the Contractor seeks such approval for the overtime work, same shall be performed at no additional cost to the DPMC except in the event of an emergency, at which time, the DPMC, in its sole discretion, shall determine if the submitted overtime is compensable.

1.5 ASSIGNMENTS

The Contractor shall not assign all or any part of this Contract without the written consent of the Director. Money due (or to become due) the Contractor hereunder shall not be assigned for any purpose whatsoever without the written consent of the Director.

1.6 STATE SALES TAX

1.6.1 Materials, supplies or services for exclusive use in the construction of structures or buildings or otherwise improving, altering or repairing all State-owned property are exempt from the State sales tax.

1.6.2 Purchases or rentals of equipment are not exempt from any tax under the State Sales Tax Act.

ARTICLE 2 - OWNER/DPMC

2.1 DPMC'S REPRESENTATION

The DPMC will be represented on the Project by DPMC's designated representative(s). DPMC's designated representative(s) have only those duties that are required of the Owner under this Contract.

2.2 RIGHT TO PERFORM WORK

The DPMC may, and reserves the right to, enter upon the premises at any and all times during the progress of the Work, or cause others to do so, for the purpose of performing any work or installing any apparatus or carrying on any construction not included in the Contract Documents, or for any other reasonable purpose.

The DPMC shall have the right to defer the beginning of Work or to suspend the whole or any part of the Work whenever, in the sole discretion of the DPMC, it may be necessary or expedient for the State to do so.

2.3 MEANS AND METHODS

The State will not be responsible for, nor have control or charge of construction means, methods, techniques, sequences of procedures, or safety precautions and programs in connection with the Work. The State will not be responsible for, nor have control or charge of, the acts or omissions of the Contractor, Subcontractors, or any of their agents or employees, or any other person performing any of the Work.

ARTICLE 3 - ARCHITECT/ENGINEER

3.1 DUTIES AND RESPONSIBILITIES

3.1.1 The Architect/Engineer (“A/E”) is the consultant engaged by the DPMC to prepare the design and perform certain contract administration functions in accordance with the provisions of its contract with the DPMC.

3.2 PROGRESS MEETINGS

The Architect/Engineer will attend, chair and issue record minutes of bi-weekly job progress meetings.

3.3 SITE OBSERVATIONS

3.3.1 The Architect/Engineer will monitor the execution and progress of the Work. The Architect/Engineer will at all times be provided access to the Work. The Contractor shall provide facilities for such access so as to enable the Architect/Engineer to perform its functions.

3.3.2 The Architect/Engineer will not be responsible for, nor have control or charge of construction means, methods, techniques, sequences of procedures, or safety precautions and programs in connection with the Work. The Architect/Engineer will not be responsible for, nor have control or charge of, the acts or omissions of the Contractor, Subcontractors, or any of their agents or employees, or any other person performing any of the Work.

3.4 SHOP DRAWINGS AND SUBMITTALS AND INVOICES

As more specifically described in Article 4, the Architect/Engineer will review, approve or take other appropriate action relating to Contractor’s submittals, including shop drawings, product data and samples, and as – built drawings, to assure conformance with the requirements of the Contract. Such actions shall be taken with reasonable promptness. Approval of a specific item shall not indicate approval of an assembly of which the item is a component.

3.5 PAYMENT APPROVALS

3.5.1 The Architect/Engineer is responsible for the timely review of all invoices submitted by the Contractor. The Architect/Engineer shall inform the Contractor of any deficiencies therein. When the payment voucher is deemed accurate, the Architect/Engineer shall recommend approval of Contractor invoices.

3.5.2 The Architect/Engineer will review and recommend approval of Contractor closeout documentation in conjunction with the final application for payment.

ARTICLE 4 - THE CONTRACTOR

4.1 REVIEW OF THE CONTRACT DOCUMENTS AND FIELD CONDITIONS

4.1.1 The Contractor has the duty to thoroughly examine and be familiar with all of the Contract Documents and the Project site. The Contractor shall investigate and accurately determine the nature and location of the Work, the current building equipment and systems, labor and material conditions, and all matters which may in any way affect the Work or its performance.

4.1.2 The Contractor shall be deemed to have verified all reasonably observable conditions outside the Contract limit lines to determine whether any conflict exists with the Work that the Contractor is required to perform under the Contract. This includes but is not limited to a check on elevations, utility connections and other site data. If a condition changed from the time of the bid to the time of the issuance of the Notice to Proceed, the Contractor shall notify the Architect/Engineer immediately. The Contractor shall immediately report any conflicts prior to the bid proposal due date or waive any claim for additional compensation arising from such conflict.

4.1.3 During the progress of the Work, the Contractor shall immediately report in writing any alleged error, inconsistency, ambiguity or omission in the Contract Documents to DPMC. The Contractor shall not continue with any work that is affected by such alleged error, inconsistency, ambiguity or omission until the DPMC has had the opportunity to respond. Any error, inconsistency, ambiguity or omission shall be addressed pursuant to appropriate procedures set forth in these General Conditions.

4.1.4 Following notification of an alleged error, inconsistency, ambiguity or omission, the DPMC may issue supplemental instructions for the proper execution of the Work. The Contractor shall do no work without proper supplemental instructions. In giving such supplemental instructions, the DPMC will have the right to direct the Contractor to make minor changes in the Work without payment of additional monies. This provision is not intended to infringe upon or limit the DPMC's authority to otherwise direct changes in the Work, described elsewhere in these general conditions.

4.1.5 Where certain work is shown in complete detail, but not repeated in similar detail in other areas of the drawings, or if there is an indication of continuation with the remainder being shown only in outlines, the Work shown in detail shall be understood to be required in other like portions of the Project.

4.1.6 Unless otherwise directed in writing by the DPMC, the Contractor shall perform no portion of the Work without appropriate approvals as may be applicable and required by the Contract Documents.

4.1.7 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for all labor, equipment, materials, tools, construction equipment and machinery, water, heat, utilities, transportation and other facilities and services necessary for the proper execution, protection, and completion of the Work.

4.2 INSURANCE

The Contractor shall secure and maintain in force, for the term of the Contract, insurance coverage provided in Section 13.4. The Contractor shall provide the State of New Jersey with current certificates of insurance for all coverage and renewals thereof which must contain a provision that the insurance provided in the certificate shall not be canceled for any reason except after thirty (30) calendar day's written notice to the State of New Jersey. If cancellation occurs, the Contractor shall immediately procure new coverage, not allowing any lapse of coverage to occur.

4.3 PERMITS, LAWS, AND REGULATIONS

4.3.1 The DPMC shall obtain and pay for the construction permits and inspections (building, plumbing, electrical, elevator and fire), required by the Department of Community Affairs (DCA). When permits are issued by DCA, the appropriate licensed Contractors and/or Subcontractors shall be required to fill out the Contractor section of the Sub-Code Technical Section and sign and affix their raised seal thereto.

4.3.2 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for all other permits and governmental fees, licenses and inspections necessary for the proper execution and completion of the Work, and which are legally required at the time of receipt of bids.

4.3.3 All work must be done in accordance with the NJUCC. No work requiring inspections and approval by construction NJUCC code officials is to be covered or enclosed prior to inspection and approval by the appropriate NJUCC enforcement officials.

4.3.4 The Work performed pursuant to this Contract is exempt from local ordinances, codes and regulations as related to the building and the Site on which it is located, except in certain limited circumstances, where construction could adversely affect adjacent property, public sidewalks and/or streets. In those instances, the Contractor shall coordinate its activities with municipal and/or highway authorities having appropriate jurisdiction.

4.3.5 Immediately upon receipt of the contract award documents from the DPMC, the Contractor shall notify all utility companies involved regarding utility services required for completion of the Work. Such notification shall be in addition to any notification requirements imposed by law, including, without limitation, the Underground Facility Protection Act, N.J.S.A. 48:2-73, et seq.

4.3.6 The Contractor shall perform all soil conservation measures in accordance with County Soil Conservation District requirements.

4.3.7 The Contractor shall perform all sewage disposal work in conformance with the regulations of the State's Department of Environmental Protection.

4.3.8 The Contractor shall be responsible for obtaining timely NJUCC inspections of the Work from the applicable State agency. The Contractor shall request such

inspections through DPMC authorized representatives allowing for sufficient notice to enable NJUCC inspections to be scheduled without delay to the Work.

4.3.9 Consistent with section 4.4 of these General Conditions, the Contractor shall be responsible for its own actions and protect, defend and indemnify the State from all fines, penalties or loss incurred for, or by reason of, the violation of any municipal ordinance or regulation or law of the State while the said work is in progress.

4.3.10 The Contractor shall comply with the Federal Occupational Safety and Health Act of 1970 and all of the rules and regulations promulgated there under.

4.3.11 If the Contractor causes a substantial violation of a State, local or federal statute or regulation on the Project, DPMC may declare the Contractor to be in default, and/or terminate the Contract.

4.3.12 Prior to the start of any crane equipment operations, the Contractor shall make all necessary applications and obtain all required permits from the Federal Aviation Administration (F.A.A.). When the F.A.A. has jurisdiction, the sequence of operations, timing and methods of conducting the Work shall be approved by the F.A.A.

4.3.13 The Contractor will establish an approved Silica Health and Safety Program when tasks generating crystalline silica dust are being performed. This program shall include engineering, work practice, and respiratory protection controls to reduce worker exposure to airborne respirable crystalline dust to levels that are as low as reasonably achievable. When tasks are performed that generate airborne crystalline dust, the Contractor will minimize worker exposure to dust by one, or a combination of the following methods: 1) dust suppression with water, 2) local exhaust ventilation to a high-efficiency dust collector, and/or 3) appropriate respiratory protection devices. The Contractor shall provide a trained, competent person, as defined by OSHA 29 CFR 1926, on site at all times to implement the Silica Health and Safety Program when tasks generating crystalline silica dust are being performed.

4.4 RESPONSIBILITY FOR THE WORK

4.4.1 The Contractor shall be responsible to the State and to any separate Contractors and/or consultants including, without limitation, the Architect/Engineer, for the acts, errors and omissions of its employees, Subcontractors and their agents and employees that injure, damage or delay such other Contractors and/or consultants in the performance of their work.

4.4.2 The Contractor shall be responsible for all damage or destruction caused directly or indirectly by its operations to all parts of the Work, both temporary and permanent, and to all adjoining property.

4.4.3 The Contractor shall, at its own expense, protect all finished work and keep the same protected until the Project (or identifiable portions thereof, that are declared as substantially complete and being used) is completed and accepted.

4.4.4 The Contractor shall be responsible for safety and for any damage or injury which may result from the Contractor's failure or improper construction, maintenance or operation.

4.4.5 In order to protect the lives and health of its employees, the Contractor shall comply with all applicable statutes and regulations and pertinent provisions of the "Manual of Accident Prevention in Construction" issued by the Associated General Contractors of America, Inc. and shall maintain accurate records of all cases of death, occupational disease, and injury requiring medical attention or causing loss of time from work arising out of and in the course of employment on work under the Contract. If a conflict should exist with the requirements of the Federal Occupational Safety and Health Act of 1970, then the most stringent statute or pertinent provision shall apply.

4.5 INDEMNIFICATION

4.5.1 The Contractor shall assume all risk of and responsibility for, and agrees to protect, defend and indemnify the State of New Jersey, its agents, and its employees, from and against, any and all claims, demands, suits, actions, recoveries, judgment and costs of expenses in connection therewith on account of the loss of life, property, injury or damage to the person, body or property of any person or persons whatsoever, resulting from the Contractor's performance on the Project or through the use of any improper or defective machinery, implements or appliances, or through any act or omission on the part of the Contractor or its agents, employees or servants, which shall arise from or result directly or indirectly from the Work and/or materials supplied under this Contract. This indemnification obligation is not limited by, but is in addition to, the insurance obligations contained in this Contract.

4.5.2 In any and all claims against the State or any of its agents or employees, any employees of the Contractor or Subcontractor or anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, the indemnification obligation under this section shall not be limited in any way as to the amount or type of damages, compensation or benefits payable by or for the Contractor or any Subcontractor under worker's compensation acts, disability benefit acts, or other employee benefit acts.

4.6 SUPERVISION

4.6.1 The Contractor shall attentively supervise and direct the Work. The Contractor shall be solely responsible for all construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract.

4.6.2 The Contractor shall employ a full-time competent superintendent and necessary foremen and assistants, who shall be in attendance on the Project Site during the progress of the Work. The superintendent shall represent the Contractor, and all communications given to the superintendent shall be binding upon the Contractor. The State reserves the right to require a change in superintendent if the superintendent's performance, as judged by the DPMC, is deemed to be inadequate. Upon application in writing, and if deemed appropriate and expressly approved by the DPMC, the requirement for a full-time superintendent may be waived. If such a waiver is permitted, the Contractor shall employ a full-time competent foreman who shall be in attendance on the site during the progress of work and shall represent the Contractor, and all communications given to the foreman

shall be binding upon the Contractor. The Contractor shall not employ persons unfit or unskilled in the assigned area of work.

4.6.3 The Contractor shall ensure that its Subcontractors shall likewise have competent superintendents in charge of their respective portions of the Work at all times. Upon application in writing, and if deemed appropriate and expressly approved by the DPMC, the requirement for a full-time superintendent may be waived. If such a waiver is permitted, the Subcontractor shall employ a full-time competent foreman who shall be in attendance on the site during the progress of work and shall represent the subcontractor, and all communications given to the foreman shall be binding upon the subcontractor. The Subcontractor shall not employ persons unfit or unskilled in the assigned area of work. If it becomes apparent that a Subcontractor does not have its portion of the Work under control of a competent foreman, the Contractor shall have the obligation to take appropriate steps to immediately provide proper supervision.

4.6.4 The Contractor shall employ qualified competent craftsmen in their respective lines of work. The State may require evidence that all employees have received sufficient training to execute the Work.

4.6.5 If, due to a trade agreement or project labor agreement, standby personnel are required to supervise equipment installation or for any other purpose during the normal working hours of other trades, the Contractor normally required to provide the standby services shall be deemed to have evaluated and included the costs thereof in its bid price and shall provide said services without additional charge.

4.6.6 The Contractor shall at all times enforce strict discipline and good order among its employees and shall not employ any unfit person or anyone not skilled in the task assigned.

4.7 SHOP DRAWINGS AND OTHER SUBMITTALS

4.7.1 The Contractor shall, within two weeks of the Notice to Proceed, submit to the Architect/Engineer, shop drawings and sample submission schedule for approval, which shall be used as a basis for complying with the overall progress schedule. The Contractor shall obtain, from its Subcontractor(s), all submittals including shop drawings, details, and schedules. The Contractor shall review the submittals for completeness and conformity with the Contract Documents, and shall stamp the submittals "approved". The Contractor shall promptly forward two copies of each submittals in reproducible form to the Architect/Engineer, so as to cause no delay in its own work or that of any other contractor. The DPMC Project number and the drawing and specification references shall be written or typed on all submissions. Failure to comply with these instructions will be sufficient reason to return the drawing to the Contractor without approval and any resulting delay in the Project shall be the sole responsibility of the Contractor.

4.7.2. The Architect/Engineer will review shop drawings and other submittals with reasonable promptness. The Contractor shall promptly make any corrections, if required by the Architect/Engineer, and resubmit a reproducible copy for approval. Within five (5) working days of final approval, the Contractor shall send the Architect/Engineer a

minimum of seven (7) prints of the finally approved shop drawings as well as seven (7) copies of all catalog cuts.

4.7.3 The Contractor shall prepare original shop drawings, and not simply copy the Contract Drawings for submission as shop drawings. All shop drawing sizes shall be in multiples of 9" x 12" (e.g., 18" x 24", 24" x 27", 24" x 36", etc.) as approved by the Architect/Engineer.

4.7.4 Any deviations or changes from the requirements of the Contract Documents, must be approved by the Architect/Engineer. A Contractor seeking approval for any deviations or changes must: a) make a written request for the proposed change; b) provide to the Architect/Engineer a detailed narrative description of the proposed change; c) highlight on the applicable drawing the proposed change; and d) furnish a detailed description of all potential impacts on the schedule and project budget.

4.7.5 Substitutions

4.7.5.1 Where any particular brand or manufactured article is specified, it shall be regarded as a standard. Similar products of other manufacturers, capable of equal performance and quality, may be accepted if approved by the Architect/Engineer and accepted by DPMC in writing.

4.7.5.2 In the event that a Contractor proposes a substitution to the specified equipment or materials, it shall be the Contractor's responsibility to submit proof of equality and to provide and pay for any tests which may be required by the DPMC in order to evaluate the proposal. If there is a substantial cost savings between the substitution and the specified equipment or material, the difference will be returned to the State in the form of a credit Change Order.

4.7.5.3 The application for the approval of a substitution must be submitted on the State form within 10 days of Notice to Proceed. Further, the submission shall include the following requirements:

- a. A Full and complete identification information;
- b. The identification of the paragraph and section of the specifications for which the substitution is proposed. The attachment of data indicating in detail whether and how the equipment or material differs, if at all, from the article specified;
- d. A detailed explanation of any effect the proposed substitution will have on the scope of the Work and a certification that the Contractor agrees to be responsible for any and all resulting added costs to its Work and to any additional costs incurred by the Architect/Engineer in time, labor and/or redesign of the Contract Documents;
- e. The submission of documents that demonstrate proof of equality, along with an agreement to have such tests performed at the Contractor's own expense as may be required for approval by the DPMC and/or the Architect/Engineer. The Contractor shall be responsible for the cost of reviews by the Architect/Engineer of subsequent submissions of additional information.

4.7.5.4 No Contractor shall base a bid on a substitution that may have been approved on previous Projects. Bids shall be based solely on plans and specifications of this Project.

4.7.5.5 The Contractor shall not proceed with the purchase or installation of a substitution without the written approval of DPMC. Any such installation may result in the assessment of costs for its removal at the Contractor's expense, and/or other damages and/or termination of the Contract for default.

4.7.6 Additional Submissions

4.7.6.1 Samples: The Contractor shall furnish, for approval, all required samples. Such samples shall be submitted in accordance with the shop drawing and sample submittal schedule. All work must be installed in accordance with approved samples.

4.7.6.2 Utility Service Connections: With respect to plumbing, fire-protection, HVAC, electrical and other machinery and mechanical equipment items requiring utility service connections, the Contractor must submit the respective shop drawings with the manufacturer's certified rough-in drawings, indicating accurate locations and sizes of all service utility connections.

4.7.6.3 Sleeve and Opening Drawings: Prior to installing service utilities or other piping, through structural elements of the building, the Contractor shall prepare and submit, for approval by the Architect/Engineer, accurate dimensional drawings indicating the positions and sizes of all sleeves and openings required to accommodate the Work and installation of the Contractor's piping, equipment, etc. All such drawings must contain reference to the established dimensional grid of the building. Such drawings must be submitted in accordance with the approved shop drawing and sample submission schedule.

4.7.6.4 Control Valve and Circuit Location Charts and Diagrams: For all plumbing, fire-protection, HVAC and electrical work, the Contractor shall prepare a complete set of inked or typewritten control valve and circuit location diagrams, charts and lists identifying and locating all such items, and shall place the charts, diagrams and lists under frame glass in designated equipment rooms. The Contractor shall also furnish one-line diagrams, as well as such color-coding of piping, wiring and other necessary identifications as specified or required. This information is to be framed under glass and displayed where directed.

4.7.6.5 Coordination Drawings: The Contractor shall create and update a complete, composite set of Coordination Drawings. The purpose of these drawings is to identify coordination and interference problems prior to installation. Coordination Drawings are required for all equipment rooms, above ceiling spaces, shared chases, and other areas where the Work of two or more trades is to be installed. The drawings shall be drawn to a scale not smaller than 1/4"=1'-0" (30"x42" sheet size) and shall show clearly in both plan and elevation that all Work can be installed without interference. At a minimum these drawings shall indicate:

- a. The interrelationship of equipment and systems;
- b. Required installation sequences;

- c. Equipment foundations and pads, equipment, piping, conduits, racks, ductwork, insulation, panels, control centers, sprinkler and fire protection systems etc. and required clearances.

The Contractor shall prepare the coordination drawings based on the submitted shop drawings and Contract Documents. The Contractor shall prepare, submit and receive approvals for the Coordination Drawings before any sleeves or inserts are set, any floor openings are core drilled, or any equipment, equipment foundations, or related work is installed. The cost of preparing approved Coordination Drawings shall be included in the Contractor's price. DPMC may require the Contractor to identify Coordination Drawings as an item within the Schedule of Values, and incorporate them into in the Project schedule.

4.8 AS-BUILT DRAWINGS

4.8.1 The Contractor and each Subcontractor shall maintain on the Project Site at all times one set of drawings to be marked "AS-BUILT." The DPMC has the right to rely on accuracy of the "as-built" drawings provided by the Contractor. During the course of the Project, the Contractor shall mark these drawings with colored pencils to reflect any changes, as well as the dimension and the location of all pipe runs, conduits, traps, sprinkler and fire protection lines, footing depths or any other information not already shown on the drawings or differing therefrom. All buried utilities outside the building shall be located by a survey performed by a licensed surveyor who shall certify as to its accuracy. These marked-up drawings and surveys shall remain current and shall be made available to the DPMC or Architect/Engineer at all times during the progress of the Work.

4.8.2 In instances where shop drawings and/or erection drawings, of a scale larger than the Contract Drawings, are prepared by the Contractor, such drawings may be acceptable "as-built" drawings provided they are updated. A master sheet of the same dimensions as the Contract Drawings shall be prepared by the Contractor that shall indicate, sheet by sheet, a cross-reference to all shop drawings pertaining to that drawing.

4.8.3 The Contractor shall submit the "as-built" documents to the Architect/Engineer with a certification as to the accuracy of the information thereon at the time of Contract completion and before final payment will be made to the Contractor. After acceptance by the Architect/Engineer, the Contractor will furnish two sets of all shop drawings used for "as-built" documentation.

4.8.4 All "as-built" drawings as submitted by Contractors shall be dated and labeled "AS-BUILT" above the title block. This information shall be checked, edited and certified by the Architect/Engineer, who will then transpose such information from the Contractor's "as-built" drawings to the original drawings. Where shop drawings have been used by the Contractor for "as-built" documentation, the master sheet providing cross reference information, as described in section 4.8.2, shall be included in the set of "as-built" drawings furnished to DPMC.

4.9 EXCAVATIONS, CUTTING AND PATCHING

4.9.1 Soil borings, test pits or other subsurface information may be secured by an independent Contractor retained by the State prior to design and construction of the Project and, if obtained, may be included in the Contract Documents for the Contractor's use. The Contractor assumes full responsibility for interpretation of said information.

4.9.2 The Contractor shall be responsible for furnishing and setting of sleeves, built-in items, anchors, inserts, and other necessary materials for its work and for all cutting, fitting, closing in, patching, finishing, or adjusting of its work in new and/or existing construction, as required for the completed installation.

4.9.3 Approval in writing from the DPMC and the Architect/Engineer must first be obtained by the Contractor before cutting or boring through any roof, floor beams, floor construction or structural members.

4.10 TESTING

4.10.1 The Contractor shall notify the DPMC in writing of all work required to be inspected or tested. The notice shall be provided no later than five working days prior to the scheduled inspection or test. The Contractor shall bear all costs of such inspections or tests, except for Code inspections as stated in section 4.3 of this document.

4.10.2 When mechanical, electrical or other equipment is installed, it shall be the responsibility of the installing Contractor to maintain, warrant and operate it for such period of time as required by the Contract Documents or as necessary for the proper inspection and testing of the equipment and for adequately instructing the State's operating personnel. All costs associated with the maintenance, warranty, operations, inspection and testing of equipment, as well as instructing State personnel, shall be borne by the Contractor installing the equipment. All tests shall be conducted in the presence of, and upon timely notice to, the DPMC, prior to acceptance of the equipment.

4.10.3 DPMC shall have the authority to direct in writing that special or additional inspections or tests be performed. The Contractor shall comply and give notice as detailed above.

4.10.4 In the event such special or additional inspections or testing reveal a failure of the Work to comply with the terms and conditions of the Contract, the Contractor shall bear all costs thereof, including all costs incurred by the State made necessary by such failures.

4.10.5 The Contractor shall utilize inspection or testing from those firms/entities pre-qualified by DPMC. Failure to use a firm/entity pre-qualified by DPMC shall be grounds for rejection of the inspection or test as non-conforming.

4.10.6 All submittals of inspections, test reports or requests for approval shall be accompanied by a certification signed by the Contractor, attesting to: the Contractor's knowledge of the submittal; acceptance of its findings; acknowledgment that material testing meets the required standards; and a certification of the report's representation of

the facts. Failure to provide the written certification shall be grounds for rejection of the submittal.

4.10.7 The Contractor shall ensure that a copy of the inspection report is transmitted directly to the Architect/Engineer and the DPMC. The Contractor shall ensure that it includes in all of its subcontracts and purchase orders for inspection and testing, the requirement for the inspection or testing firm/entity to submit a copy of the report directly to the DPMC representative. The Contractor shall ensure that all such reports are submitted within fourteen (14) calendar days of the test or inspection.

4.10.8 In addition to tests performed by the Contractor, the State reserves the right to engage an independent testing agency or firm to perform testing inspections. The Contractor shall provide full access, provide samples, and cooperate fully with this testing agency.

4.10.9 Testing requirements for real property installed equipment (RPIE) to be furnished by the Contractor, when such testing is required by Code, Contract, or the manufacturer, shall be performed by a testing laboratory pre-qualified by DPMC, or in the absence of such, by the manufacturer or its authorized representative. The Contractor shall provide five working days' notice to the DPMC representative, to allow sufficient opportunity to witness the test.

4.10.10 The DPMC may order that any part of the Work be re-examined by the DPMC, and if so ordered, the Contractor shall open or uncover such work for re-inspection by the DPMC. If such work is found to be in accordance with the Contract, the DPMC shall pay the cost of re-inspection; however, if such work is not found to be in accordance with the Contract, the Contractor shall be responsible for the cost of re-inspection and replacement of any defective or non-conforming work.

4.11 EQUIPMENT AND MATERIALS

4.11.1 The Contractor warrants that all materials and equipment furnished under the Contract will be new, unless otherwise specified, and that all work will be of good quality, free from faults, defects, and installed in conformance with the Contract Documents. All work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective and rejected by the DPMC or the Architect/Engineer. If required by the Architect/Engineer or the DPMC, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment. This warranty shall be in addition to but not in lieu of any other warranty or guarantee provided for in the Contract.

4.11.2 The Contractor shall submit to the Architect/Engineer an original and six copies of the request for approval of materials on the form provided by DPMC for approval. Each item of material listed shall be marked "As Specified", "Substitution" or "Unspecified" as appropriate.

4.11.3 The Contractor shall furnish and deliver the necessary equipment and materials in ample quantities and as frequently as required to avoid delay in the progress of the Work and shall store them so as not to cause interference with the orderly progress of the Project.

4.11.4 The Contractor shall furnish and pay for all necessary transportation, storage, scaffolding, centering, forms, water, labor, tools, light and power and mechanical appliances and all other means, materials and supplies for properly executing the Work under this Contract, unless expressly specified otherwise in the Contract Documents. The Contractor shall have its representatives at the Site to accept delivered materials. State agencies employees and/or representatives will not accept materials, nor will State agency employees and/or representatives be responsible for damage, theft, or disappearance of the Contractor's materials, equipment, tools, or other property.

4.11.5 Products manufactured in the United States shall be used in this work, whenever available. Wherever practicable, preference shall be given at all times to material and equipment manufactured or produced in the State of New Jersey, where such preference is reasonable and will best serve the interest of the State.

4.11.6 No materials, equipment, or supplies for the Work shall be purchased by the Contractor subject to any lien or encumbrance or other agreement by which an interest is retained by the seller. This clause shall be a condition included in all agreements between the Contractor and its Subcontractors. The Contractor warrants, by signing its invoice, that it has good and sufficient title to all such material, equipment and supplies used by it in the Work, free from all liens, claims or encumbrances.

4.12 TEMPORARY FACILITIES

The Contractor shall be responsible for providing for its own storage areas, employee vehicular parking and staging areas, excavation borrow/spoils designated areas, commercial canteen areas, and all other areas necessary for use by the Contractor. The Contractor shall locate these areas to suit Project requirements, subject to DPMC approval.

4.12.1 Field Offices - The Contractor will provide and maintain during the contract duration an on-Site suitable weather-tight insulated field office conveniently located, and shall maintain therein a complete set of Contract Documents including plans, specifications, CPM network diagrams, Change Orders, logs and other details and Project correspondence. Subject to the DPMC's written approval and at a date designated by DPMC, the field office may be removed upon enclosure of the building and space may be allocated for field offices within the building. The contents and operations will be transferred to the interior of the Project building by the Contractor, and said office(s) shall be maintained by the Contractor until final acceptance or until the DPMC approves its removal. The Contractor will be responsible to obtain and pay for all permits required for the Contractor's field offices.

4.12.2 Telephones - The Contractor shall provide its own telephones. The State will be responsible only for the cost of calls made by State employees. if there is a documented cost for same.

4.12.3 Storage - The Contractor will provide and maintain, for its own use suitable and safe temporary storage, tool shops, and employees' sheds for proper protection, storage work and shelter. The Contractor shall maintain these structures properly and remove the structures at the completion of work. The Contractor shall be responsible to maintain

these facilities and the areas around the facilities in a clear and clean manner. The Contractor shall be responsible for correcting defects and damage caused by such use. Rooms in buildings at the Project Site may be used as shops and storerooms, conditioned upon written approval from DPMC.

4.12.4 Toilet Facilities

- a. The Contractor shall provide and pay for suitable temporary toilets at an approved location on the Site and prior to the start of any field work. The toilet facilities shall comply with federal, State and local laws and regulations. The Contractor will be responsible for maintenance, removal and relocation as described hereinafter.b. The Contractor shall provide a temporary toilet and/or indoor toilet connected to water and sewer to accommodate the meeting room and the Architect/Engineer's office, as well as the DPMC office.
- c. Toilets shall be serviced by a qualified and experienced firm authorized to maintain services.
- d. Each portable toilet facility shall be maintained in a neat and clean condition and serviced at least twice a week, including the removal of waste matter, sterilizing, recharging tank, refilling tissue holders, and thoroughly cleaning and scrubbing entire interior.
- e. Toilet facilities in a multiple-story building shall be located on no less than every other floor, unless otherwise directed in writing.
- f. Toilet service shall be relocated inside the building and connected to water and sewer as the progress of the Work will allow.
- g. When temporary toilets are connected to water and sewer lines, precautions shall be taken to prevent freezing.
- h. The Contractor shall remove the temporary toilet units from the Work Site at the completion of the Work, or when so directed by the DPMC or the Architect/Engineer.
- i. Workers are not to use the finished bathroom and toilet facilities in the Project buildings. Reasonable steps must be taken by the Contractor to enforce this rule.

4.12.5 Access, Roads and Walks

- a. The Contractor shall be responsible for providing and maintaining unobstructed traffic lanes on the designated construction access routes shown on the Contract Drawings or as reasonably required so as to perform the Work. The Contractor shall provide and maintain all reasonably required safety devices. The Contractor shall provide any necessary additional materials, grading and compaction, and shall remove snow and debris as necessary to provide and maintain the access roadbed and pedestrian ways in serviceable condition.
- b. The Contractor shall be responsible for constructing and maintaining all roadways, drives and parking areas within or proximate to the Site free and clear

of debris, gravel, mud, snow, ice, or any other Site materials, by ensuring that all reasonably necessary measures are taken to prevent such materials from being deposited on such surfaces. This includes, as may be appropriate, the cleaning of vehicle wheels and/or other necessary maintenance, prior to exit from the Construction Site. Should such surface require cleaning, the Contractor will clean these surfaces without additional cost to the State. The Contractor will be held accountable for any citations, fines, or penalties imposed on the State for failing to comply with local rules and regulations related to Site and off-Site maintenance.

c. The Contractor shall not commence final construction of permanent driveways, parking areas or walks without the written approval of the DPMC. The Contractor shall provide additional materials and labor for maintaining and reworking the sub-grade prior to completion of the Work, to ensure improvements conform fully to the specifications.

d. The Contractor shall obtain written permission from the State for the use of any existing driveways or parking areas not specifically designated for such use in the Contract Documents. If permission is granted, the Contractor shall maintain such driveways and areas in good condition during the construction period, and at the completion of the Project, shall leave them in the same or better condition as at the start of the Work. Conditions before use shall be carefully photographed and documented by the Contractor.

4.12.6 Light and Power

a. The Contractor shall extend electrical service to the building or buildings at locations approved by the DPMC. Temporary electrical service shall be independent of the existing permanent service. Initial temporary service shall be three phase or single phase as indicated in the Contract Documents. The Contractor is responsible to investigate and verify the appropriateness and availability of electrical service with the local utility company prior to the bid date. The Contractor's bid shall be deemed to include all costs associated with providing this power. Temporary light and power installations, wiring, and miscellaneous electrical hardware must meet the electrical Code and will be inspected by NJUCC officials. The Contractor shall provide the necessary distributing facilities and a meter, and shall pay the cost of running temporary services from the nearest utility company power pole. All costs shall be included in the Contractor's bid.

b. In the event that a water well is the source of water supply for the Project, the extension of electrical service shall include the necessary wiring of sufficient capacity to the location of the well for the operation of the well pump. Where service of a type other than herein mentioned is required, the Contractor requiring it shall install and pay all costs of such special service. The size and incoming service and main distribution switch and panel shall be sized as any service by NEC requirements.

c. The Contractor shall provide all electrical service for the operation of elevator equipment during construction.

d. The Contractor shall pay for the cost of all electric energy used on distribution lines installed.

e. The Contractor shall provide and pay for all maintenance, servicing, operation and supervision of the service and distribution facilities.

f. If the Contractor fails to carry out its responsibility in the supplying uninterrupted light and power as set forth herein, the Contractor shall be held responsible for such failure, and the DPMC shall have the right to take such action as is deemed proper for the protection and conduct of the Work. Any costs associated with DPMC obtaining or supplying light and power shall deducted from any payment due to the Contractor.

g. The Contractor shall comply with the requirements of the Federal Occupational Safety and Health Act of 1970 with regard to temporary light and power.

4.12.7 Temporary Enclosures

Whenever necessary in order to maintain proper temperatures for the execution or protection of the Work, the Contractor shall furnish and maintain temporary enclosures for all openings in exterior walls that are not enclosed with finished materials. Temporary wood doors shall be provided at door openings.

4.12.8 Temporary Heating, Ventilation and Air Conditioning

a. Prior to Enclosure - Prior to the building being enclosed by walls and roof, if the outside temperatures falls below 45 degrees Fahrenheit ("F") at any time during the day or night, and heat is required for work in progress or for its protection or curing, the Contractor shall furnish, at its expense, acceptable means to provide sufficient temporary heat to maintain a temperature required by the Work being performed but in no case less than 45 degrees F.

b. Generally Enclosed

(1) For the purposes of establishing the beginning of the Contractor's obligation to provide temporary heat, a building or major unit thereof shall be considered generally enclosed when (a) the exterior walls have been erected, (b) a temporary roof or permanent roof is installed and in a watertight condition, and (c) temporary or permanent doors are hung and window openings are closed with either permanent or temporary weather-tight enclosures. A major unit of buildings as referred to herein shall be: (a) an entire separate structure, or (b) a fully enclosed wing which shall have a floor area equal to at least 50% (fifty percent) of the total floor area of the Project.

(2) As soon as the DPMC determines that the building, or a major unit thereof, is "generally enclosed" by walls and roof, and when the outside temperature falls below 55 degrees F. at any time during the day or night, the Contractor shall furnish sufficient heat by the use and maintenance of LP gas heaters or other acceptable means to maintain a temperature of not less than 55 degrees F. within the enclosed area of the building at all

times, and shall remove such heaters when no longer required. The Contractor will be held responsible for providing temporary heat and for all damages resulting from freeze-ups, for the duration of the Project from the time the building is generally enclosed to final acceptance and occupancy. The Contractor shall remove soot, smudges, and other deposits from walls, ceilings, and all exposed surfaces which are the result of the use of heating equipment, including the permanent heating system, during the period of its use for supplying heat. The Contractor shall not do any finish work until the areas are properly cleaned. The Contractor shall provide or arrange, at its own expense, supervision of the heating equipment at all times prior to providing heat, using the permanent heating system. This obligation shall commence immediately after the acknowledged permanent enclosure of the building or buildings, as confirmed by the DPMC. The Contractor shall furnish and pay for all fuel for heat required during the period when the building is generally or permanently enclosed.

(3) The Contractor shall not assume that the permanent heating system or any part thereof will be available for furnishing of temporary heat during the period for which temporary heat is required. The Contractor's base bid price shall therefore include the cost of all equipment necessary for providing temporary heat as required by the Contract Documents. The Contractor may use the permanent heating system, with written approval from DPMC. Such use however does not cause to commence the equipment's warranties and guarantees. The equipment's warranties and guarantees shall not commence to run until the State takes beneficial use of the Project and facility for the purposes intended.

(4) All heating equipment shall be NFPA-approved and connected to approved flues to the atmosphere. Heaters shall be approved by a recognized testing laboratory and must be equipped with a positive shut-off safety valve.

(5) Storage of gas cylinders within the building will not be permitted at any time.

(6) The Contractor shall provide fire extinguishers on each floor where heaters are used, and the areas must be adequately ventilated.

c. Permanent Enclosure

(1) When the building enclosure has been confirmed by the Architect/Engineer has been completed in accordance with the Contract Documents, and to the satisfaction of DPMC, it shall be considered permanently enclosed. The Architect/Engineer will also confirm in the job meeting minutes that the building, or a major unit thereof, is permanently enclosed.

(3) The Contractor shall install adequate controls to make such temporary connection as required for the operation of the HVAC system.

Should the heating system be designed for the tie-in to existing steam lines for resource of heat, the State will provide steam for temporary heat through the Project permanent heating system, at no cost to the Contractor, after the tie-in is completed by the Contractor.

(4) When the building enclosure has been confirmed by the A/E as completed, the Contractor may request permission to operate the permanent HVAC system to meet its temporary HVAC obligation. The Contractor shall maintain a minimum temperature of 55 degrees F., or a higher temperature, not to exceed 75 degrees F., as may be directed by the Contract Documents for the proper conduct and protection of the Work. The Contractor shall do so until such time as its work is completed and accepted and the Contractor is relieved of this requirement in writing by the DPMC. The Contractor shall pay for and be responsible for the maintenance in accordance with the manufacturer's recommendations, operation and supervision of the HVAC system, including the cost of all water, electricity, and fuel, until the State assumes beneficial occupancy/use of the Project.

4.12.10 Temporary Water

a. The Contractor shall provide, protect and maintain an adequate valved water supply. If the source of water supply is a well, provisions covering the supply water will include the installation of necessary power-driven pumping facilities. The well shall be protected against contamination. The water supply shall be tested periodically by the Contractor, and if necessary, shall be chlorinated and filtered. All costs of providing water will be paid for by the Contractor.

b. The Contractor is responsible to protect all temporary and permanent water lines from damage or freezing. Should water connections be made to an existing line, the Contractor shall provide a positive shut-off valve at its own cost and expense.

4.12.11 Standby Personnel

If, pursuant to trade agreement to which the Contractor is a party, the Contractor is obligated, to employ standby personnel then the Contractor shall determine and include all such costs thereof in its bid proposal. The Contractor shall not, at any time, make a claim to the State for costs relating to standby maintenance or standby supervision for electric motor-driven or other equipment.

4.12.12 Dust Control

a. The Contractor shall provide and maintain necessary temporary dust-proof partitions around areas of Work in any existing building or in new building areas as directed by the Architect/Engineer or the DPMC.

b. The Contractor shall provide and maintain Site dust control of Projects with on-Site construction as directed by the Architect/Engineer or the DPMC.

4.13 STORAGE AND SITE MAINTENANCE

4.13.1 The Contractor shall confine its apparatus, the storage of its equipment, tools and materials, and its operations and workers to areas permitted by law, ordinances, permits, and Contract as set forth in the Contract Documents, the rules and regulations of the State, or as ordered by the DPMC. The Contractor shall not unreasonably encumber the Site or the premises with materials, tools and equipment.

4.13.2 The Contractor shall, at all times during the progress of the Work keep the premises and the job Site free from the accumulation of all refuse, rubbish, scrap materials and debris caused by its operations and/or the actions of its employees, Subcontractors and/or workers, to ensure that, at all times, the premises and Site shall present a neat, orderly and workmanlike appearance. This is to be accomplished as frequently as is necessary by the removal of such refuse, rubbish, scrap materials and debris from the Site and the State's premises. Loading, cartage, hauling and dumping of same will be at the Contractor's expense.

4.13.3 At the completion of the Work, the Contractor shall remove all of its tools, construction equipment, machinery, temporary staging, false work, mock-ups, form work, shoring, bracing, protective enclosures, scaffolding, stairs, chutes, ramps, runways, hoisting equipment, elevators, derricks, cranes, and any other materials and equipment brought onto the Project Site.

4.13.4 Should the Contractor not promptly and properly discharge its obligation relating to Site maintenance and/or final clean up, the State shall have the right to employ others and to charge the resulting cost to the Contractor after first having given the Contractor a three-working day written notice of such intent.

4.13.5 The Contractor's responsibilities for final clean up shall include:

- a. Removal of all debris and rubbish resulting from or relating to the Contractor's work. Rubbish shall not be thrown from building openings above the ground floor unless contained within chutes.
- b. Removal of stains from glass and mirrors. Glass shall be washed and polished inside and outside.
- c. Removal of marks, stains, fingerprints, soil, dust or dirt from painted, decorated or stained woodwork, plaster or plasterboard, metal acoustic tile and equipment surfaces.
- d. Removal of spots, paint and soil from resilient, glazed and unglazed masonry and ceramic flooring and wall work.
- e. Removal of temporary floor protections; and cleaning, washing or otherwise treating and/or polishing, as directed, all finished floors.
- f. Cleaning of exterior and interior metal surfaces, including doors, window frames and hardware, of oil stains, dust, dirt, paint, etc. Polishing and removal of fingerprints or blemishes from such surfaces shall be completed, as applicable.

- g. Restoration of all landscaping, roadways and walkways to preexisting condition. Damage to trees and plantings shall be repaired in the next planting season, and such shall be guaranteed for one year from the date of repair and/or replanting.

4.13.6 All construction equipment, materials and/or supplies of any kind, character or description, regardless of value, which remain on the job Site for more than 30 (thirty) calendar days from the date of the Certificate of Final Acceptance, shall become the property of the State. Such construction equipment, materials and/or supplies will be disposed of in any manner the State shall deem reasonable and proper. The cost of this disposal will be deducted from any sums due the Contractor. If the payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor shall pay the difference to the State.

4.14 CUT-OVERS AND INTERRUPTIONS

All cut-overs of mechanical and electrical services to existing buildings shall be approved, scheduled and coordinated in advance with the DPMC's representative and performed at a time convenient to the occupants of said buildings so as not to unreasonably interfere with its operations.

4.15 PROTECTION/SAFETY

4.15.1 Safety Precautions and Programs – The Contractor shall be responsible for initiating, maintaining and supervising all required safety precautions and programs in connection with the Work. The Contractor shall designate a responsible member of its organization at the Site whose duty shall be the prevention of accidents. This person shall be competent to review, implement and coordinate the safety programs being performed as required by Occupational Safety and Health Administration (OSHA) or any other agency having authority over safety on a State Construction Site.

4.15.2 Protection of Persons

- a. The Contractor shall take all reasonable precautions for the safety of, and shall provide all reasonable protection to prevent damage, injury or loss to:
 - (1) Every employee on the Site and all other persons who may be affected thereby;
 - (2) All the Work and all materials and equipment to be incorporated therein, whether in storage on or off the Site, under the care, custody or control of the Contractor, or any of its Subcontractor(s) or lower tier sub-Subcontractor(s); and
 - (3) Other property at the Site or adjacent thereto (whether owned by the State or not), including but not limited to trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

b. The Contractor shall give all notices and comply with all applicable laws, ordinances, rules, regulations and lawful orders of any public authority bearing on the safety of persons or property or their protection from damage, injury or loss.

c. The Contractor shall erect and maintain, as required by existing conditions and progress of the Work, all reasonable safeguards for safety and protection, including but not limited to rails, night-lights, aircraft warning lights, the posting of danger signs and other warnings against hazards, promulgating safety regulations, notifying Owners and users of adjacent utilities and other means of protection against accidental injury or damage to persons and property.

d. The Contractor shall not load or permit any part of the Work to be loaded so as to endanger the safety of the project, its employees, or any other person on the project Site.

e. The Contractor shall promptly remedy all damage or loss to any property caused in whole or in part by the Contractor, any of its Subcontractors, lower tier Subcontractors, or anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable and for which the Contractor is responsible. These obligations are in addition to those stated elsewhere herein.

4.15.3 Protection of Property

The Contractor shall have full responsibility to install, protect, and maintain all materials and supplies in proper condition whether in storage or off the site and to immediately repair and/or replace any such damage until Final Acceptance. The Contractor shall maintain an inventory of all materials and supplies for the Work at the Site, that are delivered to the site, or delivered to approved off-site storage facilities. The State shall not be liable for any damage, theft or negligent injury to the Contractor's property.

4.15.4 Hazardous Materials

a. When the use or storage of explosives or other hazardous materials or equipment is necessary for the execution of the Work, the Contractor shall exercise the utmost care and shall carry on such activities under the supervision of properly qualified personnel.

b. The Contractor shall maintain all records, reports and files of the general storage and handling of hazardous materials as required by any and all federal, State and/or local regulatory agencies.

4.16.5 Emergencies

In any emergency affecting the safety of persons or property, the Contractor shall act with diligence to prevent threatening injury, damage or loss. In such case, the Contractor shall immediately, but in no case, not more than 24-hours following the emergency, notify the DPMC and the Architect/Engineer of the action taken.

4.16 UNCOVERING AND CORRECTION OF WORK

4.16.1 Uncovering of Work

- a. The Contractor is obligated to provide reasonable notice to the DPMC and/or the Architect/Engineer of all work scheduled to be covered, to permit DPMC and the Architect/Engineer the opportunity to inspect the Work prior to actual covering. If any portion of the Work is covered prior to inspection by the DPMC or the Architect/Engineer, it shall be uncovered for observation. Uncovering and replacement of the covering shall be at the Contractor's expense.
- b. The DPMC and/or the Architect/Engineer may request any work be uncovered by the Contractor for inspection. If such work is found to be in accordance with the Contract Documents, the cost of uncovering and replacement shall, by appropriate Change Order, be reimbursed to the Contractor. If such work is found not to be in accordance with the Contract Documents, the Contractor shall pay all associated costs.

4.16.2 Correction of Work

- a. The Contractor shall promptly correct all work rejected by the DPMC or the Architect/Engineer as defective or failing to conform to the Contract Documents, whether observed before or after final acceptance and whether or not fabricated, installed or completed. The Contractor shall bear all costs of correcting such rejected work, including the costs of all consultant services including but not limited to the Architect/Engineer's additional services.
- b. The Contractor shall remove from the site, at its own expense, all portions of the Work which are defective or non-conforming and which have not been corrected, unless removal is waived by the DPMC.
- c. If the Contractor fails to correct defective or non-conforming work in a reasonable time fixed by written notice from DPMC, then DPMC may make arrangements for such correction by others and charge the cost of so doing to the Contractor.
- d. If the Contractor does not proceed with the removal and correction of such defective or non-conforming work within a reasonable time, fixed by written notice from the DPMC or the Architect/Engineer, any materials or equipment shall become the property of the State and the DPMC may remove and dispose the non-conforming work in any manner to best meet the interest of the State. If such material is sold and the proceeds of the sale do not cover all costs which the Contractor should have borne and any additional cost incurred by the State in the uncovering, removal, disposal and correction of non-conforming work, the difference shall be charged to the Contractor and an appropriate credit Change Order shall be issued. If the payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor shall pay the difference to the State.
- e. The Contractor shall be responsible for the cost of making good all work destroyed or damaged by such correction or removal.

- f. Notwithstanding other obligations within the Contract Documents, nothing contained herein shall be construed to establish a time or date limitation upon which the DPMC must discover non-conforming work. .

4.16.3 Acceptance of Non-Conforming Work

The DPMC may determine that the best interests of the State will be served by accepting defective or non-conforming work instead of requiring its removal and correction. In such instance, the DPMC may, by any means available, exact an appropriate reduction in the Contract sum. Such adjustment shall be effected regardless of final payment having previously been made, and the Contractor and/or its surety shall be responsible for promptly remitting any funds due the State as a result thereof.

4.17 LAYOUT AND DIMENSIONAL CONTROL

4.17.1 The Contractor shall be responsible for locating and laying out the building and all of its parts on the site, in strict accordance with the Contract Documents, and shall accurately establish and maintain dimensional control. The Contractor shall employ and pay for the services of a competent and licensed New Jersey engineer or land surveyor who shall be pre-qualified by DPMC to perform all layout work, and to test the level of excavations, footing base plates, columns, walls and floor and roof lines, and furnish to the Architect/Engineer, as the Work progresses, certifications that each of such levels is as required by the drawings. The plumb lines of walls, shall be tested and certified by the surveyor as the Work progresses.

4.17.2 The Contractor's engineer/surveyor, in the course of layout work either on the site or within any building, shall establish all points, lines, elevations, grades and bench marks for proper control and execution of the Work. The Contractor's engineer/surveyor shall establish a single permanent benchmark as set forth in the Contract Documents to which all three coordinates of dimensional control shall be referenced. The Contractor's engineer/surveyor shall verify all Owner-furnished survey data including but not limited to topographical and utility location points, lines, elevations, grades and benchmarks, and buildings. Should any discrepancies be found between information given on the Contract Documents and the actual site or field conditions, the Contractor shall notify DPMC and the Architect/Engineer in writing of such discrepancy, and shall not proceed with any work affected until receipt of written instructions from the DPMC.

4.18 PROJECT SIGN

The Contractor shall erect and maintain one sign at the Project Site, as set forth in the Contract Documents and located as directed by the Architect/Engineer. Painting shall be done by a professional sign painter, with two coats of exterior paint, colors, letter face and layout as shown. No other sign will be permitted at the site. Upon completion of the Project, and when directed by the Architect/Engineer or the DPMC, the Contractor shall remove the sign.

4.19 SECURITY

4.19.1 The Contractor shall provide all locks, doors and security construction and personnel as required to secure the Project building throughout the period of construction.

4.19.2 The Contractor shall be responsible for the security of any temporary structures located on the premises outside of the building and/or any stored materials.

4.20 DPMC FIELD OFFICE

4.20.1 The Contractor will provide on-site, suitable, separate, weather-tight, insulated (floor, walls, ceilings) field office facilities for the use of DPMC personnel, as more fully described in the Contract Documents. At a minimum, the Contractor is to supply this field office with toilet facilities, heating and air conditioning, tables and chairs, and phone and data communication lines. At a time determined by the DPMC or the Architect/Engineer, the Contractor shall remove field facilities upon enclosure of the Project building and shall relocate the contents and operations of the field office to the interior of the Project building until completion of the Project.

4.20.2 The Contractor shall be responsible for the maintenance of both offices and the meeting room, including the cost of heating, air conditioning, electric current, and janitorial service.

4.21 PHOTOGRAPHS

4.21.1 The Contractor shall submit monthly progress photographs in duplicate to the DPMC, giving six (6) views of the Work with each application for payment until the Project is completed,.

4.21.2 The photographs shall be 8" by 10" shall bear the date and time of the exposure, the DPMC Project number and title, the names of the Contractor and the name of the Architect/Engineer. All photographs shall also be submitted in digital format.

4.22 REPAIR OF FINISHED SURFACES, APPLIED FINISHES, GLASS

4.22.1 The Contractor accepts sole responsibility for repair of uncontrolled dislodging, cracking, delaminating or peeling of finished surfaces such as concrete, pre-cast concrete, cast and natural stone, unit masonry, millwork, plaster, glass and applied finishes such as compound, paint, and special coatings, within the Contract Work and the limits of specified guarantee periods, regardless of the cause.

4.22.2 The Contractor shall be responsible for replacement of all broken glass, regardless of the cause. The Contractor shall replace all broken, scratched or otherwise damaged glass before the completion and acceptance of the Work. If breakage is caused by the Owner, the Contractor will be reimbursed for the replacement costs. The Contractor shall wash all glass on both sides at completion, or when directed, removing all paint spots, stains, plaster, and other materials.

ARTICLE 5 - SUBCONTRACTORS

5.1 SUBCONTRACTORS AND MATERIAL SUPPLIER APPROVALS

5.1.1 Upon their execution, but not less than fourteen (14) calendar days prior to Subcontractor mobilization on the site, and/or Subcontractor billing, the Contractor shall forward to the Architect/Engineer on the form provided by the DPMC the names of all its Subcontractors and suppliers, of such others as the DPMC may direct, proposed to perform the principal parts of the Work. The Contractor shall forward the appropriate DPMC form to the Architect/Engineer for approval. Department of Labor Contractor Registration and New Jersey Business Registration Certificate are required for all Subcontractors.

5.1.2 If the DPMC has objection to any proposed or approved Subcontractor and/or material supplier, the Contractor shall substitute another Subcontractor and/or material supplier acceptable to DPMC. Under no circumstances shall the State be obligated for additional cost due to such substitution.

5.1.3 After the acceptance of bids, the Contractor shall make no substitution of any Subcontractor person or firm previously selected and approved, without prior written approval from the Architect/Engineer and DPMC. A Contractor seeking to substitute a Subcontractor person or firm shall provide written request for substitution no less than fourteen (14) calendar days prior to the execution of Work by the Subcontractor or material supplier.

5.1.4 Approval of a Subcontractor or material supplier by the DPMC and Architect/Engineer shall not relieve the Contractor of the responsibility of complying with all provisions of the Contract Documents. The approval of a Subcontractor or material supplier does not imply approval of any construction, material, equipment or supplies.

5.2 CONTRACTOR-SUBCONTRACTOR RELATIONSHIP

5.2.1 The Contractor acknowledges its full responsibility to the State for the acts and omissions of its Subcontractors and lower tier subcontractors, and of persons and firms either directly or indirectly employed by them, equally to the extent that the Contractor is responsible for the acts and omissions of persons and firms directly or indirectly employed by it. The Contractor acknowledges that it remains fully responsible for the proper performance of its Contract regardless of whether work is performed by the Contractor's own forces or by Subcontractors engaged by the Contractor.

5.2.2 Nothing contained in the Contract Documents shall create any contractual relationship between any Subcontractor and the State. Further, no Subcontractor or material supplier shall be deemed an intended third party beneficiary under this Contract.

5.2.3 The Contractor and all Subcontractors agree that, in the employment of both skilled and unskilled labor, preference shall be given to residents of the State of New Jersey, if such labor force is available.

5.2.4 The Contractor shall require, in its agreements with Subcontractors and as a condition of agreement, that each Subcontractor require in its agreement(s) with lower tier Subcontractors and Suppliers, that the Subcontractor understands that there is no contractual obligation of any kind between the State and Subcontractor and the Subcontractor's sole recourse lies with the Contractor and/or the surety, and not with the State, that each Subcontractor and lower tier Subcontractor, bound by the terms of the Contract Documents for this Contract, and assume toward the Contractor all the obligations and responsibilities which the Contractor assumes, pursuant to the Contract Documents.

ARTICLE 6 - CONSTRUCTION PROGRESS SCHEDULE

6.1 GENERAL

The State may contract for the services of a Critical Path Method (CPM) scheduling consultant for Project planning, scheduling and cost control. If such has been arranged, then section 6.2 shall apply to the Contract between the State and the Contractor. In the absence of a statement in the bid documents that a CPM consultant has been retained by the State, then section 6.3 shall apply.

6.2 CONSTRUCTION PROGRESS SCHEDULE (CRITICAL PATH METHOD -- CPM CONSULTANT RETAINED BY THE STATE)

6.2.1 Critical Path Method

- a. The Project will be monitored by a detailed critical path method scheduling system. This system shall be the basis for the evaluation of the Contractor's performance and for progress payments to the Contractor.
- b. The Contractor shall provide all the information necessary for the CPM consultant employed by DPMC to develop a CPM network plan demonstrating complete fulfillment of all construction Contract requirements and, as necessary, for the CPM consultant to maintain an accurate CPM schedule throughout the Project. The Contractor, in consultation with the CPM consultant, will establish construction logic and activity time duration consistent with Contract documents and Project requirements. The CPM consultant will establish the level of detail to be reflected on the CPM schedule. The Contractor shall utilize the schedule in planning, coordinating and performing the Work, including all activities of Subcontractors, equipment vendors and material suppliers.
- c. The Contractor agrees that the CPM consultant's Project network schedule is the designated plan for completion of all work in the allotted time, and the Contractor will assume full responsibility for the execution of the Work as shown. The Contractor shall indicate formal acceptance of the schedule by signing the final initial (baseline) network diagrams and computer schedule listing.
- d. The Contractor shall furnish sufficient labor and construction equipment to ensure the execution of the Work in accordance with the approved CPM progress schedule. If, in the opinion of the DPMC, a Contractor falls behind the CPM progress schedule, the Contractor shall take any and all such steps as may be necessary to bring its work into compliance with the CPM progress schedule. The DPMC may require the Contractor to increase the number of shifts, days of work and/or the amount of construction labor, plant and equipment, all without additional cost to the State.
- e. The Contractor shall make no claim for, and have no right to, additional payment or extension of time for completion of the Work, or any other concession because of any misinterpretation or misunderstanding on the Contractor's part of the CPM progress schedule, the Contractor's failure to attend the pre-bid

conference, or because of any failure on the Contractor's part to become fully acquainted with all conditions relating to the CPM progress schedule and the manner in which it will be used on the Project, or because of any Subcontractor's failure to properly participate in the development of a CPM progress schedule or to perform the Contract in accordance with the CPM progress schedule.

6.2.2 Initial Submittal

a. To the extent necessary for the CPM consultant to reflect in the network diagrams the plan for completion of this Contract, the Contractor shall meet with and assist the CPM consultant and furnish, within ten (10) calendar days after award of this Contract, all necessary information for the preparation of the CPM progress schedule. This information shall include, but not necessarily be limited to, a logical sequencing of work operations, activity time estimates, intended crew flow, activity costs and estimated manpower requirements for each activity.

(1) The network diagram shall show the sequence and interdependence of activities required for the Project. In preparing the network diagram, the Contractor shall assist the CPM consultant by breaking up the Work into activities of a duration of no longer than ten (10) working days each, except as to non-construction activities (such as procurement of materials, delivery of equipment and concrete curing) and any other activities for which the CPM consultant may approve the showing of longer duration. The diagram shall show not only the activities for actual construction but also such activities as the Contractor's submittal of shop drawings, templates and equipment, material fabrication, delivery of equipment and material, substantial completion, final completion, punch list and closeout, and the delivery of Owner-furnished equipment, if applicable. The Contractor shall provide activity durations to the CPM consultant for each activity on the diagram.

(2) If requested by the CPM consultant, the Contractor shall furnish any information needed to justify the reasonableness of activity time duration. Such information shall include, but not be limited to, estimated activity manpower, unit quantities, and production rates.

(3) Failure by either the Contractor or the CPM consultant to include any element of work required for the performance of the Contract shall not excuse the Contractor from completing all work required within any applicable date, notwithstanding DPMC approval of the network diagrams.

(4) The CPM consultant will establish the level of detail to be reflected in the CPM system.

(5) Seasonal weather conditions shall be considered in the planning and scheduling of all work influenced by high or low ambient temperatures for the completion of all Contract work within the allotted Contract duration. In addition, appropriate allowances shall be made for anticipated time losses due to normal rain and snow conditions based on

the previous five year average for that geographical area, by statistically expanding the estimated time duration for weather-sensitive activities, to ensure that the required completion date is achieved.

b. The Contractor shall be prepared to meet as many times as necessary with the CPM consultant to develop the information required for the timely development of the progress CPM schedule.

c. The Contractor shall furnish a breakdown of its total Contract price by assigning dollar values to each applicable network activity, coded for the Contractor and each Subcontractor, which cumulatively equals the total Contract amount. Upon acceptance by DPMC, the values will be used as a basis for determining progress payments. Progress payments to the Contractor shall be dependent upon final acceptance by DPMC of the cost-loaded progress CPM schedule.

d. Accompanying the network diagram and computer scheduling listing, the CPM consultant will furnish a computer-generated cost requisition listing, which will provide a separate tabulation of each activity shown on the CPM schedule in order of bid item or trade responsibility code as agreed to by DPMC. This listing will show, for each activity, the Contractor and each Subcontractor, the estimated dollar value of Work in place for totally or partially completed activities, including subtotals by bid items and grand totals for the entire Project. The cost requisition listing will also contain monthly activities reflecting the cost of Project overhead and administrative expenses, and activities reflecting the monthly cost of administering Project General Conditions.

6.2.3 Review and Approval:

a. After receipt of the initial network diagram, computer-produced schedule and cost requisition listing, the DPMC representative shall meet with the Contractor and CPM consultant for joint review, correction, or adjustment of the proposed plan and progress CPM schedule to evaluate the cost values assigned to each activity. Within ten (10) calendar days after the joint review, the CPM consultant will revise the network diagram and/or computer-produced schedule in accordance with agreements reached during the joint review, and shall submit two (2) copies each of the revised network diagram, computer-produced schedule and cost requisition listing to DPMC. The revised schedule documents will be reviewed by DPMC and, if found to be as agreed upon, will be approved. A copy of each will be returned to the CPM consultant for distribution and the CPM consultant shall forward same to the Contractor by email and/or overnight mail. The Contractor shall review these documents and shall indicate acceptance by signing the schedule documents. If the Contractor objects to the schedule documents, the Contractor shall forward these objections in writing to DPMC within ten (10) calendar days of the date of receipt of same or be deemed to have accepted the schedule documents. Objections shall include the precise activities of the schedule to which the Contractor objects and identify the basis of the objection. The Contractor will then meet with the DPMC representative and the CPM consultant to review the Contractor's objections. The CPM consultant may

revise the network diagram and the computer-produced schedule in accordance with the agreements reached during this final review and shall submit two (2) copies each of the revised network diagram, computer-produced schedule and cost requisition listing to DPMC. The re-submission will be reviewed by DPMC and, if found to be as agreed upon, will be approved and a copy of each will be returned to the CPM consultant for distribution and the CPM consultant shall forward same to the Contractor by email and/or overnight mail. The Contractor shall review these schedule documents to ensure that that the documents reflect all changes agreed upon, accept and sign. The Contractor shall indicate its acceptance by signing the scheduling documents, computer-produced schedule and cost requisition. Approval will be without reservation, and the Contractor will be deemed to have accepted the schedule as adequate, proper and binding in all respects and shall not raise further objections to the schedule.

b. After the network diagrams and computer-produced schedule have been signed by the Contractor, the CPM consultant shall forward to the Contractor and DPMC one set of copies of the network diagrams and computer-produced schedule. The network diagram and the computer-produced schedule with approved signatures shall constitute the Project work schedule until subsequently revised in accordance with the requirements of this section.

6.2.4 Progress Reporting and Changes:

a. Once every month, or more often if required by DPMC, the Contractor shall meet with the CPM consultant and DPMC's representative(s) and provide the information necessary for the CPM consultant to prepare and submit to DPMC a revised (updated) network diagram and computer-generated schedule listing showing:

- (1) Approved changes in activity sequencing;
- (2) Changes in activity duration for activities not started or partially completed where agreed upon;
- (3) The effect on the network of any delays in any activities in progress, and/or the impact of known delays which are expected to affect future work;
- (4) The effect of Contractor modifications (activity duration, logic and cost estimates) to the network;
- (5) Changes to activity logic, where agreed upon, to reflect revision in the Contractor's work plan, i.e., changes in activity duration, cost estimates, and activity sequences for the purposes of regaining lost time or improving progress; and
- (6) Changes to milestones, due dates, and the overall Contract completion date which have been agreed upon by DPMC since the last revision of the CPM schedule.

b. The CPM schedule shall accurately reflect the manner in which the Contractor intends to proceed with the Project and shall incorporate the impact of

all delays, Change Orders and change events as soon as these factors can be defined. All changes made to the schedule shall be subject to approval by DPMC prior to inclusion in the CPM schedule. If the DPMC representative and the Contractor are unable to agree as to the amount of time to be allowed for Change Order work, or the manner in which the Work is to be reflected on the network diagram, the CPM consultant will reflect the logic and time duration furnished by the Contractor for the Change Order work pending final DPMC decision. If non-approved Contractor logic and time durations are used, the Contractor agrees that any time which is projected to be lost on the Project as a result of these schedule changes will be considered the responsibility of the Contractor until a final agreement has been made or a final decision rendered by DPMC regarding the manner in which the Change Order work is to be reflected on the schedule. When this final decision has been made by DPMC, the CPM consultant shall revise the CPM schedule in accordance with such decision and issue a final analysis of the effect of the change on the Project.

c. If the Contractor desires to revise the logic of the approved progress CPM schedule to reflect a sequence of construction that differs from that to which was previously agreed, the Contractor must first obtain the approval of DPMC.

(1) Once each month, at the same time the network is updated, the CPM consultant, the Contractor and the DPMC representative(s) shall jointly make entries on the preceding network diagram schedule to show actual progress, identify those activities started by date and those completed by date during the previous period, show the estimated time required to complete each activity started but not yet completed, show activity percent completed and/or dollars earned, and reflect any changes in the network diagram approved in accordance with the preceding paragraph. After completion of the joint review and DPMC's approval of all entries, the CPM consultant will submit updated network diagrams, an updated computer-produced calendar-dated schedule and cost requisition listing to DPMC.

(2) The resultant monthly CPM computer printout and network diagrams shall be recognized by the Contractor as its sole updated construction schedule to complete all remaining Contract work.

(3) In addition to the foregoing, once each month the Contractor will receive a narrative report prepared by the CPM consultant. The narrative report will include a description of the amount of progress made during the last month in terms of completed activities in the plan currently in effect, a description of problem areas, current and anticipated delaying factors and the estimated impacts the delays have on the performance of other activities and completion dates, and recommendations on corrective action for the Contractor. Within seven (7) calendar days after receipt of this report, the Contractor shall submit to DPMC a written explanation of corrective action taken or proposed. The DPMC, after reviewing the written submission, may take appropriate action.

6.2.5 Payments to Contractor

- a. The monthly submission of the computer-produced calendar-dated schedule shall be an integral part and basic element of the estimate upon which progress payments shall be made pursuant to the provisions of Article 9 of these General Conditions. The Contractor shall be entitled to progress payments only upon receipt by DPMC of an updated computer-produced calendar-dated schedule and cost requisition listing.
- b. Payments to the Contractor shall be based upon the results of the computer-generated cost requisition listing which shall be prepared in conjunction with each updating of the CPM system as described above. The Contractors shall provide sufficient documentation to confirm reported progress for any cost items appearing in the scheduling and requisition system.
- c. Payments to the Contractor shall be dependent upon the Contractor furnishing all of the information which, in the judgment of DPMC, is necessary to ascertain actual progress, and all the information and data necessary to prepare any necessary revisions to the computer-produced calendar-dated schedule, cost requisition listing and/or the network diagram. DPMC's determination that the Contractor has failed or refused to furnish the required information shall constitute a basis for withholding payments until the required information is furnished and the schedule and/or diagram is prepared or revised on the basis of such information.

6.2.6 Biweekly Progress Meetings

- a. Every two (2) weeks or as otherwise directed by DPMC, the Contractor shall attend a coordination and CPM scheduling meeting on the job site. At this meeting, the Contractor shall provide detailed information regarding the Work schedule to be performed during the upcoming two weeks to permit the CPM consultant to prepare schedules for the subsequent two week period. Biweekly scheduling by the Contractor shall be in accordance with the priorities and degree of concurrent work required by the official CPM schedule for the Project. The Contractor shall be prepared to explain any difference between the Contractor's biweekly schedules and the priorities required by the latest updating of the official CPM schedule.
- b. At the biweekly scheduling meeting, the CPM consultant shall review the schedule for the preceding two (2) weeks, and the Contractor shall report the progress actually achieved for each activity which was scheduled to be performed during the two weeks, including the actual dates on which the Work was performed. The Contractor agrees that this information shall constitute the official historical record of Project progress.
- c. At each biweekly scheduling meeting, the Contractor shall document any current delays to work operations. In addition, the Contractor shall provide any available information regarding any potential delays.
 - (1) Following the biweekly scheduling meeting, the CPM consultant will issue to the Contractor a two-week look-ahead schedule as developed

at the meeting that shall constitute the construction schedule for the coming two weeks. The CPM consultant will also issue a narrative biweekly progress analysis documenting progress achieved during the preceding two weeks and analyze delays reported to constitute current or anticipated impacts to timely construction.

(2) The Contractor shall be represented at the biweekly scheduling meeting by its superintendent, who shall have complete authority to provide the information required for the development of the next two (2) weeks schedule, which includes documentation of past progress and documentation of delays. The Contractor's representatives shall also be authorized to commit to the implementation of corrective action planned to overcome delaying conditions.

6.2.7 Responsibility for Completion

a. The Contractor agrees that, when it becomes apparent from the current project CPM schedule that any Contract completion date will not be met, the Contractor will take any or all of the following actions, as required, at no additional cost to the State:

- (1) Increase construction manpower.
- (2) Increase the number of working hours per shift, shifts per working days, working days per week, or the amount of construction equipment, or any combination of the above; and/or
- (3) Reschedule activities to achieve maximum practical concurrence.

6.2.8 Adjustment of Contract Completion Date

a. The Contract completion dates will not be adjusted except under the specific and limited conditions set forth in the Contract Documents.. In the event that the Contractor requests an extension of any Contract completion date, the Contractor shall furnish a justification of such extension and provide any and all supporting evidence that DPMC requires to evaluate the Contractor's request. The DPMC shall either approve, in whole or in part, or reject the Contractor's request and will advise the Contractor in writing of its decision. If the DPMC finds that the Contractor is entitled to any extension of any Contract completion date under the provisions of this Contract, the determination as to the total number of calendar days extension permitted shall be based upon the currently approved Project CPM schedule and on all data relevant to the extension request. Such data will be included in the next updating of the CPM schedule.

b. The Contractor acknowledges and agrees that the evaluation of Project delays and determinations regarding Project time extension will be based upon the Project CPM schedule and the following criteria:

- (1) Float time shown on the Project CPM schedule is not for the exclusive use of either the Contractor or DPMC. It is agreed that float time is available for use by all performing Work on the Project, including the Contractor, other contractors, subcontractor, lower tier subcontractors,

and suppliers to facilitate the effective use of available resources and to minimize the impact of problems of Change Orders which may arise during construction. The Contractor specifically agrees that float time may be used by DPMC or its representatives or consultants in conjunction with the review activities or to resolve Project problems. The Contractor agrees that there will be no basis for a Project time extension as a result of any Project problem, Change Order or delay which only results in the loss of available positive float on the Project CPM schedule. The Contractor further agrees that there will be no basis for a claim for cost escalation for any activity which is completed on or before its initially required late end date as shown on the initial approved Project CPM schedule, regardless of the justifiability or any delaying factors which might have resulted in the elimination of float which was originally available for the activity. If the Contractor refuses to perform work that is available to it, the DPMC may consider, the Contractor to be in breach of the Contract, regardless of the float shown to be available for the Work. In such instances, the DPMC may, without prejudice to any other right or remedy, declare the Contractor to be in default and terminate the employment of the Contractor pursuant to Article 12 of the General Conditions.

(2) The Contractor agrees that no time extension will be granted for time lost due to normal seasonal weather conditions. In order to qualify for consideration for a time extension due to adverse weather conditions, it must be shown by clear and convincing evidence that the weather conditions during a given quarterly period (summer, fall, winter, spring) were more severe than the previous five-year (5) average for the Project geographical area, and that these weather conditions critically impacted the final Project completion date by delaying the performance of work on the main Project critical path. If abnormal weather losses can be shown to have affected the Project critical path, a non-compensable time extension will be considered for that portion of the proven weather-related delays, which exceeded normal weather losses that should have been anticipated for the quarterly period in question.

(3) No time extensions will be considered for any weather conditions that do not affect work on the Project critical path as set forth on the current Project CPM schedule. The Contractor agrees that there will be no basis for a claim for any additional compensation resulting from any time extension issued for weather-related delays.

(4) In order for a given cause (i.e., delay, Change Order, etc.) to be considered as a basis for a total Project time extension, it must meet both of the following criteria:

- (a) It must be totally beyond the control of the Contractor and due to no direct or indirect fault of the Contractor; and
- (b) It must result in a direct delay to work on the main Project critical path.

(5) The Contractor acknowledges and agrees that actual delays to activities that, according to the Project CPM schedule, do not directly affect the main Project critical path and do not have any effect on the Contract completion date or dates, will not be the basis for a change therein.

(6) Concurrent delays are defined as two or more delays or areas of work slippage that are totally independent of one another and which, if considered individually, would each affect the final Project completion date according to the Project CPM schedule. Where the CPM consultant determines that concurrent delays exist, the Contractor acknowledges and agrees that the following criteria will be used to evaluate time extension:

- (a) If the current Project CPM schedule shows two (2) or more concurrent delays, with one analyzed to be the responsibility of DPMC and the other analyzed to be the responsibility of the Contractor, a non-compensable time extension will be considered only if the excusable delay affects the main Project critical path and this delay is shown to be a greater amount than the other concurrent delays when the impacts of the concurrent delays are independently considered. In this event, a compensable time extension will be considered only for that portion of time by which the excusable delay exceeds all concurrent non-DPMC caused delays. For example, if an excusable impact delays the Project by one-hundred (100) calendar days and concurrent contract-caused slippage independently delays the final completion date by ninety (90) calendar days, a time extension will only be considered for a maximum of ten (10) calendar days, provided the excusable delay is on the project critical path.
- (b) If the CPM schedule shows concurrent delays with some excusable delays and some the fault of the Contractor, and if the Contractor-caused delays are analyzed to be the main determining impact to the main Project critical path, then there will be no basis for a total Project time extension regardless of the nature of the concurrent excusable delays. A concurrent time extension may, however, be considered for that portion of the total Project slippage which is shown on the CPM schedule to be totally attributable to excusable delays.
- (c) If a time extension request is being made for concurrent delays which did not affect the Project critical path, this must be clearly stated in the Contractor's time extension request and all CPM activities which are claimed to have been affected by the cited delay must be specifically identified with all applicable impact dates.

6.3 CONSTRUCTION PROGRESS SCHEDULING PROVIDED BY THE CONTRACTOR

6.3.1 The Project shall be completed within the specified number of calendar days from the effective date of the Notice to Proceed.

6.3.2 The Contractor shall be responsible for preparing and furnishing to the DPMC through the Architect/Engineer before the first Contract requisition date, but in no event later than 30 (thirty) days after the effective date of the Notice to Proceed, a coordinated combined progress schedule that incorporates the progress schedules of the Contractors and all Subcontractors engaged on the Project. The schedule shall be in the form of a network diagram or other recognized graphic critical path progress schedule format that indicates, among other things, predecessor and successor activities, and major and intermediate milestones, in sufficient detail to satisfy the DPMC. (See also section 6.3.4 below.) The Contractor's initial invoice will not be processed by the DPMC until and unless such a single coordinated progress schedule has been submitted to and approved by the DPMC. Thereafter, the Contractor shall submit an updated coordinated progress schedule on a monthly basis. Receipt and approval of the updates will be a mandatory condition to payment.

6.3.3 Once each month, or more often if required by the DPMC, the Contractor shall meet with the Architect/Engineer and the DPMC representative to gather the information necessary for the Contractor's preparation of the revised/updated computer generated scheduling reports.

6.3.4 The progress schedule, based upon the logic and time estimates, shall indicate in suitable detail for display, all significant features of the Work of the Contractor and each Subcontractor, including but not limited to, the placing of orders, manufacturing durations, anticipated delivery dates for critical and long-lead items, submissions and approvals of shop drawings, construction activities, all work activities to be performed by the Contractor and its Subcontractors, the beginning and time duration thereof, and the dates of all milestones, substantial and final completion of the various elements of the Work, including punch list and close-out. Reports shall be in booklets, indexed and separated as categorized below. Each activity listed on the Schedule shall include, as a minimum, the following:

- a. The activity description;
- b. The trade (A/E, Owner, GC, Electrical, Plumbing, HVAC);
- c. The duration in calendar days;
- d. The Early Start date;
- e. The Late Start Date;
- f. The Early Finish date;
- g. The Late Finish date;
- h. The Total Float

6.3.5 The Contractor agrees that no time extension will be granted for time lost due to normal seasonal weather conditions. In order to qualify for consideration for a time extension due to adverse weather conditions, it must be shown by clear and convincing evidence that the weather conditions during a given quarterly period (summer, fall, winter, spring) were more severe than the previous five-year (5) average for the Project geographical area, and that these weather conditions critically impacted the final Project completion date by delaying the performance of work. If abnormal weather losses can be shown to have impacted the Project completion date, a non-compensable time extension will be considered for that portion of the proven weather-related delays, which exceeded normal weather losses that should have been anticipated for the quarterly period in question.

6.3.6 Immediately upon approval by DPMC, the Contractor shall prepare and distribute four copies of the progress schedule to the DPMC plus two copies to the Architect/Engineer. Each monthly updated coordinated schedule shall be signed and dated by the Contractor.

6.3.7 The Contractor shall furnish sufficient labor and construction plant and equipment to ensure the execution of the Work in accordance with the approved progress schedule. If any updated completion time or date for any activity does not conform to the durations or milestones shown in the approved progress schedule, the sequence of activities and/or the time for performance of activities shall be updated on the progress schedule to be approved by the DPMC and cured by the Contractor by any means, including performing concurrent operations, additional manpower, additional shifts, and overtime. No additional charges to the State will be allowed the Contractor for overtime, additional manpower, equipment, additional shifts, etc. (except as may be provided elsewhere in the Contract), if such expediting procedures or measures are necessary to meet the Contract completion date.

6.3.8 The progress schedule shall show:

- a. Recommended Changes in activity sequencing;
- b. Changes in activity duration for activities not started or partially completed, where agreed upon;
- c. The effect on the network of the modifications (activity duration, Predecessors and Successors);
- d. Changes for the purposes of regaining lost time or improving progress, and;
- e. Changes to milestones, due dates, and the overall Contract completion date, which have been agreed upon by the DPMC's project manager since the last revision of the progress schedule.

6.3.9 The progress schedule shall accurately reflect the manner in which the Contractor intends to proceed with the Project and shall immediately incorporate and reflect the impact of all delays and change orders. All changes made to the schedule shall be subject to approval by the DPMC.

6.3.10 The DPMC will not authorize or approve any claims for additional payment or extension of time for completion of the Work, or any other concession because of any alleged misinterpretation or misunderstanding on the Contractor's part of the Project schedule, the Contractor's failure to attend the pre-bid conference, because of any failure on the Contractor's part to become fully acquainted with all conditions relating to the Project schedule and the manner in which it will be used on the Project, or because of any other failure by the Contractor to properly participate in the development of a progress schedule or to perform the Contract in accordance with the progress schedule.

ARTICLE 7 - TIME OF COMPLETION

7.1 CONTRACT DURATION/NOTICE TO PROCEED

7.1.1 Contract duration shall commence on the effective date set forth on the written Notice to Proceed. The Notice to Proceed will be issued by the DPMC after the DPMC's receipt and acceptance of properly executed Contract Documents, including performance and payment bonds, proof of insurance and permit technical information submitted by the Contractor and/or Subcontractors. The Contractor shall not be entitled to delay, disruption, acceleration or any other claims arising from a deferred issuance of the Notice to Proceed.

7.1.2 The Contractor shall perform no work at the Contract Site prior to the issuance of the Notice to Proceed.

7.2 SUBSTANTIAL COMPLETION

7.2.1 At the request of the Contractor, the Architect/Engineer or the DPMC, the Contractor and the DPMC representative may make a joint inspection of the Work for the purpose of determining if the Work is substantially completed in accordance with the definition provided in Article 1. If DPMC, in its sole discretion, finds that the Work is substantially complete, then the DPMC will issue a written Notice of Substantial Completion for Beneficial Use. Such Notice shall in no way relieve the Contractor of any contractual obligation(s) or relieve the Contractor from responsibility to promptly complete all remaining Contract Work including, but not limited to, punch list items.

7.2.2 The standard guarantee period for equipment, workmanship and materials shall commence on the date DPMC issues the Notification of Substantial Completion for Beneficial Use, or from the time of completion and acceptance of equipment, work or materials in question, whichever is later.

7.2.3 In the event that the Project is completed in phases or stages, and/or in the event that the DPMC takes possession of any part of the Work pursuant to Section 7.4 of these General Conditions, no part of the Project shall be deemed substantially complete for purposes of the New Jersey Statute of Repose, N.J.S.A. 2A:14-1.1, prior to the issuance of a formal Notice of Substantial Completion for Beneficial Use for the all of the Work.

7.3 FINAL COMPLETION

7.3.1 Final completion of the Contract shall occur when:

- a. The DPMC and the Architect/Engineer have determined that the punch list has been completed;
- b. The Contractor has complied with the Contract Document's closeout requirements;
- c. The Contractor has submitted all Contract deliverables as required by the Contract Documents including but not limited to the following: "as-built"

documents, operating and maintenance manuals, attic stock, parts lists, repair source lists, training and certificates; and

d. The Contractor has submitted all warranties, guarantees and/or maintenance bonds required under the Contract.

7.4 PARTIAL OCCUPANCY FOR USE

7.4.1 Use and possession prior to completion: The DPMC shall have the right to take possession or use of any completed or partially completed part of the Project. Said possession or use shall not be deemed acceptance of the Work performed on the Project.

7.4.2 Prior to such possession or use, the DPMC shall furnish the Contractor with an itemized list of Work remaining to be performed or corrected on such portions of the Project that are to be possessed or used by the State. Failure by the DPMC to list any item of work shall not be deemed an acceptance of any Work under the Contract.

7.4.3 The Contractor shall not be entitled to recovery of money damages for any delays, disruptions or inefficiencies caused by such partial occupancy.

7.5 DELAY, DISRUPTION AND INTERFERENCE

7.5.1 Delay - Time Extension. If the Contractor's work is delayed, disrupted or interfered with by act, neglect or default of any party, including the State, the Architect/Engineer, or by strikes, lockouts, fire, unusual delay by common carriers, natural disasters, or by any cause for which the Contractor is not responsible; then for all such delays and suspensions, the Contractor shall be allowed one (1) calendar day addition to the time herein stated for each and every calendar day of such delay so caused in the completion of the Work as specified above, the same to be determined by the DPMC. No such extension shall be granted for any delay unless, within ten (10) calendar days after the beginning of such delay, a written request for additional time shall be filed with the DPMC.

7.5.2 Contractor's Damages for Delay, Disruption or Interference

The Contractor shall not be entitled to recovery of money damages from the DPMC caused by delay, disruption or interference with the Contractor's Work except as expressly provided under section 7.5.2 of these General Conditions paragraph. The Contractor expressly agrees that the Contractor's remedy for delay, disruption or interference shall be limited to an extension of time only and that there shall be no recovery of money damages by the Contractor for any delay, disruption or interference with the Contractor's work attributable to any cause whatsoever (other than the State's negligence, bad faith, active interference or other tortuous conduct). The Contractor expressly agrees that it shall not be entitled to recover damages due to delay, disruption or interference caused by any of the following:

- a. Delayed execution of the contract or any of the causes referenced in paragraph 7.5.2;
- b. Any act or omission by any party other than the State, including, but not limited to, the Architect-Engineer, any other Contractor or Subcontractor, any

CPM or other consultant retained by the State, any construction manager retained by the State, any agency or instrumentality of the federal government or of any local governmental entity or any utility (e.g., gas, electric, telephone, cable);

- c. Any act or omission of any agency or instrumentality of the State, other than the DPMC, including, without limitation, the Department of Environmental Protection and the Department of Community Affairs;
- d. Weather;
- e. Subsurface conditions of any type including, without limitation rock and underground utilities, whether or not such conditions were reasonably ascertainable to the Contractor at the time of bidding;
- f. Use of all or any portion the Project premises prior to completion of the Work to the extent that such use is permitted under the terms of the Contract;
- g. Delay in obtaining any permit or approval;
- h. Delay caused by the issuance of any court order, injunction or restraining order;
- i. Any delay which does not entitle the Contractor to an extension of the Contract Completion Time under Section 6.2.8 of these General Conditions; or
- j. Delay attributable to any other cause, other than a cause for which the State is legally restricted from enforcing a contractual "no damage for delay" clause under N.J.S.A. 2A:58B-3 or any other provision of law restricting or barring the enforcement of such clauses.

In interpreting this provision, the negligence or other wrongful conduct of others, including, without limitation, the Architect/Engineer, the CPM consultant, any construction management firm and any other firm or person retained by the State shall not be imputed to the State. Further, to the extent that the Contractor is entitled to recover monetary damages for delay under this Contract, such recovery shall be limited to actual direct costs incurred on account of the delay, and shall not include profit or other markup on such costs, home office overhead calculated under the Eichleay formula or any other kind of consequential or indirect cost or damage, including but not limited to any alleged cost or damage under the total cost method, the modified total cost method, or productivity factors (costs for inefficiency based on industry productivity factors such as those provided by the Mechanical Contractors Association of America (MCAA) Factors Affecting Labor Productivity).

7.5.3 In the event of the failure of the Contractor to complete its work within the time stated in its Contract, the Contractor shall be liable to the State in the sum as set forth as liquidated damages in the Contract, for each and every calendar day that the Contractor fails to attain contract completion of the work. This sum shall be treated as liquidated damages to compensate for the loss to the State of the use of premises in a completed state of construction, alteration or repair, and for added administrative and inspection costs to the State on account of the delay; provided, however, that the said liquidated damages shall be in addition to other compensatory or consequential losses or damages

that the State may incur by reason of such delay, such as, but not limited to, added costs of the Project and the cost of furnishing temporary services, if any. Any such sums for which the Contractor is liable may be deducted by the State from any moneys due or to become due to the Contractor.

7.5.4 It is hereby understood and mutually agreed by and between the Contractor and the State that the start date in the Notice to Proceed, the dates of all required intermediate milestones, and the times for substantial and final completion, as specified in the Contract Documents, are essential conditions of this Contract.

7.5.5 The Contractor agrees that said work shall be executed diligently, at such rate of progress as will ensure full completion of the Work within the time specified. It is expressly understood and agreed, by and between the Contractor and the State, that the time for the completion of the Work herein is a reasonable time, taking into consideration the average climactic range and usual industry conditions prevailing in this locality. If the said Contractor shall neglect, fail or refuse to complete the Work within the time herein specified, or any proper extension thereof granted by the DPMC, then the Contractor does hereby agree, as a part of the consideration for the awarding of its Contract, to pay the State the amount specified in section 7.5.3 above, as liquidated damages for loss of use of the Project as hereinafter set forth, for each and every calendar day that the Contractor may have exceeded the stipulated date in the Contract for substantially completing the Work.

7.5.6 It is further agreed that time is of the essence of each and every portion of this Contract and of the specifications wherein a definite and certain length of time is fixed for the performance of any act whatsoever; and where under the Contract an additional time is allowed for the completion of any Work, the new time limit fixed by such extension shall similarly be of the essence.

ARTICLE 8 - CLOSE-OUT

8.1 CLOSE-OUT PROCEDURES/FINAL PAYMENT

As part of the final completion procedures described in Article 7 and the requirements for payment as described in Article 9, the Contractor must complete all of the Close-out procedures as follows:

- a. Submit the “as-built” record documents as described in Article 4;
- b. Submit all operating and maintenance manuals, parts lists, repair source parts, and certificates as defined in 8.2 below;
- c. Provide the necessary training for operating systems and equipment as defined in 8.3 below; and
- d. Submit all guarantees as defined in 8.4 below.

8.2 OPERATIONS, EQUIPMENT AND MAINTENANCE MANUALS

8.2.1 The Contractor shall provide six (6) copies of all operating, equipment and maintenance manuals, and applicable warranties, as identified and described in the Contract Documents. The operating, equipment and maintenance manuals and warranties, including contact personnel, addresses and telephone numbers, must include a complete description of all systems and equipment and the method of operating and maintaining the equipment. These manuals must be submitted to the Architect/Engineer for review and approval at the earliest date possible following substantial completion, but in all cases prior to final acceptance. Included within the manuals shall be a list of names, addresses and telephone numbers of all the Subcontractors involved in the installations and of firms capable of performing services for each mechanical item.

8.2.2 As a pre-condition to the Final acceptance of a facility for beneficial use, the Contractor shall provide a "throw-away" copy of operations and maintenance manuals to allow the Using Agency's staff to operate the equipment prior to receiving the hard bound copies required by this Contract.

8.3 TRAINING

The Contractor shall provide formal instruction for DPMC-designated personnel, addressing the operation and maintenance of the facilities and all installed equipment for each operating system or major item of equipment or as otherwise specified. The operations and maintenance manuals shall be used as training materials. Unless otherwise accepted by the DPMC, training course format shall be split equally between classroom instruction and field exercise. All classroom instruction may be videotaped by the DPMC. Classroom instruction may be supported by professionally made videotapes. If used, a copy of each professional video that was utilized shall be provided to the DPMC at no cost for future training and reference.

8.4 GUARANTEE

8.4.1 The issuance of a final certificate for payment and/or partial or complete occupancy of the premises shall not be deemed an acceptance of Work not completed in accordance with the Contract Documents. The issuance of a final certificate for payment and/or partial or complete occupancy of the premises shall not relieve the Contractor or its surety of liability with respect to any express or implied warranties or responsibility for faulty materials or workmanship.

8.4.2 The Contractor shall guarantee and warrant, in writing, the Work performed and all materials furnished under this Contract against defects in materials and/or workmanship. The Contractor shall be responsible for the value or repair of any damage to other Work or to the building premises resulting from the performance of the Contract.

8.4.3 The Contractor is responsible for the above-stated obligations for a period of one (1) year from the date established in 7.2.2 above. All guarantees, including bonds and registrations, required by the Contract Documents shall be in writing and delivered to the DPMC with submission of the invoice for final payment.

8.4.4 The Contractor shall, at its own expense and without cost to the State, promptly after receipt of written notice thereof, make good any defects in materials or workmanship which may develop during stipulated guarantee periods, as well as any damage to other Work caused by such defects or by repairs. Any other defects in materials or workmanship not discovered during the guarantee period shall be repaired and/or replaced at the Contractor's expense, and such shall be completed within a reasonable time after written notice is given to the Contractor.

8.4.5 Pursuant to the Contract Documents, certain permanent equipment, including elevators and HVAC systems, will have to be activated during construction of the Project to support construction operations. . Despite any early activation during the construction of the Project, any and all equipment warranties must extend for the time periods required in the Contract Documents, starting at the date set forth in paragraph 7.2.2.

8.4.5 It is expressly acknowledged and agreed that the express and implied warranties and guarantees to which the State is entitled as well as all warranty and guarantee bonds issued by any surety, shall be in addition to and not in lieu of the State's right to seek recourse against the Contractor and the Contractor's surety for defective work.

ARTICLE 9 - PAYMENTS

9.1 INVOICES

9.1.1 Requests for payment under the Contract for materials delivered or services rendered require the proper completion and submittal of specific forms including, but not limited to, the following:

- a. DPMC Form 11/AR50-1 - DPMC Invoice;
- b. DPMC Form 11-2 - Monthly Estimate for Payment to Contractor;
- c. DPMC Form 11-2a - Certification of Prime Contractor;
- d. DPMC Form 11-2b – Certification of Subcontractor;
- e. Copies of Subcontractor(s) invoices;
- d. DPMC Form 11-3 - Prime Contractors Summary of Stored Materials;
- e. DPMC Form 11-3A - Agreement and Bill of Sale Certification for Stored Materials;
- f. Consent of Surety forms;
- g. Certified Payroll Records;
- h. Updated project schedule
- i. Any other information or documentation required by other provisions of the Contract documents.

9.1.3 The Contractor shall submit the completed request for payment on a monthly basis for all properly completed billable work to the DPMC Project representative and at the address identified at the pre-construction conference.

9.1.4 One (1) original and one (1) copy of the request for payment packets shall be prepared and submitted unless otherwise specified.

9.1.2 No request for payment shall be deemed to be formally submitted and received for payment until all dollar amounts and completion percentages for each line item in the invoice has been determined and agreed upon by the State and the Contractor.

9.1.5 For the purpose of the State's Prompt Payment Act (N.J.S.A. 2A:30A-1 et seq.):

- a. A proper invoice will be deemed to have been received by the owner when it is received by the person or entity designated by the State to review and sign the invoice on the State's behalf at the address designated in the pre-construction conference for receipt of invoices. Receipt of an invoice by such person or entity shall commence the running of the 20-day period for formal approval and certification as provided under N.J.S.A. 2A:30A-2(a);
- b. The "billing date", as the term is used in N.J.S.A. 2A:30A-2, shall be the earlier of the date upon which an invoice for payment is approved for payment or twenty (20) days after the invoice is received, unless within such 20-day period

the invoice is found to be incomplete or otherwise unacceptable and returned to the contractor, with a written explanation of deficiencies;

c. In the event that an invoice is found to be deficient and returned to the contractor, the “billing date” shall be calculated from the date that a corrected invoice is received.

d. Payment shall be considered to have been made on the date on which a check for such payment is dated;

e. Payment terms (e.g., “net 20”) offered by the contractor shall not govern the State’s obligation to make payment;

f. The following periods of time will not be included in the calculation of the due date of any contractor invoice:

(1) Any time elapsed between receipt of an improper invoice and its return to the contractor, not to exceed twenty (20) calendar days; or

(2) Any time elapsed between the State’s return of an improper invoice to the contractor and the State’s receipt of a corrected invoice.

9.1.6 The provisions of this Article 9 shall not govern the State’s payment obligations nor shall they supersede or modify any other contractual provision allowing the withholding of monies from the contractor to the extent that the contractor has not performed in accordance with the provisions of the contract. Nor shall this Article 9 govern the State’s payment obligations nor supersede or modify any other contractual provision governing contractor claims for additional compensation beyond the base contract price and approved change orders.

9.2 INTEREST

9.2.1 Interest shall be payable on amounts due the contractor if not paid within thirty (30) calendar days after the billing date specified in the above subparagraph 9.1.5(b), as provided under the State’s Prompt Payment of Contractors and Subcontractors Act (N.J.S.A. 2A:30A-01, et seq.) Interest on amounts due shall be payable to the contractor for the period beginning on the day after the required payment date and ending on the date on which the check for payment is drawn.

9.2.2 Interest may be paid by separate payment to the contractor, but shall be paid within thirty (30) calendar days of payment of the principal amount of the approved invoice.

9.2.3 Nothing in this Article 9 shall be construed as entitling the Contractor to payment of interest on any sum withheld by the State for any reason permitted under the contract or applicable law, or on any claim for additional compensation, over and above sums due under the base contract or approved change orders.

9.3 SCHEDULE OF VALUES AND FINAL PAYMENT

9.3.1 Unless otherwise directed, the Contractor shall furnish a schedule of amounts for Contract payments (Unit Schedule Breakdown,) of the total Contract price, showing the amount included therein for each principal category of the Work and for each Contractor

and Subcontractor, in such detail as requested, to provide a basis for determining progress payments. The schedule, as approved, shall be used only as a basis for the Contractor's estimates for progress payments, and approval by the DPMC does not constitute acceptance of the allocability and allowability of costs to a specific element of Work. The Contractor is cautioned that no payment requests shall be approved until the Unit Schedule Breakdown has been approved in writing by the DPMC.

9.3.2 The State will make progress payments monthly as the Work proceeds based upon the Unit Schedule Breakdown.

9.3.2 All material and Work paid pursuant to progress payments shall thereupon become the sole property of the State. This provision shall not be construed as relieving the Contractor from the sole responsibility for the protection of all material and Work upon which payments have been made for the restoration of any damaged work, or as waiving the right of the State to require the fulfillment of all of the terms and conditions of the Contract.

9.3.3 Following completion and acceptance of all work, the amount due the Contractor under this Contract shall be paid only upon satisfactory completion, by the Contractor, of all Contract close-out requirements, completion of a State audit on all Contract values and payments, and after the Contractor has furnished the State with a release of claims against the State, arising by virtue of this Contract, other than claims in stated amounts as may be specifically excepted by the Contractor from the release.

9.3.4 If for any reason the Contractor refuses final payment, the Project may be closed out by the State by the processing of a Final Contract Acceptance certification. The lack of such certificate shall not toll the limitations period applicable to Contractor claims against the State.

9.3.5 In addition to other warranties required by provisions of the Contract and specifications, the Contractor warrants that title to all Work, materials and equipment covered by an application for payment will pass to the State free and clear of all liens, claims, security interests or encumbrances, either upon incorporation into the construction or upon receipt of payment to the Contractor, whichever occurs first,. This provision shall not be construed as relieving the Contractor from sole responsibility for the care and protection of materials and work upon which payments have been made, or for the restoration of any damaged work, or as a waiver by the State of its rights to require fulfillment of all terms of the Contract.

9.3.6 By recommending approval of any invoice, the Architect/Engineer shall not be deemed to represent that it has made exhaustive or continuous on-Site inspections to check the quality or quantity of the Work, or that it has reviewed the construction means, methods, techniques, sequences or procedures, or that it has made any examination to ascertain how and for what purpose the Contractor has used the moneys previously paid. The payment of an invoice does not constitute an acceptance of the Work. The State reserves the right to further inspect the Work and to withhold retainage and any additional funds required to pay for any corrective action for non-conforming work.

9.3.7 If any corporation licensed to do business in New Jersey shall be or become delinquent in the payment of taxes, assessments or fees due the State, unless under an

active appeal process or any final judgment in the State's favor against the Contractor, the DPMC may, in accordance with N.J.S.A. 54:49-19 or other applicable law withhold moneys due the said corporation for the purpose of assuring the payment to the State of such taxes, assessments, fees or judgment.

9.4 CERTIFICATION OF PAYMENTS TO SUBCONTRACTOR

Pursuant to N.J.S.A. 52:32-40, 41 and N.J.S.A. 2A:44-148; the Contractor shall submit a Certification of Prime Contractors form and a Certification of Subcontractor form for each Subcontractor identified in the Unit Schedule Breakdown, as part of the submission for each invoiced progress payment.

9.5 STORED MATERIALS

9.5.1 Unless specifically allowed in the Contract Documents, all materials and equipment must be delivered and installed or stored on the Site prior to payment for such material or equipment.

9.5.2 The DPMC may at its discretion allow payment for equipment stored off Site provided that the following has occurred:

- a. The DPMC has approved the Contractor's written request;
- b. The equipment has been properly stored in an approved location;
- c. The Contractor has established the Owner's title to the specific equipment;
- d. The Contractor has provided sufficient proof of insurance for the materials, equipment and the storage facility;
- e. The Contractor has submitted a release of liens on said stored equipment;
- f. The Contractor has submitted a statement agreeing to assume all costs for storage of material and equipment off Site, including, if required by the DPMC, the cost of storing such material and equipment in a bonded warehouse; and
- g. The Contractor furnishes the "Prime Contractor's Summary of Stored Materials" and "Agreement and Bill of Sale Certification for Stored Materials," forms respectively.

9.6 ALLOWANCES

9.6.1 The Contractor shall include in its bid all allowances as may be set forth in the Contract Documents. The Contractor shall purchase the "allowed materials" as directed by the DPMC on the basis of the lowest acceptable quote from at least three competitive offers or as a negotiated cost subject to DPMC approval. If the actual cost of the "allowed materials" is more or less than the stipulated allowance, the Contract price may be adjusted accordingly. The adjustment in Contract price shall be made on the basis of the actual purchase cost without additional charges for overhead, profit, bond premium or any other incidental expenses. The cost of installation of the "allowed materials," unless

otherwise specified, is to be included as the responsibility of the Contractor in whose Contract the allowance is included, and the Contractor installing such "allowed materials" shall not be entitled to additional payment for such installation.

9.6.2 Unless otherwise provided in the Contract Documents:

- a. These allowances shall cover the Contractor's true costs, including credit for any trade discount, of the materials and equipment required by the allowance, delivered at the Site, including all applicable taxes;
- b. The Contractor's costs for unloading and handling, labor, installation costs, overhead, profit and other expenses reasonably required in connection with such allowance items shall be included in the Contract sum and not as part of the allowances.

9.7 RETAINAGE

9.7.1 In making progress payments for Contract work completed, the State will retain ten percent (10%) of the approved invoice amount until final acceptance and completion of all work covered by the Contract.

9.7.2 The Contractor may, after 50% (fifty percent) of the Contract work is in place, and if the Work is proceeding on schedule, apply for a reduction in the amount retained by the State for the duration of the Contract. Such application must be in writing and accompanied by documentation granting formal consent of surety to the reduction in retainage request. If the DPMC determines that the Contractor's performance has been satisfactory and that the reduction is warranted and appropriate, the State may, with the next progress payment, release any portion of the accumulated retainage in excess of five percent (5%) of the Work in place and retain an amount equal to five percent (5%) of the Work in place for the duration of the Contract. If progress of the Work is not maintained in accordance with the approved schedule, the DPMC may elect to re-institute retainage of ten percent (10%) of the Work in place for the duration of the Contract.

9.7.3 Withholding Payment for Non-Delivery of Data:

- a. If technical data such as "as-built" drawings, reports, spare parts lists, repair parts lists, or instruction books (including additional and maintenance manuals), or any part thereof, are not delivered within the time specified by this Contract or are deficient upon delivery, the DPMC has the discretion to withhold from each invoice a percentage (in addition to any other retainage required by the Contract) of the Contract price in accordance with the following table:

When total contract price is:	Percentage to be withheld is:
Less than \$250,000.	10%
\$250,000.01 through \$1,000,000	5.0%
Over \$1,000,000	2.0%

- b. The withholding of any sums pursuant to this article shall not be construed as, or constitute in any manner, a waiver by the State of the Contractor's obligation to furnish the data required under this Contract. In the event the

Contractor fails to furnish these items, the State shall have those rights and remedies provided by law and pursuant to this Contract, in addition to, and not in lieu of, the sums withheld in accordance with this article.

9.8 MISCELLANEOUS

9.8.1 Disputes regarding nonpayment of a Contractor's invoice under this Article 9 may be submitted to non-binding Alternative Dispute Resolution (ADR) upon mutual agreement of the State and the Contractor. In such event, the State and the Contractor shall share equally the fees and expenses of the selected mediator, arbitrator, umpire or other ADR neutral. Provided, however, that nothing herein shall be construed, in whole or in part, as a waiver, release or modification of the provisions of the New Jersey Contractual Act, N.J.S.A. 59:13-1, et seq., which governs claims against the DPMC.

9.8.2 A Contractor not paid sums due under an approved invoice within thirty (30) days of the billing date may suspend performance without penalty for breach of contract, but only after providing the State with seven (7) days written notice of non-payment, and only in the event that the State fails to furnish the Contractor, within that seven-day period, a written statement of the amount withheld and the reasons for the withholding. Nothing herein shall be construed to excuse the Contractor's nonperformance, or to limit the State's rights and remedies relating to such non-performance, with regard to any monies withheld from the Contractor upon the proper notice provided under this Article 9, or with regard to any Contractor claim disputed by the DPMC.

ARTICLE 10 - CHANGES IN THE WORK

10.1 CHANGES IN THE WORK

10.1.1 The DPMC may at any time, issue a written Change Order which shall direct a change in the Work within the general scope of the Contract, including, but not limited to, changes:

- a. In the plans and/or specifications;
- b. In the method or manner of performance of the Work;
- c. In the State-furnished facilities, equipment, materials, services, or site; or directing acceleration in the performance of the Work; and/or
- d. In the time for the completion of the Work.

10.1.2 Change Orders

10.1.2.1 The Contractor agrees to prepare and submit, within ten (10) calendar days of encountering any conditions it considers a change, or upon receiving official notice of a proposed change or written direction to proceed with a change, a current DPMC form entitled "Contractor Change Order Request," to the DPMC. The Contractor shall submit an original of the form. Failure to submit a timely form may be grounds for rejection of the request for Change Order, at the DPMC's discretion.

10.1.2.2 All requests for Contract time extensions must be submitted in accordance with the requirements set forth in Articles 6 and 7, accompanied by copies of the current approved progress schedule and copies of a proposed progress schedule detailing the incorporation of the changed work and the effects of such incorporation on progress. Failure to provide all required information shall be grounds for rejection of the request.

10.1.2.3 DPMC will only consider a contract duration extension Change Order request arising from changes in the Work, if that change is proven by the Contractor to have caused a delay in the completion of the Project. When the Contract duration is increased as a result of a change, the resulting change in Contract amount will include the costs of extended performance, computed in accordance with the terms of this Section, and no further consideration of such costs arising from the specific modification will be given.

10.1.2.4 Every Change Order request submitted by the Contractor shall furnish a price breakdown, which shall cover all work involved in the change whether such work was deleted, added or changed and shall be in sufficient detail to permit an analysis of all material, labor, equipment, subcontract, overhead costs and profit. Any amount proposed for subcontracts shall be supported by an equally detailed breakdown. In addition, if the request includes a time extension, a justification (see section 10.1.4.) shall also be furnished. The request, together with the price breakdown and time extension justification, shall be furnished by the date specified by the DPMC.

10.1.2.5 The following rates shall apply in computing overhead (indirect costs) and profit for Change Orders that do not exceed \$25,000. The percentages shall be applicable for deleted work as well as additional work. When a change consists of both added and

deleted work, the applicable percentages shall be applied to the net cost or credit. In any event, the percentages shall not exceed the following:

- a. Overhead will be the sum of:
 - (1) fifteen percent (15%) of direct labor costs. NOTE: For the purpose of this article, the term "direct labor" shall include all foremen (identified by name and not included in the Project as the full-time superintendent or full time foreman as required elsewhere in the contract documents), equipment operators and skilled, semi-skilled and common laborers directly assigned to the specified operation. The term "direct labor costs" shall consist of the Contract or actual payroll rate of wage per hour and fringe benefits paid for each and every hour that such employees are actually engaged in the performance of the Work.
 - (2) fifteen percent (15%) of direct material costs. NOTE: For the purpose of this article, the term "direct material costs" shall consist of the actual costs of the materials including applicable tax and transportation charges.
- b. For rented equipment, an hourly rental rate will be used which will be determined based upon the monthly rental rates in the current edition of the Rental Rate Blue Book for Construction Equipment (Rental Book) and dividing it by 176. An allowance will be made for operating costs for each and every hour the equipment is actually operating in accordance with the rates listed in the Rental Book. The Contractor will be allowed only 65% (sixty-five percent) of the rental rate on Contractor-owned equipment.
- c. Bond premiums and payroll taxes, if applicable, will be allowed at actual cost. The Contractor shall submit from the surety to DPMC a letter for the bond premiums.
- d. The Contractor's profit on Subcontractor's work will be six percent (6%) of the Subcontractor's costs. Subcontractor indirect costs will be computed in the same manner as for the Contractor. The Contractor agrees to incorporate this article in each of its subcontracts. NOTE: When more than one tier of Subcontractor exists, for the purpose of markups, they shall be treated as one Subcontractor.
- e. A profit of six percent (6%), where profit is allowable by the terms of the applicable Contract provision, shall be added to the Contractor's total cost. Indirect costs shall not be duplicated in direct costs.

10.1.2.6 For Change Orders in excess of \$25,000 the maximum allowable percentages of 15% overhead and 6% profit applies unless negotiated lower based upon the nature, extent and complexity of the Work involved.

10.1.2.7 The DPMC, in order to avoid delays in the progress of work or when in the best interests of the State, has the discretion to direct the Contractor, in writing, to proceed with work claimed by the Contractor to be extra work, and/or to accelerate its work without a prior agreement on entitlement or costs. Such direction shall be in the form of a Letter of Direction. The Contractor may submit a claim for evaluation by

DPMC, for costs or for time on account of such work and/or acceleration on the form entitled "Contractor Change Order Request," completed in sufficient detail and in accordance with this article within ten (10) calendar days after receipt of the Letter of Direction. Nothing in this article shall excuse the Contractor from proceeding with the Work identified in the Letter of Direction and all other Contract Work. Issuance of a Letter of Direction under this article shall not be intended nor construed as an admission or acknowledgment by the State that the Contractor is entitled to additional compensation and/or time on account of such Work and/or acceleration.

10.2 ACCELERATION

The DPMC may order and direct the Contractor to accelerate its Work at any location(s) by increasing its forces, working overtime and/or working on Saturdays, Sundays, and holidays. If acceleration is required by the DPMC, and not due to any delays on the part of the Contractor, the Contractor will be reimbursed for additional costs.

ARTICLE 11 - CLAIMS AND DISPUTES

11.1 CONTRACTOR CLAIMS

11.1.1 Any claims made by a Contractor against the DPMC for damages, extra costs or any other claim made pursuant to the contract are governed by and subject to the New Jersey Contractual Liability Act, N.J.S.A. 59:13-1 et seq., as well as all the provisions in this Contract.

11.1.2 Upon presentation by the Contractor of a request in writing, the DPMC may review any decision or determination of the State or the Architect/Engineer as to any claim, dispute or any other matter in question relating to the execution or progress of the Work or the interpretation of the Contract Documents. Consistent with the intent of this Contract, the DPMC may schedule a conference for the purpose of settling or resolving such claims, disputes or other matters. Where such a conference is conducted, the Contractor and/or the Architect/Engineer shall be afforded the opportunity to be heard on the matter in question. Following review of the Contractor's request, the DPMC and the Contractor may settle or resolve the disputed matter, provided however that any such negotiations, conferences, settlement or resolution shall be subject to all requirements imposed by law, including where applicable, the New Jersey Contractual Liability Act (N.J.S.A. 59:13-1 et seq.). The DPMC's participation in any effort to negotiate, settle or resolve any such claim or dispute with the Contractor shall not operate to toll or extend the time limitations for notice or suit under the New Jersey Contractual Liability Act.

11.2 MUTUAL RIGHTS AND RESPONSIBILITIES OF ALL CONTRACTORS AND THE ARCHITECT/ENGINEER

11.2.1 Any Contractor or the Architect/Engineer which by its own acts, errors or omissions, damages or unnecessarily delays the Work or otherwise causes damage to the State, any other Contractor or the Architect/Engineer, shall be directly responsible to the aggrieved party or parties, for all costs and expenses incurred due to any such delays and/or damages whether by settlement, compromise or arbitration or judgment.

11.2.2 Any Contractor damaged by the actions of another Contractor or Architect/Engineer shall have a direct right to recovery against the party causing such damages, but shall not have a right to recover such damages against the State.

11.2.3 In addition, the party responsible for causing such damages agrees to defend, indemnify and save harmless the State from all such claims and damages. Nothing contained in this paragraph shall be construed to relieve the responsible party from any liability or damage sustained on account of such acts, errors or omissions.

11.2.4 The State shall not be held vicariously liable to any Contractor for any damages or extra costs caused by any acts or omissions by another party including but not limited to actions of the Architect/Engineer as specified in the above paragraph. The Contractor's exclusive remedy shall be against the party directly responsible for causing such damages or extra costs.

ARTICLE 12 - TERMINATION/SUSPENSION

12.1 SUSPENSION OF THE WORK / STOP WORK

12.1.1 If the Contractor fails to correct defective work or persistently fails to carry out the Work in accordance with the Contract Documents, or if the DPMC determines that it is in the best interest of the Project to do so, the DPMC may order the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated and the DPMC provides written notice to the Contractor that the stopped Work may resume.

12.1.2 The DPMC shall have the right to defer the beginning or to suspend the whole or any part of the Work herein contracted to be done whenever, in the opinion of the DPMC, it may be necessary or expedient for the State to do so.

12.2 TERMINATION FOR CAUSE

12.2.1 If the Contractor persistently or repeatedly refuses or fails to supply enough properly skilled workers or proper materials so as to avoid or eliminate delays in the orderly progress of the Work in accordance with the approved schedule; or if the Contractor fails to make prompt payment to any Subcontractor or for materials or labor; or persistently disregards laws, ordinances, rules, regulations or orders of any public authority having jurisdiction; or if the Contractor is guilty of a material breach of a provision of the Contract Documents or otherwise fails to carry out the Work in accordance with the Contract Documents, then the DPMC may, without prejudice to any other right or remedy, and after giving the Contractor and its surety three (3) working days written Notice to forthwith address such breach and default with diligence and promptness, terminate the employment of the Contractor by the issuance of a written Notice to that effect to the Contractor and its surety, should the Contractor fail to comply with the demands of the original above mentioned Three Day Notice.

12.2.2 Upon such termination, the DPMC may take possession of the Site and of all the materials, equipment, and tools on the Site and of any materials stored off Site paid for by DPMC, and may finish the Work by whatever method the DPMC may deem expedient. In such case, the Contractor shall not be entitled to receive any further payment until the Work is finished.

12.2.3 In the event of termination for default, the surety shall either complete the principal's work or finance the completion of the Work. The surety shall not have the right to do nothing. In the event of the surety's breach of its obligations to the State, the surety shall be subject to all available damages under the law, including but not limited to debarment and the penalties imposed by New Jersey's Consumer Fraud Act.

12.2.4 Within seven (7) calendar days following receipt of Notice of Termination by the surety, the surety shall submit in writing its intention to satisfy its bond obligation to the State as obligee, and to explain its plan to complete the Work, tender a completing Contractor or finance the completion of the Work.

12.2.5 If the surety elects to take over the Work and complete same or to tender a completing Contractor, it must furnish notice of its intent to do so in writing over the

signature of an authorized representative and such notice shall be served upon the DPMC within seven (7) calendar days after service upon the surety of the Notice of Termination. This document shall identify the Contractor to perform this work.

12.2.6 If the surety elects to satisfy its bond obligation by financing the completion of the Work, in lieu of taking over same, the surety and State shall enter into an agreement, within thirty (30) days of the termination Notice, setting forth the details of the payments to be made by the surety. All current obligations for labor and materials incurred and outstanding by the defaulting Contractor on this Project shall be paid by the surety without delay, subject to allowance of reasonable time to verify such claims by the surety.

12.2.7 If the surety fails to satisfy its bond obligations within the time frames established above, the DPMC may undertake the completion of the Project in any manner deemed appropriate. In that circumstance, the surety shall not be relieved of any of its payment and performance bond obligations.

12.2.8 If the unpaid balance of the Contract sum exceeds the cost of finishing the Work (including but not limited to liquidated damages for delays and all other remaining damages sustained by the State originating from such breach of Contract), such excess shall be paid to the Contractor. If such costs exceed the unpaid balance, the Contractor and its surety shall be obligated to pay the difference to the DPMC promptly upon receipt of billing from the State, and this obligation shall survive the termination of the Contract.

12.3 OWNER'S RIGHT TO COMPLETE THE WORK

12.3.1 Alternatively, should the Contractor fail or refuse to correct its breach and default after receiving the required notice as provided under Section 12.2 hereof, the DPMC, in lieu of terminating the Contractor's employment, may provide for the correction and completion of all remaining Work by other means, and deduct all costs associated with such correction and completion from any undisbursed balance of funds (including earned retainage) remaining under the Contract. Such deduction may be documented by issuance of one or more deductive change orders. DPMC's correction or completion of Work under this paragraph shall not operate to waive, release or diminish the liability of the Contractor and its surety to the State for any breach or default by the Contractor.

12.4 TERMINATION FOR CONVENIENCE

12.4.1 The DPMC may, at any time, terminate the Contract in whole or in any part for the DPMC's convenience and without cause when the DPMC in its sole discretion views termination to be in the public interest.

12.4.2 Upon receipt of an order of Termination for Convenience, the Contractor shall not proceed with any item of work which is not specified in the Order of Termination. The Contractor shall complete all items of work specified in the termination order. Such work shall include punch list items and all work necessary to ensure the safety of the public, to properly secure existing work already constructed or partially constructed and to secure the Project Site. This work so ordered shall be performed in accordance with the Contract Documents, and may include items of work not in the original Contract. The Work performed shall be considered substantially complete upon completion and

acceptance of all items of work specified in the Order, except punch list items. After completion of the punch list items and all documents required by the Contract, the Contract shall terminate upon issuance of a Final Certificate and payment. The DPMC reserves the right to declare in default a Contractor who fails to carry out the conditions set forth in an Order of Termination for Convenience.

12.4.3 When the DPMC orders termination of the Contract for Convenience, all completed items of work as of that date will be paid for at the Contract prices.

12.4.3.1 Payment for partially completed work will be paid for at agreed prices.

12.4.3.2 Payment for new items, if any, will be made either at agreed prices or in accordance with Article 10.

12.4.3.3 Materials obtained by the Contractor for the Work but which have not been incorporated therein may, at the option of the State, be purchased from the Contractor at actual cost delivered to a prescribed location, or otherwise disposed of as mutually agreed.

12.4.4 Within sixty (60) days of the effective termination date, the Contractor shall submit claims for additional costs actually incurred, not covered above or elsewhere in the Contract. Such claims may include reasonable mobilization costs, overhead expenses attributable to the Work performed, Subcontractor costs not otherwise paid for, actual idle labor costs if Work is stopped in advance of the termination date. The DPMC will not compensate the Contractor for costs prohibited under provisions of the Contract and/or anticipated profits on work not performed.

12.4.5 If the DPMC terminates the Contractor for cause as provided under Article 12.2 of the General Conditions, and if a court of law subsequently determines such termination for cause to have been undertaken without lawful justification, then such termination shall be deemed a termination for convenience governed by this Article 12.4. In that event, recovery by the Contractor and/or the Contractor's surety shall be limited to those costs which are recoverable following a termination for convenience under this Article 12.4.

ARTICLE 13 – OTHER REQUIREMENTS

13.1 PREVAILING WAGE

13.1.1 The Contractor shall comply with the New Jersey Prevailing Wage Act Laws of 1963, Chapter 150, (N.J.S.A. 34:11-56.25 et seq.) and all amendments thereto, and this act is hereby made a part of every Contract entered into on behalf of the State of New Jersey through the DPMC, except those Contracts which are not within the contemplation of the Act. Provisions of the Act include the following stipulations and requirements:

a. All workers employed in the performance of every Contract in which the Contract sum is in excess of \$2,000 and to which the DPMC is a party shall be paid not less than the prevailing wage rate as designated by the Commissioner, Division of Labor or his or her duly authorized representative.

(1) The Contractor performing public work for the DPMC and which is subject to the provisions of the Prevailing Wage Act, shall post the prevailing wage rates for each craft and classification involved as determined by the Commissioner, Division of Labor. This posting shall include the effective date of any changes thereof, and shall be displayed in prominent and easily accessible places at the Site of the Work or at such place or places as are used by the Contractor/Subcontractor to pay workers' wages.

(2) At the time of the bid due date, the Bidder and any Subcontractors identified by the Bidder must be registered in accordance with “The Public Works Contractor Registration Act” (N.J.S.A. 34:11-56.48 et seq.) All questions regarding registration shall be addressed to:

Contractor Registration Unit
New Jersey Department of Labor
Division of Wage & Hour Compliance
P O Box 389
Trenton NJ 08625-0389
Telephone: 609-292-9464
FAX: 609-633-8591

b. In the event it is found that any worker, employed by any Contractor covered by any Contract in excess of \$2,000 for any public work to which the DPMC is a party, has been paid a rate of wages less than the prevailing wage required by such Contract, DPMC may terminate the Contractor's right to proceed with the Work, or such part of the Work as to which there has been failure to pay required wages, and may otherwise execute the Work to completion.

c. In the event that any Subcontractor retained by a Contractor on any Contract in excess of \$2,000 for any public work to which the DPMC is a party, has been paid a rate of wages less than the prevailing wage required by such Contract, DPMC may terminate the Contractor's right to proceed with the Work, or such part of the Work as to which there has been failure to pay required wages, and may

otherwise execute the Work to completion or may require that the Contractor immediately substitute a new Subcontractor at the costs set forth in the Contract.

d. Nothing contained in the Prevailing Wage Act shall prohibit the payment of more than the prevailing wage rate to any worker employed on a Project.

e. The Contractor shall, as a condition of subcontract with any tier Subcontractor, require compliance with this section as a condition of Subcontract.

f. The State may audit the Contractor's conformance with the Prevailing Wage Act. If the result of such audit determines that the Contractor has not complied with the Prevailing Wage Act then such Contractor shall be responsible for the cost of this audit.

13.2 PATENTS

13.2.1 The Contractor shall hold and save the State and its officers, agents, servants, and employees harmless from liability of any nature or kind, including cost and expenses for or on account of any patented or non-patented design, devise, invention, process, article or appliance manufactured or used in the performance of the Contract, including its use by the State, unless otherwise specifically stipulated in the Contract Documents.

13.2.2 License and/or royalty fees for the use design, devise, invention, process, article or appliance which is authorized by the State must be reasonable, and paid to the holder of the patent or his or her authorized licensee directly by the State and not by or through the Contractor.

13.2.3 If the Contractor uses any design, devise, invention, process, article or appliance covered by letters, patent or copyright, it shall provide for such use by suitable agreement with the State of such patented or copyrighted design, device or material. It is mutually agreed and understood that, without exception, the Contract prices shall include all royalties or costs arising from the use of such design, devise, invention, process, article or appliance in any way involved in the Work.

13.2.4 The Contractor and/or its surety shall indemnify and save harmless the State from any and all claims for infringement by reason of the use of such patented or copyrighted devise, invention, process, article or appliance, or any trademark or copyright in connection with Work performed under this Contract, and shall defend and indemnify the State for any cost, expense or damage which it may be obliged to pay by reason of such infringement at any time during the execution of the Work or after the completion of the Work. This section shall survive the termination of the Contract.

13.3 RIGHT TO AUDIT

13.3.1 The State reserves the right to audit the records of the Contractor in connection with all matters related to its Contract. The Contractor agrees to maintain its records in accordance with "Generally Accepted Accounting Principles," for a period of not less than five (5) years after receipt of final payment. All charges must be supported by appropriate documentation, including, but not limited to canceled checks. All records

shall be made available to the New Jersey Office of the State Comptroller or other State audit agency upon request and at no cost to the State.

13.3.2 The Contractor shall maintain all documentation related to products, transactions or services under this contract for a period of five years from the date of final payment. Such records shall be made available to the New Jersey Office of the State Comptroller or other State audit agency upon request and at no cost to the State.

13.3.2 The Contractor shall develop, maintain and make available to the DPMC on request such schedule of quantities and costs, progress schedules, payrolls, reports, estimates, Change Orders, all original estimates, takeoffs and other bidding documents, all Subcontractor and supplier Contracts and changes, all records showing all costs and liabilities incurred or to be incurred in connection with the Project (including all Subcontractor and supplier costs), all payment records and all records showing all costs incurred in labor and personnel of any kind, records and other data as the State may request concerning work performed or to be performed under this Contract.

13.3.3 The Contractor acknowledges and agrees that no claim for payment which is premised to any degree upon actual costs of the Contractor shall be recognized or payable by the State except and to the extent that such actual costs are substantiated by records required to be maintained under these provisions.

13.3.4 The Contractor acknowledges and agrees that its obligation to establish, maintain and make available records and the State's right to audit as delineated herein shall extend to actual costs incurred by Subcontractors in performing work required under the Contract Documents. The Contractor shall require in each subcontract that the Subcontractor establish, maintain and make available to the State all records as defined and delineated herein, relating to all work performed under the Subcontractor including work performed by a sub-Subcontractor.

13.4 INSURANCE

13.4.1 Insurance To Be Carried By The Contractor:

The Contractor shall obtain and maintain, at its expense and for the duration of the contract, minimum insurance coverage set forth below. By requiring such minimum insurance, the State of New Jersey shall not be deemed or construed to have assessed the risk that may be applicable to the Contractor under this contract. The Contractor shall assess its own risks and if it deems appropriate and/or prudent, maintain higher limits and/or broader coverage. The Contractor is not relieved of any liability or other obligations assumed or pursuant to the Contract by reason of its failure to obtain or maintain insurance in sufficient amounts, duration or types.

a Commercial General Liability:

(1) Commercial General Liability (CGL)-ISO occurrence form CG001 or a substitute form providing a minimum coverage of \$2,000,000 per occurrence for bodily injury liability and \$2,000,000 per occurrence for property damage liability and shall cover liability arising from:

- Premises/Operations

- Independent Contractors
 - Products/Completed Operations
 - Personal and Advertising Injury
 - Liability assumed under an insured contract (including defense cost assumed)
- (2) The State of New Jersey shall be included as an additional insured under the CGL using ISO additional insured endorsement CG 20 10 and CG 20 37 or a substitute providing equivalent coverage, which endorsement shall include coverage for the State of New Jersey arising out of the completed operations of the contractor, and which coverage shall be maintained in effect for the benefit of the State of New Jersey for a period of three (3) years following the completion of the work specified in section 7.3 of this contract. Additional Insured coverage as required in this subparagraph shall apply as primary insurance with respect to any other insurance or self-insurance programs afforded to the State of New Jersey.
- (3) The CGL general aggregate shall apply separately to this project using ISO CG 2503 form – designated construction projects(s) General Aggregate Limit.
- (4) There shall be no endorsement or modification of the CGL limiting the scope of coverage for liability arising from explosion, collapse or underground property damage.
- (5) If not included in the policy form the CGL policy must be endorsed with a separation of insureds (severability of interests) endorsement.
- (6) CGL policy must provide or be endorsed (ISO form CG 24 04) to provide for waiver of subrogation.

b Business Automobile Liability:

- (1) Contractor and subcontractors shall maintain business auto liability insurance and such insurance shall cover liability arising out of any auto (including owned, hired and non-owned autos).
- (2) The limits of liability shall be not less than \$1,000,000 per occurrence for both bodily injury and property damage liability.
- (3) Business Automobile coverage shall be written on ISO form CA 00 01 or a substitute form providing equivalent liability coverage. If necessary, the policy shall be endorsed to provide contractual liability coverage equivalent to that provided in the 1990 and later additions of CA 00 01.
- (4) If required by law, the business auto policy shall be endorsed to provide pollution liability coverage equivalent to that provided under the ISO pollution liability broadened coverage for covered autos form

CA 99 48 and the Motor Carrier Act endorsement (MCS 90) shall be attached.

- (5) Waiver of Subrogation -- Contractor waives all rights against the State of New Jersey for recovery of damages to the extent these damages are covered by the business auto liability insurance obtained by Contractor pursuant to Paragraph 2.0 of this Agreement.
- c Workers Compensation: Workers Compensation Insurance applicable to the laws of the State of New Jersey and other State or Federal jurisdiction is required to protect the employees of the Contractor or any Subcontractor who will be engaged in the performance of this Contract. This insurance shall include employers' liability protection with a limit of liability not less than \$500,000.
- d Umbrella Liability: Contractor must maintain an Umbrella Liability Policy excess of the Commercial General Liability, Automobile Liability and Employer Liability coverage.
 - (1) The coverages of the umbrella policy must be as broad as the primary policies covered by this policy and include a "drop-down" provision if the primary coverage becomes impaired or exhausted.

13.4.2 Insurance To Be Carried By The State of New Jersey:

- a Builders Risk Insurance: Unless otherwise provided in this agreement the State of New Jersey shall provide and maintain, in a company or companies lawfully authorized to do business in the jurisdiction which this project is located, Builders Risk Insurance in the amount of the initial contract amount as well as subsequent modifications for the entire project at the site on a replacement cost basis.
 - (1) The Builders Risk coverage shall be on an "All Risk of direct physical loss or damage" or equivalent policy form and include theft, earthquake, flood, temporary structures, demolition and increased cost of construction, architects fees and expenses . Also the insurance must include coverage for Equipment Breakdown Coverage (a.k.a. Boiler & Machinery) which shall cover insured Equipment during installation and testing. The Builders Risk insurance shall include the interest of the State of New Jersey, the general Contractor, subcontractors and sub-tier contractors in the project.
 - (2) The Builders Risk Policy shall cover all materials equipment and supplies, assemblies and furnishings intended for specific installation in the project while located at the site. The policy will cover portions of the work off site and portions of the work in transit subject to the policy sub-limits for these coverages.
 - (3) Waivers of Subrogation -- The State of New Jersey and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents and employees and (2) the Architect/Engineer, Architect/Engineer's Consultants, and any of their

subcontractors, Sub-subcontractors, agents and employees for damages caused by fire or other causes of loss to the extent covered by the Builders Risk insurance or any other property insurance applicable to the work.

- (4) The Builders Risk policy will provide for a waiver of subrogation against all interested parties covered by the policy but only to the extent the loss is covered by the policy.
- (5) The above insurance shall apply only to the work described in this contract, and shall not apply to alterations, repairs, maintenance and installations of systems, equipment and other items of work which do not result in creating additional habitable space. This insurance shall not protect against damage or loss to any of the Contractor's or Subcontractor's tools, equipment, scaffolding, staging towers or forms and Contractor's materials stored on Site which are not part of the construction Project,. It is understood that the Contractor will, at its own expense, carry all insurance which may be required to provide the necessary protection against such loss or damage herein described which shall contain a waiver of any right of subrogation against the State of New Jersey.
- (6) Deductible Provisions -- The insurance protection described herein may contain a deductible clause. The State of New Jersey agrees to bear the cost of all deductibles of the Builders Risk Policy.
- (7) Loss Reporting and Loss Adjustment – The Contractor will receive a Loss Reporting Form whenever Builders’ Risk Insurance is written. This form includes appropriate loss reporting instructions. In the event of loss, the Contractor shall immediately notify the State of New Jersey, DPMC, in writing, and take any other appropriate steps as may be required under the standard builders' risk insurance policy in effect. Upon the occurrence of any loss or damage prior to the acceptance of the building by the State, the Contractor shall, at the State's option, replace and repair the damaged work as originally provided in the drawings and specifications at no additional compensation to that provided in the original Contract.
- (8) Status Trustee for Loss Adjustment -- All losses will be adjusted with, and payable to, the State of New Jersey, as trustee for the insured as their interests may appear. The Contractor shall be named jointly with the State in all policies of insurance, all of which shall be open to inspection by the State.
- (9) This provision shall not relieve the Contractor from its obligation to complete, according to plans and specifications, the Project covered by the Contract, and the Contractor and its surety shall be obligated to full performance of the Contractor's undertaking.

13.5 ASSIGNMENT OF ANTITRUST CLAIMS

13.5.1 The Contractor recognizes that in actual economic practice, overcharges resulting from antitrust violations are in fact usually borne by the ultimate purchaser. Therefore, and as consideration for executing this Contract, the Contractor, acting herein by and through its duly authorized agent, hereby conveys, sells, assigns, and transfers to the State of New Jersey, for itself and on behalf of its political subdivisions, instrumentalities, and public agencies, all right, title and interest to all claims and causes of action it may now or hereafter acquire under the antitrust laws of the United States or the State of New Jersey, relating to the particular goods or services purchased or acquired by the State of New Jersey or any of its political subdivisions or public agencies pursuant to this Contract.

13.5.2 In connection with this assignment, the following are the express obligations of the Contractor:

- a. The Contractor will take no action which will in any way diminish the value of the rights conveyed or assigned hereunder.
- b. The Contractor will advise the Attorney General of New Jersey and DPMC:
 - (1) in advance of its intention to commence any action on its own behalf regarding any such claim or cause(s) of action; and/or
 - (2) immediately upon becoming aware of the fact that an action has been commenced on its behalf by some other person(s) of the tendency of such action.
- c. The Contractor will notify the defendants in any antitrust suit of the fact of the within assignment at the earliest practicable opportunity after the Contractor has initiated an action on its own behalf or becomes aware that such an action has been filed on its behalf by another person. A copy of such Notice will be sent to the Attorney General of New Jersey and the DPMC.

13.5.3 It is understood and agreed that in the event any payment under any such claim or cause of action is made to the Contractor, it shall promptly pay over to the State of New Jersey the allotted share thereof, if any, assigned to the State hereunder.

END, GENERAL CONDITIONS

SECTION 011100

SUMMARY

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. The Scope of this Project is for the demolition of abandoned buildings and includes:

1. Vermin Control
2. Soil Erosion Controls
3. Site Protection
4. Building Demolition
5. Demolition of Site Improvements
6. Excavation, Backfilling, and Grading
7. Removal and Reuse / Recycle / Disposal of Site Debris
8. Removal and Reuse / Recycle / Disposal of Demolition Debris
9. ACM Abatement
10. Termination and removal of water and sewer services

1.2 MARKOUT SERVICES

A. Prior to any onsite or off site activity contact New Jersey Dig (1-800-272-1000) for a buried utility markout survey. If the survey should expire, or markings become illegible, contractors requiring excavation as part of their work shall be responsible for arranging a new survey.

1.3 SITE PROTECTION

- A. Confine operations to those areas designated on the drawings.
- B. Do not interfere with, impair, or prevent the use, maintenance and operations of the adjoining roads, curbs, sidewalks, structures, lands, and public use areas.
- C. Repair all damage to the adjoining structures, roads, curbs, sidewalks, structures, lands, and public use areas as a result of operations under this contract. Clean adjacent structures and improvements of dust, dirt, and debris caused by the demolition operations.

1.4 WARRANTIES

A. The Contractor warrants to the State and Architect / Engineer that the new turf will be established within one year of Substantial Completion. If new turf is not established within the one year period, *the Contractor shall replace any planting which have not established themselves with one year of acceptance of the planting.*

PART 2 – MATERIALS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

SECTION 013000

ADMINISTRATIVE REQUIREMENTS

PART 1 – GENERAL

1.1 PROJECT MEETINGS

- A. Construction Progress Meetings will be held at the Project site on an as needed basis.

PART 2 – MATERIALS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

SECTION 013216

CONSTRUCTION SEQUENCE

PART 1 – GENERAL

1.1 CONTRACT COMPLETION

- A. The work under this Contract shall be completed within 30 days from the date of the Notice to Proceed.

1.2 PROJECT SEQUENCE

- A. Submit a project sequence narrative for all the tasks in the scope of work within four (4) calendar days of the Notice to Proceed for review and approval.

PART 2 – MATERIALS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

SECTION 014113

REGULATORY COMPLIANCE

PART 1 – GENERAL

1.1 REGULATORY COMPLIANCE

- A. The Contractor is solely responsible for all site safety.
- B. Inspect and assure compliance with all statutory requirements for worker protection and safety. Provide, inspect, and assure that all workers utilize appropriate worker protective and safety gear.
- C. Instruct workers and inspectors in the proper use of all protective and safety equipment.
- D. All safety equipment shall be OSHA approved.

1.2 CODES AND STANDARDS

- A. New Jersey Uniform Construction Code: The work described by these Contract Documents shall be accomplished in strict accordance with the New Jersey Uniform Construction Code and in full compliance with the following Subcodes and Standards as applicable:

INTERNATIONAL BUILDING CODE, NEW JERSEY EDITION 2009
NATIONAL PLUMBING CODE
NJAC 5:23-8 ASBESTOS HAZARD ABATEMENT SUBCODE

- B. Asbestos Abatement Standards: Accomplish the work described by these Contract Documents in strict accordance and in full compliance with the Federal and State Standards specified in Section 020590.
- C. Comply with applicable regulations and standards for traffic control and sewer and water terminations.

1.3 PERMITS

- A. Asbestos Abatement Permit: The Licensed Asbestos Abatement Contractor shall obtain and pay for all permits and pay all associated fees, including any bonds that may be required.
- B. U.C.C. Construction (Demolition) Permits will be issued after:
 - 1. All asbestos abatement work is completed and the abatement certification and final clearance air sampling results are submitted in accordance with Section 020590.
 - 2. Sewer and water terminations shall been completed under this Contract and termination letters shall be issued by the utility owner / operator.
 - 4. Vermin eradication is completed and a certification submitted.
 - 3. There will be no costs to the Contractor for U.C.C. Construction (Demolition) Permits.
- C. Sewer and Water Terminations: Pay all associated fees that may be required by the utility owner / operator.
- D. Soil Erosion and Sediment Control Permits will be obtained by the Owner.

1.4 INSPECTIONS

- A. Inspections: Construction demolition inspections will be provided by DCA Code Inspection Group and will be coordinated through the DPMC, Office of Construction Services Construction Manager. Conduct all testing required by the Inspectors and Code.
- B. Sewer and water terminations shall be inspected by the utility owner / operator.

PART 2 – MATERIALS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

SECTION 014523

TESTING AND INSPECTION SERVICES

PART 1 – GENERAL

1.1 TESTING AGENCY

- A. Engage and pay for an independent testing agency(s), acceptable to the DPMC, to conduct all testing and inspection services listed below.

1.2 SPECIAL TESTING AND INSPECTIONS

- A. Compaction testing as specified in Section 312300.
- B. Environmental testing as specified in Sections 020590 and 020700.

PART 2 – MATERIALS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

SECTION 015100

TEMPORARY UTILITIES

PART 1 – GENERAL

1.1 SUMMARY

- A. This section includes the requirements for temporary utilities. There are no active utilities available at the work locations. Installation and removal of and use charges for temporary utilities shall be included in the lump sum price bid unless otherwise indicated. Upon completion of the work, remove the temporary utilities. Arrange with utility company as necessary for any required temporary utilities.

1.2 PHONE SERVICE

- A. Provide a working cellular telephone on site.

1.3 TEMPORARY WATER

- A. Provide water service if water is required for the performance of the work. Provide connections and extensions of services as required for construction operations.

1.4 TEMPORARY ELECTRICAL POWER

- A. Provide portable generators if power is required for the performance of the work. Provide connections and extensions as required for construction operations. Comply with NECA, NEMA, and UL standards and regulations for temporary electric service.

1.5 TEMPORARY LIGHTING

- A. Provide temporary lighting within the building work area that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.

PART 2 – MATERIALS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

SECTION 015526

TRAFFIC CONTROLS

PART 1 – GENERAL

1.1 TRAFFIC CONTROL DEVICES

- A. Provide, install and maintain traffic control devices as required by the municipality, County, or State in accordance with Section 159 of the NJDOT Standard Specification. Obtain approvals from the municipality, County, or State for any required traffic control operations.

1.2 VEHICLES

- A. Vehicle, truck, and equipment access:
 - 1. Avoid traffic conflicts with the public. Do not block the public roads.
 - 2. Protect adjacent building surfaces and the site from vehicles and equipment.
 - 3. Confine all vehicles and equipment to the paved road surfaces and stabilized soil surfaces.

PART 2 – MATERIALS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

SECTION 015626

TEMPORARY FENCING

PART 1 – GENERAL

1.1 PROTECTIVE BARRIERS AND SIGNAGE

- A. No public access shall be allowed on the site of work until the property is restored and accepted by the State. Enclose the site and maintain protective fencing and barriers during demolition and restoration operations to prevent public access. Provide all specified and necessary signage to inform and restrict public access.
- B. Protective barriers to restrict access to the construction site shall be temporary 6' high chain link fencing properly supported on steel posts. Provide access as required for the construction operations. Secure all fencing at the end of each work day. Install fence before construction operations begin.

1.2 DAMAGE TO PROPERTY

- A. Without expense to the Owner, restore to its original condition any adjacent property that has been damaged due to the negligence and/or work of the Contractor's agents, employees or subcontractors. Complete all such repairs to the satisfaction of the Engineer.

PART 2 – MATERIALS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

SECTION 016100

PRODUCT REQUIREMENTS

PART 1 – GENERAL

1.1 SUBMITTAL PROCEDURES

- A. Make all submittals within four (4) calendar days of the Notice to Proceed in accordance with the attached submittal log. All submittals are to be made in electronic format.
- B. DPMC 12/13: This form is to be used for submission for approval of all subcontractor(s), materials to be utilized in the construction, manufacturers/suppliers and for Professional Services. Complete the Contractor Section as follows:
 - 1. **Submission Type:** Place a check mark in the appropriate block(s) that applies to the submission.
 - 2. **Trade:** Place a check mark in the appropriate block that identifies the trade related to the submission.
 - 3. **Contractor Name:** The Prime Contractor submitting the form inserts his company name in the space indicated.
 - 4. **Description of Submittal:** Include a brief description of the submittal.
 - 5. **General Condition, Specification or Drawing section:** Identify the Article, Spec Section or Drawing that represents the submission type, i.e., Article 4.11.2 Sleeve & Opening Drawing, Spec Section 115575 Condensate Pump, Drawing FP2.2 Ames Backflow Preventer.
 - 6. **Vendor/Manufacturer/Supplier/Subcontractor:** Insert the name, address, and telephone number of the vendor/manufacturer/supplier or subcontractor for which he is requesting approval. (When required, insert the license number and registration number in the space provided, attach a copy of said license and certification.)

1.2 SUBSTITUTIONS

- A. Submit proposed substitutions within four (4) calendar days from the Notice to Proceed; after that time has expired no substitutions will be considered by the State. Substitution submittals that are incomplete will be rejected.

PART 2 – MATERIALS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

SECTION 017800

CLOSEOUT SUBMITTALS

PART 1 – GENERAL

1.1 CLOSE-OUT DOCUMENTS

A. At the completion of construction provide an electronic submittal containing the following documents, with the exception of the Consent of Surety for which an original copy with a raised seal must be submitted.

1. Waste Manifests
2. Recycling Receipts
3. Test Reports
4. Asbestos Abatement Closeout Documents
5. DPMC-20, Final Contract Acceptance
6. DPMC-11, DPMC Invoice (marked final)
7. DPMC-11-2a, Certification of Prime Contractor
8. DPMC-20r(2), Consent of Surety to Final Payment (ORIGINAL)
9. DPMC-20d, Certificate of Substantial Completion

PART 2 – MATERIALS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

SECTION 020590

REMOVAL OF ASBESTOS MATERIALS

PART 1 – GENERAL

1.1 SUMMARY

A. Applicable Properties:

1. 9 John Street – Residence & Shed #2 (Block 2, Lot 68.01)
2. 76 Miller Street – Residence (Block 216.02, Lot 13)
3. 11 Weber Avenue– Residence (Block 169.02, Lot 9)
4. 46 Weber Avenue – Residence (Block 169.31, Lots 10 & 11)
5. 61 Weber Avenue– Residence (Block 169.04, Lots 22 & 21)
6. 66 Weber Avenue – Residence (Block 169.41, Lot 2.23)

B. Scope of work: The applicable structures located within the properties listed above have been surveyed and tested for the presence of asbestos-containing materials (ACM). ACM were found to be present at each of the above properties, except for the property at 61 Weber Avenue. Refer to Appendix A for asbestos testing and analysis data. ACM identified must be removed by a New Jersey Licensed Asbestos Abatement Contractor prior to demolition.

1.2 DESCRIPTION OF WORK

A. The Asbestos Abatement Contractor shall supply all labor, materials, services and equipment required to complete the work in accordance with all applicable federal, state, and local regulations and guidelines. The estimated location, materials, and quantities for asbestos abatement and disposal are included on the following tables:

**Estimated Quantities and Locations
Asbestos-Containing Materials (ACM)**

9 JOHN STREET – RESIDENCE (BLOCK 2, LOT 68.01)		
Materials	Location	Quantity
Gypsum Paper Drywall and Associated Joint Compound	Throughout the First Floor Bottom Layer – Original Construction	2,800 SF
Gypsum Paper Drywall and Associated Joint Compound	Throughout the Second Floor	2,170 SF
Flue Cement	Basement	3 SF

9 JOHN STREET – SHED #2 (BLOCK 2, LOT 68.01)		
Materials	Location	Quantity
Cementitious Siding (Transite)	Exterior Siding	90 SF

76 MILLER STREET – RESIDENCE (BLOCK 216.02, LOT 13)		
Materials	Location	Quantity
Interior Materials (Wall, Floor, Ceiling, etc.)	Throughout Interior	TBD*

*Building shall be wet demolished and all interior suspect materials disposed of as ACM per these Technical specifications.

11 WEBER AVENUE– RESIDENCE (BLOCK 169.02, LOT 9)		
Materials	Location	Quantity
Gypsum Paper Drywall and Associated Joint Compound	Throughout the First Floor excluding bathroom off Garage	4,800 SF
White Window Caulk at Wood and Brick Interface	Windows	18 Units, 12 LF per Unit
White Garage Door Caulk	Garage Door	36 LF
Black Joint/ Seam Flashing at Copper and Brick Chimney	Roof at Chimney	20 LF

46 WEBER AVENUE – RESIDENCE (BLOCK 169.31, LOTS 10 & 11)		
Materials	Location	Quantity
Gypsum Paper Drywall and Associated Joint Compound	Throughout Building	3,200 SF
Door Caulk	Exterior Entrance Doors	4 Units, 21 LF per Unit

66 WEBER AVENUE – RESIDENCE (BLOCK 169.41, LOT 2.23)		
Materials	Location	Quantity
Gypsum Paper Drywall and Associated Joint Compound	Throughout Building	1,540 SF

B. General Notes

1. SF – Square Feet; LF – Linear Feet
2. Erect critical barriers, as required, to seal each work area.
3. There are no utilities at the sites. Provide water and electricity and all lines, hoses and connections between source and work area to perform asbestos abatement in accordance with the requirements of this Specification.
4. Upon successful completion of post abatement air testing, the Asbestos Abatement Contractor shall remove all abatement materials and equipment.

1.3 DEFINITIONS

- A. ACM - Asbestos Containing Materials. All materials and products that contain more than 1 percent asbestos.
- B. Amended Water - Water containing a wetting agent or surfactant with a maximum surface tension of 2.9 Pa (29 dynes per square centimeter) when tested according to ASTM D 1331.
- C. Area Sampling – Sampling of asbestos fiber concentrations which approximates the concentrations of asbestos in the theoretical breathing zone but is not actually collected in the breathing zone of an employee.
- D. Asbestos – The term asbestos includes Chrysotile, amosite, crocidolite, tremolite, asbestos, anthophyllite asbestos, and actinolite asbestos and any of these minerals that have been chemically treated or altered. Materials are considered to contain asbestos if the asbestos content of the material is determined to be at least one percent.
- E. Asbestos Control Area – That area where asbestos removal operations are performed which is isolated by physical boundaries, which assist in the prevention of the uncontrolled release of asbestos dust, fibers, or debris
- F. Asbestos Fibers - Those fibers having an aspect ratio of at least 3:1 and longer than 5 micrometers as determined by National Institute for Occupational Safety and Health (NIOSH) Method 7400.

- G. Asbestos Permissible Exposure Limit (PEL) - 0.1 fibers per cubic centimeter of air as an 8-hour time weighted average measured in the breathing zone as defined by 29 CFR 1926.1101 or other Federal legislation having legal jurisdiction for the protection of workers health.
- H. Background - The ambient airborne asbestos concentration in an uncontaminated area as measured before any asbestos hazard abatement efforts. Background concentrations for other (contaminated) areas are measured in similar but asbestos free locations
- I. Contractor / Asbestos Abatement Contractor - The Contractor is that individual, or entity under contract to the Department to perform the herein listed work.
- J. Department - New Jersey Division of Property Management and Construction.
- K. Encapsulation - The abatement of an asbestos hazard through the appropriate use of chemical encapsulants.
- L. Encapsulants - Specific materials in various forms used to chemically or physically entrap asbestos fibers in various configurations to prevent these fibers from becoming airborne. There are four types of encapsulants as follows which must comply with performance requirements as specified herein.
1. Removal Encapsulant (can be used as a wetting agent)
 2. Lock-Down Encapsulant (used to seal off or "lock-down" minute asbestos fibers left on surfaces from which asbestos containing material has been removed).
- M. Friable Asbestos Material - Any material greater than one percent asbestos that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure when dry.
- N. HEPA Filter Equipment - High efficiency particulate air (HEPA) filtered vacuum and/or exhaust ventilation equipment with a filter system capable of collecting and retaining asbestos fibers. Ensure filters retain 99.97 percent of particles 0.3 microns or larger as indicated in UL 586.
- O. Negative Pressure Enclosure (NPE) - That engineering control technique described as a negative pressure enclosure in 29 CFR 1926.1101.
- P. Non-friable Asbestos Material - Any material that contains more than one percent asbestos in which the fibers have been immobilized by a bonding agent, coating, binder, or other material so that the asbestos is well bound and will not normally release asbestos fibers during any appropriate use, handling, storage or transportation. Non-friable materials are defined as either:
1. Category I - means asbestos containing packing, gaskets, resilient floor coverings and asphalt roofing products.
 2. Category II - any material, excluding Category I non-friable ACM, containing more than one percent asbestos such as transite, galbestos and window caulking.
- Q. PACM – Presumed Asbestos Containing Material
- R. Powered Air Purifying Respirator (PAPR) - A positive-pressure respirator which employs a portable, rechargeable battery pack and blower to force air from the work area through a HEPA filter cartridge, where the air is cleaned and supplied to the wearer's breathing zone.
- S. Personal Sampling - Air sampling which is performed to determine asbestos fiber concentrations within the breathing zone of a specific employee, as performed according to 29 CFR 1926.1101.
- T. Qualified Person (QP) - That qualified person hired by the Contractor to perform the required contractor's tasks, who has successfully completed training and is therefore accredited under a

legitimate State Model Accreditation Plan as described in 40 CFR 763 as a Building Inspector, Contractor/Supervisor Abatement Worker, and Asbestos Project Designer; and has successfully completed the National Institute of Occupational Safety and Health (NIOSH) 582 course "Sampling and Evaluating Airborne Asbestos Dust" or equivalent. The QP must be qualified to perform visual inspections as indicated in ASTM E 1368. Ensure the QP is appropriately licensed in the State of New Jersey.

- U. Regulated ACM - Friable asbestos containing material, category I non-friable ACM that has become friable, Category I non-friable ACM that will be or has been subject to sanding, grinding, cutting, or abrading, or Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations regulated by NESHAP.
- V. Time Weighted Average (TWA) - The TWA is an 8-hour time weighted average airborne concentration of asbestos fibers.
- W. Wetting Agent - A chemical added to water to reduce the water's surface tension thereby increasing the water's ability to soak into the material to which it is applied. An equivalent wetting agent must have a surface tension of at most 2.9 Pa (29 dynes per square centimeter) when tested according to ASTM D 1331.

1.4 PERMITS AND FEES

- A. Obtain any required project permits and pay all associated fees, including any bonds that may be required.

1.5 CODES AND REGULATIONS

- A. This sub section covers the governmental regulations and industry standards that shall be adhered to during this project. These regulations and standards are the minimal requirements for this project; therefore, if the contract documents indicate procedures that are stricter, the contract documents shall govern.
- B. It is the Contractor's full responsibility to comply with all applicable federal, state and local regulations governing asbestos abatement work practices, including hauling and disposal of waste and protection of workers, visitors, and persons occupying project and adjacent areas. The Contractor is responsible for providing medical examinations and maintaining medical records of his personnel as required by the applicable federal, state, and local regulations.
- C. Federal Regulations that govern asbestos abatement work and/or the hauling and disposal of asbestos waste materials include, but are not limited to, the following:
 - 1. U.S. Department of Labor, Occupational Safety and Health Administration (OSHA) including, but not limited to:
 - a. Occupational Exposure to Asbestos, Tremolite, Anthophyllite, and Actinolite; 29 CFR, Part 1926.1101 (amended)
 - b. Respiratory Protection 29 CFR, Part 1910, Section 134
 - c. Asbestos in Construction Industry 29 CFR, Part 1926.1101 (amended)
 - d. Access to Employee Exposure and Medical Records 29 CFR, Part 1910, Section 2
 - e. Hazard Communication 29 CFR, Part 1910, Section 1200 and Part 1926.1101 (amended)
 - f. Specifications for Accident Prevention Signs and Tags 29 CFR, Part 1910, Section 145
 - 2. U.S. Environmental Protection Agency (EPA) including, but not limited to:

- a. Asbestos Abatement Projects; Worker Protection Rule 40 CFR, Part 763, Subpart G
 - b. Asbestos Hazard Emergency Response Act (AHERA) Regulation
 - c. Asbestos-Containing Materials in Schools Final Rule & Notice 40 CFR, Part 763, Subpart E
 - d. National Emission Standard for Hazardous Air Pollutants (NESHAPS) 40 CFR, Part 61, Subpart A, and Subpart M (Revised Subpart B)
 - e. Asbestos Model Accreditation Plan 40 CFR Part 763 (amended), Appendix C to Subpart E
- 3. U.S. Department of Transportation, including, but not limited to: Hazardous Substances 49 CFR Part 171 and 172
- D. Local Regulations that govern asbestos abatement work and/or hauling and disposal of asbestos waste materials include, but are not limited to:
 - 1. N.J.A.C. 5:23-8, Asbestos Hazard Abatement Subcode, New Jersey Department of Community Affairs.
 - 2. N.J.A.C. 12:120, Asbestos License and Permits, New Jersey Department of Health and Senior Services.
 - 3. N.J.A.C. 8:60, Asbestos License and Permits, New Jersey Department of Labor and Workforce Development.
 - 4. N.J.A.C. 7:26, Solid Waste Regulations, New Jersey Department of Environmental Protection.
- E. Standards that govern asbestos abatement work include but are not limited to the following:
 - 1. National Standards Institute (ANSI)
1430 Broadway
New York, New York 10018
 - a. ANSI Standard Z9.2-79 applies specifically to the design and operation of local exhaust systems for maintaining negative pressure.
 - b. ANSI Standard Z288.2-80 applies to practices for respiratory protection.
 - 2. American Society for Testing and Materials (ASTM)
100 Barr Harbor Drive
West Conshohocken, PA 19428
 - a. Specification for Encapsulants for Friable Asbestos Containing Building Materials Proposal P-189
 - b. Safety and Health Requirements Relating to Occupational Exposure to Asbestos E 849-82

1.6 NOTICES

- A. Send written notification, as required by U.S. EPA National Emission Standards for Hazardous Air Pollutants (NESHAPS) Asbestos Regulations (40 CFR, Part 61, Subpart M), to the regional Asbestos NESHAPS Contact prior to beginning any work on asbestos-containing materials. The project has been granted a waiver from the 10 day notification period, a copy of which is included in Appendix A. Send notification to the following address:

U.S. ENVIRONMENTAL PROTECTION AGENCY
Asbestos NESHAPS Contact
Air & Waste Management Division

26 Federal Plaza
New York, New York 10007

Include the following with the written notification sent to NESHAPS contact:

1. Name and address of owner or operator.
 2. Description of the facility being demolished or renovated, including the size, age, present and prior use of the facility.
 3. Procedure, including analytical methods, employed to detect the presence of ACM and Category I and Category II non-friable ACM.
 4. Estimate of the approximate amount of ACM to be removed from the facility in terms of length of pipe in linear meters (linear feet), surface area in square meters (square feet) on other facility components, or volume in cubic meters (cubic feet) if off the facility components. Also, estimate the approximate amount of Category I and Category II non-friable ACM in the affected part of the facility that will not be removed before demolition.
 5. Location and street address (including building number or name and floor or room number, if appropriate), city, county, and state, of the facility being demolished or renovated.
 6. Scheduled starting and completion dates of asbestos removal work (or any other activity, such as site preparation that would break up, dislodge, or similarly disturb asbestos material) in a demolition or renovation.
 7. Scheduled starting and completion dates of demolition or renovation.
 8. Description of planned demolition or renovation work to be performed and method(s) to be employed, including demolition or renovation techniques to be used and description of affected facility components.
 9. Procedures to be used to comply with the requirements of US EPA National Emission Standards for Hazardous Air Pollutants (NESHAPS) Asbestos Regulations (40 CFR, Part 61 Sub part M), including asbestos removal and waste handling emission control procedures.
 10. Name and location of the waste disposal site where the asbestos waste material will be deposited.
 11. Description of procedures to be followed in the event that unexpected ACM is found or Category II non-friable ACM becomes crumbled, pulverized, or reduced to powder.
 12. Name, address, and telephone number of the waste transporter.
- B. Send written notification to any other federal, state or local agencies as required. These agencies may include, but are not limited to the following:
1. OSHA
Occupational Safety and Health Administration
201 Varick Street
Room 670
New York, New York 10014
 2. NIOSH
National Institute for Occupation Safety and Health
Region II - Federal Building
26 Federal Plaza
New York, New York 10007
 3. New Jersey Department of Health and Senior Services
Asbestos Control Program
Division of Occupational and Environmental Health
P.O. Box 360
Trenton, New Jersey 08625-0360
 4. New Jersey Department of Labor and Workforce Development
Office of Asbestos Control and Licensing

- P.O. Box 054
Trenton, New Jersey 08625-0054
5. New Jersey Department of Environmental Protection
Division of Solid Waste Management
840 Bear Tavern Road
P.O. Box 414
Trenton, New Jersey 08625-0414
 6. New Jersey Department of Community Affairs
Bureau of Code Services
P.O. Box 816
Trenton, New Jersey 08625-0816

1.7 SUBMITTALS

- A. It is the intent of this section to show all submittals required after award of the Contract.
- B. Submit an Asbestos Abatement Plan with the following information for review and approval prior to beginning asbestos abatement.
 1. Copy of Project Notification and list of agencies notified including the General Contractor (if applicable), Fire Department (if applicable), Police Department (if applicable) and any other person, company and/or agency, in compliance with OSHA 1926.1101 {d}.
 2. Schedule narrative indicating location, dates, and type of work to be performed for each location.
 3. A plan including safety precautions such as fall protection, first aid, and safety procedures and equipment and work procedures to be used in the removal and demolition of materials containing asbestos. Include in the plan the methods and abatement techniques to be used, personal protective equipment to be used including, but not limited to, respiratory protection, type of whole-body protection, disposal plan, type of wetting agent and asbestos sealer to be used, and a description of the method to be employed in order to control environmental pollution to the surrounding areas. Include in the plan both fire and medical emergency response plans and the location and use of fire extinguishers, including evacuation procedures, source of medical assistance and procedures to be used for access by medical personnel (examples: first aid squad and physician) with telephone numbers and locations of emergency response personnel.
 4. Documentation of fit testing program conducted by the Asbestos Abatement Contractor.
 5. Explanation of the handling of asbestos contaminated waste including name, address and U.S. EPA and NJ DEP identification numbers of Waste Hauler and the landfill.
 6. Testing Laboratory - Submit the name, address, and telephone number of each testing laboratory selected for the analysis, and reporting of airborne concentrations of asbestos fibers along with evidence that each laboratory selected holds the appropriate New Jersey license and/or permits and certification that each laboratory is American Industrial Hygiene Association (AIHA) accredited and that persons counting the samples have been judged proficient by current inclusion on the AIHA Asbestos Analysis Registry (AAR) and successful participation of the laboratory in the Proficiency Analytical Testing (PAT) Program. Where analysis to determine asbestos content in bulk materials or transmission electron microscopy is required, submit evidence that the laboratory is accredited by the National Institute of Science and Technology (NIST) under National Voluntary Laboratory Accreditation Program (NVLAP) for asbestos analysis.
 7. Delineation of responsibility for work site supervision with names and resumes of the responsible parties.
 8. A list of personnel to be used on this project and licenses and training courses attended by the personnel including U.S. EPA, state, city, or other seminars, or any certifications

- obtained.
9. Report from medical examination conducted within last twelve months as part of compliance with OSHA medical surveillance requirements for each worker who is to enter the work area. Submit, for each worker, a written certification from the licensed health care provider including, at a minimum, the following:
 - a. The worker has met or exceeded all of the medical prerequisites of 29 CFR 1926.1101
 - b. The worker is able to wear and use the type of respiratory protection proposed for the project, and is able to work safely in an environment capable of producing heat stress in the worker.
 10. Submit certification, signed by an officer of the asbestos abatement-contracting firm, that exposure measurement, medical surveillance, and worker-training records are being kept in conformance with 29 CFR 1926.1101.
- C. After the completion of the project, submit asbestos abatement closeout documents and daily reports maintained during the project. This report shall include, but not be limited to the following items:
1. Meetings
 2. Visitations; authorized and unauthorized.
 3. Personnel, by name, entering and exiting the work area.
 4. Special or unusual events, e.g., barrier breaching, negative air filtration equipment failure.
 5. Air monitoring samples and results.
 6. Asbestos removal certification.
 7. Disposal Chain of Custody forms, including amount of material, waste hauler's signature, landfill operator's signature and location where material was removed.
 8. The report shall contain dates and times of all events recorded.

PART 2 – PRODUCTS

2.1 MATERIALS

- A. Provide flame resistant polyethylene of the largest sheet size possible to minimize seams. Thickness shall be six-mils, and shall be clear, frosted, or black as required. Certify that all polyethylene conforms to NFPA Standard 701 "Standard Methods of Fire Tests for Flame Resistant Textiles and Films".
- B. Duct tape, in two or three-inch widths as indicated, with an adhesive which is formulated to aggressively stick to sheet polyethylene.
- C. Asbestos warning signs, in English for posting at the perimeter of all work areas, as required by U.S. EPA, OSHA, and NJAC 5:23-8.
- D. Disposable full-body coveralls including foot and head covers. Require that they be worn by all workers in the work area. Provide a sufficient number for all required changes, for all workers in work area, authorized visitors, inspectors, and the Engineer.
- E. Provide gloves to all workers, authorized visitors, inspectors, and the Engineer. Require that they be worn by all workers inside the work area. Do not remove gloves from work area. Dispose of as asbestos- contaminated waste at the end of work.
- F. Half-face, at a minimum, or full-face type respirators for each worker. Equip full-face respirators with a nose cup or other anti-fogging device. Equip respirators with High Efficiency Particulate

Air (HEPA) type filters, labeled with NIOSH and MSHA Certification for "Radionuclides, Radon Daughters, Dust, Fumes, Mists including Asbestos-Containing Dusts and Mists" and color-coded in accordance with ANSI Z228.2 (1980). Single use, disposable, or quarter-face respirators are strictly forbidden for asbestos abatement work.

- G. Disposal bags shall be six-mil thick, leak tight polyethylene bags, labeled in accordance with U.S. EPA NESHAPS regulations, OSHA 29 CFR, 1926 and the U.S. Department of Transportation Hazardous Waste Hauling Regulation.
- H. If waste components are wrapped with polyethylene, or if fiberboard drums are utilized, provide labels to be attached to each component in accordance with U.S. EPA NESHAPS regulations, OSHA 29 CFR, 1926.1101, and the U.S. Department of Transportation Hazardous Waste Hauling Regulation.

PART 3 – EXECUTION

3.1 AIR MONITORING - TESTING LABORATORY SERVICES

- A. Description: This section describes the air monitoring responsibilities of the Contractor throughout the project. The Contractor's air monitoring responsibilities shall be conducted by an independent firm.
 - 1. Air monitoring as required by OSHA is the direct responsibility of the Contractor.
 - 2. Air monitoring at the building exterior within the limits of construction.
 - 3. Air monitoring of the building interior.
- B. Air monitoring
 - 1. Pre-Tests: Conduct pre-tests in the work area prior to the start of any work, including work area preparation of any type.
 - 2. Monitoring during Abatement: Conduct all monitoring as specified during the abatement and decontamination phases of the project.
 - 3. Post Abatement Clearance Monitoring
- C. Procedures
 - 1. Sampling and analysis methods shall be per NIOSH Method 7400, PCM and / or TEM, as applicable for the quantities of ACM and methods of abatement.
 - 2. Assemble filter cassettes and sampling chain as specified in the applicable requirements.
 - 3. Air monitoring shall be conducted by a trained technician.
 - 4. Take employee personnel samples using pumps whose flow rates are calibrated for a rate of one to four liters per minute (LPM). Calibrate all air monitoring pumps before and after every sampling period, the results of which shall be recorded.
 - 5. Air sample results shall be received verbally no later than twenty-four hours after the end of the shift during which the samples were taken.
 - 6. Post written reports of air sampling results outside the decontamination chamber on a daily basis.
- D. Laboratory services: Laboratories shall meet the following: For Phase Contrast Microscopy (PCM) analysis, laboratories shall be enrolled in the American Industrial Hygiene Association Proficiency Analytical Testing Program (AIHA PAT) or equivalent recognized program.
- E. Reports: Submit a written report of the OSHA sampling to the Engineer at the completion of the project. The report shall contain all air sampling data and subsequent results, problems encountered and corrective actions, pump calibrations, and general observations.

3.2 FINAL CLEARANCE AIR MONITORING

- A. Collect final clearance air samples at the completion of interior abatement activities and after a satisfactory clean-up inspection.
- B. Engineering controls, critical barriers and the decontamination unit shall remain during final clearance air sampling.
- C. Take all final clearance air samples using aggressive sampling techniques as follows:
 - 1. Before sampling pumps are started, sweep the exhaust from forced air equipment (leaf blower with 1 HP electric motor) against all walls, ceilings, floors, ledges and other surfaces in the room.
 - 2. Install an oscillating fan capable of creating a minimum air velocity of 500 feet per minute. Install a fan for every 10,000 cubic feet of work area. Direct and operate the fan towards the ceiling for the entire period of sample collection.
 - 3. Collect air samples in areas subject to normal air circulation away from room corners, obstructed locations, and sites near windows, doors or vents.
- D. Collect a minimum of five (5) samples from the work area and analyze them in accordance with the method set forth in the AHERA Regulation 40 CFR Part 763 Appendix A.
 - 1. For work area(s) where more than 160 SF or 260 LF of asbestos-containing materials have been removed, collect and analyze final clearance samples utilizing Transmission Electron Microscopy (TEM).
 - 2. For work area(s) where less than 160 SF or 260 LF of asbestos-containing materials have been removed, collect and analyze final clearance samples utilizing Phase Contrast Microscopy (PCM).
 - 3. Analyze TEM samples at a laboratory accredited by the American Industrial Hygiene Association, participating in the National Voluntary Laboratory Accreditation Program (NVLAP). Analyze PCM samples in accordance with the most recent revision to NIOSH method 7400.
 - 4. Acceptable Clearance Criteria for work area demobilization and re-occupancy are as follows:
 - a. TEM: Average of less than 70 structures per millimeter squared for all five (5) samples analyzed.
 - b. PCM: Less than 0.010 fibers per cubic centimeter.

3.3 SITE CONTROLS

- A. Warning signs: Supply and post caution signs meeting the requirements of OSHA 29 CFR, 1926 at any location, and approaches to a location, where airborne concentrations of asbestos may exceed ambient background levels. Post signs at a distance sufficiently far enough away from the work area to permit an employee to read the sign and take the necessary protective measures.
- B. Critical barriers: Completely isolate the work area from other portions of the project by installing warning tape, construction barriers and additional signs, as required.

3.4 WORKER TRAINING AND MEDICAL EXAMINATIONS

- A. Train workers, in accordance with 29 CFR, 1926.1101(k)(8), on the dangers inherent in handling asbestos and breathing asbestos dust and in proper work procedures and personal and area protective measures. Training for any Class I or II (OSHA designations) abatement work shall be in accordance with the U.S. EPA Model Accreditation Plan (MAP) for asbestos abatement worker training. Include, but do not limit, the topics covered in the

course to the following:

1. Methods of recognizing asbestos.
2. Health effects associated with asbestos.
3. Relationship between smoking and asbestos in producing lung cancer.
4. Nature of operations that could result in exposure to asbestos.
5. Importance of and instruction in the use of necessary protective controls, practices and procedures to minimize exposure including:
 - a) Engineering controls
 - b) Work Practices
 - c) Respirators
 - d) Housekeeping procedures
 - e) Hygiene facilities
 - f) Protective clothing
 - g) Decontamination procedures
 - h) Emergency procedures
 - i) Waste disposal procedures.
6. Purpose, proper use, fitting, instructions, and limitations of respirators, as required by 29 CFR, 1910.134.
7. Appropriate work practices for the work.
8. Requirements of medical surveillance program.
9. Review of 29 CFR, 1926.1101, including appendices.
10. Negative air systems.
11. Work practices including hands-on or on-job training.
12. Personal decontamination procedures.
13. Air monitoring, personal and area.
14. Provide medical examinations for all workers in accordance with 29 CFR, 1926.1101(m). Provide an evaluation of the individual's ability to work with respiratory protection in environments capable of producing heat stress in the worker.

3.5 RESPIRATORY PROTECTION

- A. Contractor shall have a respiratory protection program established in compliance with ANSI Z88.2 - 1980 "Practices for Respiratory Protection" and OSHA 29 CFR, 1910 and 1926. Post the written program at the job site.
 1. Anyone entering the work area is required to wear a respirator at all times, regardless of activity, airborne fiber levels or amount of time inside the work area.
 2. At no time shall single-use, disposable, or quarter-face respirators be used.
 3. No one having a beard or other facial hair in the fit area will be permitted to don a respirator and enter the work area.
- B. Conduct a fit testing program as required by OSHA 29 CFR 1926 and submit documentation of fit testing program.
- C. Asbestos abatement workers shall perform positive and negative pressure fit checks each time a respirator is donned, whenever the respirator design so permits.
- D. Provide respirators to all workers as follows: During all abatement work, negative pressure air-purifying respirators equipped with high-efficiency (HEPA) filters shall be utilized, at a minimum.

3.6 PROJECT DECONTAMINATION

A. INITIAL CLEANING

1. Carry out initial cleaning of all surfaces which came into contact with the asbestos-containing materials removed, including any tools, etc., by use of damp-cleaning and mopping, and/or a HEPA filtered vacuum. Do not perform dry dusting or dry sweeping. Use each surface of a cleaning cloth one time only, and then dispose of as contaminated waste. Continue this cleaning until there is no visible debris from removed materials or residue on substrate surfaces.

B. COMPLETION OF ABATEMENT WORK

1. Remove any small quantities of residual material found on-site with a HEPA filtered vacuum cleaner and local area protection. If significant quantities, as determined by the Engineer, are found then decontaminate the entire area affected as specified herein.

3.7 FINAL INSPECTION

- A. Perform a final inspection of the work area in accordance with New Jersey Department of Labor and Workforce Development requirements. If analytical results are obtained that are higher than the allowable threshold, re-clean the work area and the re-test the area. Repeat this sequence until the final test results are acceptable.

1. Provide any additional cleaning, contractor services and final clearance air sampling and analysis at no cost to the Owner.

- B. Upon receipt of acceptable final air tests, demobilize all critical and separation barriers, decontamination unit and engineering controls from the abatement work areas. All waste containers shall be off-site and en-route to an USEPA ID #27 approved landfill for final disposal.

- C. Perform a final visual inspection of the abatement work area(s) to document the project has been completed in accordance with these specifications and all applicable Local, State and Federal regulations.

- D. Provide a letter certifying the following: The asbestos building materials identified have been properly removed utilizing appropriate personal protection, wet removal techniques, engineering controls and enclosures as required. The asbestos materials have been properly transported and disposed of in accordance with prescribed regulations.

1. Utilize this correspondence as part of the demolition permit submission for meeting the New Jersey Uniform Construction Code requirements of N.J.A.C. 5:23 2.4, 2.17 (d), as well as the United States Environmental Protection Agency (USEPA) National Emission Standards for Hazardous Air Pollutants (NESHAP) 40 CFR, Part 61, Subpart M requirements.

END OF SECTION

SECTION 020700

DEMOLITION

PART 1 – GENERAL

1.1 SUMMARY

A. This Section includes:

1. Vermin Control
2. Building Demolition
3. Dust Control
4. Removal of Site Improvements and Below-Grade Construction
5. Removal of Foundation Walls and Footings
6. Removal of Curbs, Walks, Slabs, Decks and Miscellaneous Site Improvements.
7. Removal of Pavements
8. Disposal of Materials
9. Recycling of Materials
10. Recovery of Materials

1.2 RELATED WORK

A. The work under this Section shall be coordinated with that specified under the following sections, whenever applicable:

1. Section 020590 – Removal of Asbestos Materials
2. Section 220000 - Plumbing
3. Section 312300 - Excavation, Backfilling, and Grading
4. Section 312500 - Erosion and Sedimentation Controls
5. Section 329200 - Turf and Grasses

1.3 PRIOR APPROVALS

A. UCC Permits for the demolition of the dwellings shall not be released until all prior approvals have been obtained. The contractor is responsible to obtain the appropriate certifications after the following work is completed.

1. ACM abatement.
2. Sewer and water services are disconnected.
3. Vermin eradication.

B. Submit all certifications to the Engineer for processing.

1.4 REFERENCES

American National Standards Institute, Inc., ANSI A10.6, 1983 Demolition Operations – Safety Requirements

1.5 SUBMITTALS

A. The following must be submitted and approved prior to beginning demolition operations:

1. Demolition Plan: Submit proposed demolition and removal procedures for approval before work is started. Include procedures and detailed description of methods and equipment to be used for each operation and the sequence of operations.

2. Materials Salvage and Recycling Management Plan: Before the start of demolition, submit for approval a Materials Salvage and Recycling Management Plan for all materials to be salvaged or recycled. The Plan shall indicate how demolition waste will be salvaged and recycled. Salvage, recycle, and recover at least 80% of demolition waste by volume. Include a list of salvage and recycling outlets, which indicates where salvageable materials will be sent. Identify materials that are not recyclable or otherwise not recoverable that must be disposed of in a landfill or other means acceptable under State and local regulations. List permitted landfills and/or other disposal means to be employed for building waste that cannot be recycled. Indicate any instances where compliance with requirements of this Specification does not appear to be possible and request resolution from the Engineer.
 3. Certificate of Pesticide Application.
- B. Provide the following submittals after or during the course of the demolition operations:
1. Landfill-tipping receipts which provide volumes.
 2. Receipts for materials types, weight or volume, and revenues from salvage and recycling.
 3. An inventory of items or materials, which were salvaged and recycled.
 4. Pesticides: Submit SDS sheets and application instruction for each pesticide to be utilized.

1.5 QUALITY ASSURANCE

- A. Regulatory Requirements: Comply with all applicable requirements of the State of New Jersey and applicable County ordinances and regulations concerning management of demolition and disposal of debris.
- B. Implementation: Designate an on-site party responsible for instructing workers and implementing the Materials Salvage and Recycling Management Plan. Distribute copies of the Materials Salvage and Recycling Management Plan to the job site foreman and each appropriate subcontractor. Provide on-site instruction on appropriate salvaging, removing, recovering, and handling procedures to be used by all subcontractors at appropriate stages of the work at the site. Also include discussion of Materials Salvage and Recycling Management Plan in regular job meeting as long as it is appropriate to do so.

1.6 LEAD BASED PAINT

- A. The Contractor shall anticipate the presence of materials which contain lead based paint (LBP) in structures built prior to 1978. Refer to paragraph 3.9.E regarding disposal of LBP.

1.7 REGULATORY AND SAFETY REQUIREMENTS

- A. Comply with Federal, State, and County hauling and disposal regulations. In addition to these requirements, demolition operations shall conform to ANSI A10.6 Demolition Operations – Safety Requirements.
- B. In the performance of the work in this Section comply with NJAC 5:17.

1.8 DUST AND DEBRIS CONTROL

- A. Prevent the spread of dust and debris within adjacent public rights-of-way and adjacent properties. Avoid the creation of a nuisance or hazard in the surrounding area.
- B. Limit the use of water for dust control and terminate its use if it results in hazardous or objectionable conditions such as flooding or runoff.
- C. Utilize street cleaning procedures daily to remove debris from the access point to the property.

- D. Sweep pavement(s) as often as necessary to control the spread of debris that may result in foreign object damage potential to person or property.

1.9 PROTECTION

- A. Do not proceed with demolition operations until temporary fencing and soil erosion and sediment control procedures, as required elsewhere in these Specifications, are installed.
- B. Where pedestrian and driver safety is endangered in the area of removal work, use traffic barricades with flashing lights. Anchor barricades in a manner to prevent displacement.
- C. Protect existing infrastructure which is to remain after the work in this Section is completed. Repair items, which are to remain, and which were damaged during the performance of the work to their original condition, or replace with new.
- D. Undertake backfilling, compaction, and grading after demolition in accordance with the requirements of Section 312300.

1.10 UTILITY DISCONNECTS

- A. Telephone, cable, natural gas and electrical services serving the buildings to be demolished have been disconnected. Verify that all utilities have been disconnected before any demolition begins.
- B. Termination of water service and sewer connection is specified in Section 220000. This work must be completed prior to the demolition of the buildings.

1.11 DEFINITIONS

- A. Salvage is defined as the recovery or reapplication of a package or product for uses similar or identical to its originally intended application, without manufacturing or preparation processes that significantly alter the original package or product. Salvage refers to materials that are recovered for reuse off-site and sold or donated to a third party.
- B. Recycling is defined as the process of collecting and preparing recyclable materials and reusing them in their original form or in manufacturing processes that do not cause the destruction of recyclable materials in a manner that precludes further use.
- C. Recovery is defined as any process that reclaims materials, substances, energy, or other products contained within or derived from the waste. It includes waste-to-energy, composting, and other processes. It also includes materials, which if released into the atmosphere or disposed in landfills may cause environmental damage.

1.12 STORAGE

- A. Site Storage: Remove all materials that are to be salvaged and recycled from the site.

PART 2 – PRODUCTS

2.1 PESTICIDES

- A. All pesticides used for the eradication of vermin (rodent and insects) shall be EPA Registered.

PART 3 – EXECUTION

3.1 VERMIN (RODENT AND INSECT) ERADICATION

- A. Treat the buildings to be razed with pesticides to assure that they are free from vermin.
- B. Application of pesticides shall be by a pest control operator licensed by the State of New Jersey, and be applied in accordance with the application instructions.
- C. Conduct an inspection of the buildings to be razed after they are treated and certify the pesticide treatment and that the buildings are vermin-free. Do not demolish any buildings until all buildings are certified vermin-free.
- D. Prior to beginning demolition, submit the record of an executed Certificate of Pesticide Application to the Engineer listing:
 - 1. Pesticides used and quantities
 - 2. Method of application
 - 3. Location of application
 - 4. Target vermin
 - 5. Treatment inspection results

3.2 STRUCTURES

- A. Demolish structures completely including dwellings, porches, sheds, garages, patios, and decks.
- B. Proceed with demolition in a systemic manner from the top of the structure to the ground. Complete demolition work above each tier, or floor, before the supporting members on the lower levels are disturbed. Demolish concrete and masonry walls in small sections.
- C. Demolish structure by mechanical means. Do not use explosives or burning.
- D. Demolish and remove all below grade construction, including foundation walls, footings, grade slabs and other below grade construction.
- E. After demolition, backfill, compact, and grade the site in accordance with the requirements of Section 312300.

3.3 SITE IMPROVEMENTS

- A. Remove secondary electrical distributions, including site lighting conduit and wiring, and after demolition, backfill, compact, and grade the site in accordance with the requirements of Section 312300. Remove all other underground pipes located within the limits of removals.
- B. Below grade excavation and removal is unclassified. Remove all below grade structures whether shown on the drawings or not.
- C. Remove fences and other site improvements where indicated on the drawings.

3.4 CURBS, PAVEMENTS, AND SLABS

- A. Remove curbing, pavements and concrete slabs, stairs, ramps, footings, and walks where indicated on the drawings.

3.5 SWIMMING POOLS

- A. Prior to demolition of above or below ground pools, notify the State prior to discharge of pool water to an adjacent storm drain.

3.6 REMOVAL OF UNCLASSIFIED DEBRIS

- A. It is the intent of the work of this Section that all debris and materials on each property or site be removed and disposed. This material is unclassified and may include collapsed wood structures, furniture, appliances, containers, paint, clothing, toys, tires, propane tanks, pipes, metals, etc.

3.7 MATERIALS TO BE RECOVERED

- A. Materials to be recovered prior to demolition include, but are not limited to, the following. Take the materials to an approved reclamation center. Utilize licensed technicians where required by regulations to recover regulated materials.

1. Ozone-depleting refrigerants from appliances and air conditioners
2. Thermostats and switches containing mercury
3. Fluorescent lamps
4. Lighting ballasts
5. Appliances and motors
6. Smoke detectors

3.8 MATERIALS TO BE RECYCLED

- A. Recover the following materials during demolition and take them to an approved recycling center. Comply with the Materials Salvage and Recycling Management Plan for recycled materials.

1. Wood products
2. Metals including wire and piping
3. Brick
4. Concrete products
5. Asphalt pavements
6. Roofing products
7. Porcelain plumbing fixtures
8. Tires

3.9 DISPOSITION OF MATERIAL

- A. Immediately relocate, recycle, or dispose of all other demolished material away from site.
- B. Except where specified in other Sections, all materials and equipment removed and not reused, becomes property of the Contractor and shall be removed from the property. Title to materials, resulting from demolition, and materials and equipment to be removed, is vested in the Contractor.
- C. Disposal of Rubbish and Debris: Dispose of all rubbish and debris in accordance with the requirements specified herein and in accordance with applicable laws and ordinances.
- D. Except for materials scheduled for recycling, remove all debris and legally dispose of the debris at a licensed landfill.
- E. Lead Hazard: In the performance of the work, remove and dispose of lead-based material in accordance with applicable DEP Regulations.

3.10 BACKFILLING AND GRADING

- A. Conduct backfilling, compaction, and grading in accordance with Section 312300.

END OF SECTION

SECTION 220000

PLUMBING

PART 1 – GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Locating and capping of sewer laterals at the location shown on the Plans and removal of the sewer lateral from the cap to the dwelling.
 - 2. Locating and capping the water service at the curb valve, or other location as shown on the Plans, and removal of the water service from the cap to the dwelling.

1.2 RELATED WORK

- A. The work under this Section shall be coordinated with that specified under the following sections, whenever applicable:
 - 1. Section 312300 – Excavation, Backfilling, and Grading

1.3 CODES AND STANDARDS

- A. New Jersey Uniform Construction Code
- B. 2009 National Standard Plumbing Code
- C. Requirements of the utility owner / operator for termination and capping

1.4 DRAWINGS

- A. Locations of the existing underground utilities are approximate. Locate the service lines and cap the services as specified.

PART 2 – PRODUCTS

2.1 SANITARY SEWER

- A. Cap for underground sewer pipe: Provide Fernco Quick Cap or equivalent product by Everflow Supplies, Wal-Rich, or approved equal consisting of a flexible PVC cap with stainless steel clamping ring, rated for underground installation; or provide a mechanical friction plug with natural rubber or flexible PVC bushing and stainless steel or galvanized steel pressure plates.
- B. Concrete thrust block: Utilize packaged dry concrete mix with a minimum 7-day compressive strength of 2,500 psi in conformance with ASTM C 387, or approved equal.

2.2 WATER PIPING

- A. Copper pipe size 2 inches and under: Provide copper cap with soldered joints. Galvanized steel pipe: Provide galvanized steel cap. Plastic pipe: Provide plastic cap with solvent weld.

PART 3 – EXECUTION

3.1 GENERAL

- A. Do not start demolition work until utility disconnecting and sealing has been completed and all completion letters have been received and approved.
- B. Coordinate work with the utility owner / operator.
- C. Install caps in accordance with manufacturer's instructions, the Plumbing Code, and as shown on the drawings.

END OF SECTION

SECTION 312300

EXCAVATION, BACKFILLING, AND GRADING

PART 1 – GENERAL

1.1 SUMMARY

- A. The work under this Section includes the following:
 - 1. Excavation, filling, backfilling, and compaction
 - 2. Grading
 - 3. Disposition of excess excavated materials and debris
 - 4. Final cleanup

1.2 RELATED WORK

- B. The work under this Section shall be coordinated with that specified under the following sections, whenever applicable:
 - 1. Section 312500 - Erosion Control
 - 2. Section 020700 - Demolition
 - 3. Section 015526 – Traffic Controls

1.3 STANDARDS

- A. Perform work in accordance with the “NJDOT Standard Specifications for Road and Bridge Construction, 2007,” as amended herein.

1.4 SUBMITTALS

- A. Submit certificates from a testing agency demonstrating that the fill material meets the Specification requirements.

PART 2 – PRODUCTS

2.1 MATERIALS

- A. Fill Material: Well graded sand and gravel free of deleterious material including debris, waste, frozen materials, vegetation, and organic matter and containing no more than 12% fines (minus No. 200 sieve size), and free of rock or gravel larger than 3 inches in any dimension. Excavated materials may be permitted if in the opinion of the Engineer such material is suitable.
- B. Provide documentation that the fill material is from a virgin source or meets the requirements of the New Jersey Residential, Non-Residential, and Impact to Groundwater Standards.

PART 3 - EXECUTION

3.1 DEWATERING

- A. No subsurface boring information is available. The Contractor is advised that high seasonal or perched groundwater should be expected during excavation operations.
- B. Provide dewatering for the proper execution of the work under this contract.

3.2 EXCAVATION

- A. Excavation shall be carried to the limits required by the construction. Material shall be removed to the lines and depth to allow construction of the various portions of the project.
- B. All excavation shall be unclassified, and all material of whatever character encountered shall be removed, including bituminous and concrete pavements, footings and foundations, whether shown on the plan, or as may be encountered during the course of construction.

3.3 BACKFILL

- A. Filling and backfilling shall consist of depositing, spreading, and compacting approved materials to the required elevations indicated. Completely fill below-grade areas and voids.
- B. Place fill material in 12" layers. Spread each layer evenly and thoroughly place and mix during the spreading to ensure uniformity of material in each layer. Keep the surface of the fill at a slight slope to facilitate drainage of any ground or surface water that enters the excavation. The moisture content of the fill material shall be at, or slightly below, the optimum moisture content for the soils being utilized during the entire compaction operation. If, in the opinion of the Engineer, the fill is too dry for proper compaction, uniformly moisten or aerate the subgrade and fill layers before compaction to within 3 percent of optimum moisture content. Do not place, spread or compact fill material while the ground or fill is muddy, frozen or thawing or contains frost or ice. When work is interrupted by heavy rain, do not resume fill until the moisture content and density of the fill are as previously specified. Maintain ground water at a minimum of 2' below the surface of the fill during the backfilling operation. Compact the fill by suitable methods using roller and/or vibratory compactors of the proper size commensurate with the construction area. Utilize manual compactors within 5' of constructed or existing foundations, walls, and slabs.
- C. The minimum density to be obtained in the backfill is 90% of the maximum dry unit weight as defined in ASTM D-1557, Moisture Density Relations of Soil (Standard Proctor Compaction Test Method).

3.4 GRADING

- A. Rough grading: Grade to meet the elevations of adjacent areas to create a smooth surface, free from irregular surface changes. Uniformly rough grade the area of demolished construction.
- B. Bring subgrades, after final compaction, to the grades and sections for preparation of the final grading operations.
- C. Final Grading: Mound the final grade within the backfilled area to 3"-6" above the adjacent grade. Provide a smooth transition between adjacent existing grades and new grades.

3.5 TESTING

- A. Engage and pay for a testing agency approved by DPMC to conduct material and compaction testing. For each on-site and borrow material intended for use in the backfilling operations, submit the results of a Modified Proctor Density (ASTM D1557) analysis and results of a sieve analysis (ASTM D422). The maximum dry density and optimum moisture content of all compacted fills shall be determined by the Modified Proctor Density Test (ASTM D 1557). The placement of compacted fill shall be observed and tested by either the Sand Cone Method (ASTM D 1556) or Nuclear Density Gauge Method (ASTM D 2922 and D 3012) at the following minimum frequency: 1 test per every 2500 SF, per lift. Remove, replace, and compact fill not meeting the required density until additional tests indicate compliance with Specifications.

3.6 FINAL CLEANUP

- A. Repair and reestablish grades to the required tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.
- B. Clean all areas occupied in connection with the project of all rubbish; excess materials, temporary structures and equipment, and leave all parts of the site in an acceptable condition.

END OF SECTION

SECTION 312500

EROSION AND SEDIMENTATION CONTROLS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
1. Construction of temporary and permanent measures to control soil erosion and sedimentation including, but not limited to, vegetative cover, mulching, silt fence, tree protection, grading, diversions, slope protection, siltation barriers, dust control, and other such methods and materials necessary or directed by the Engineer to control soil erosion and sedimentation during construction.
 2. Install erosion and sedimentation control measures prior to any clearing, grubbing, grading operations or demolition and maintain the measures until construction is complete and the construction area is stabilized. After restoration is complete, remove temporary control measures and dispose of properly.
 3. Construct and maintain all erosion and sedimentation control measures in accordance with the Standards for Soil Erosion and Sediment Control in New Jersey, incorporated herein by reference, as amended and supplemented.

1.2 RELATED WORK

- C. The work under this Section shall be coordinated with that specified under the following sections, whenever applicable:
1. Section 31225 – Excavation, Backfilling, and Grading
 2. Section 32920 – Turf and Grasses

1.3 REFERENCES

- A. The publications listed below form a part of this Specification to the extent referenced.
1. Soil Conservation District Permit Requirements.
 2. Standards for Soil Erosion and Sediment Control in New Jersey, 2014, incorporated herein by reference, as amended and supplemented.
 3. NJDOT Standard Specification Section 158, Soil Erosion and Sediment Control and Water Quality Control.

PART 2 – PRODUCTS

2.1 GENERAL

- A. Materials shall conform to the following:
1. Seed: Seed mixtures as indicated on the Plans.
 2. Mulch: Hay or straw as indicated on the Plans.
 3. Haybales: NJDOT Standard Specification Section 919.03, Hay and Straw.
 4. Silt Barrier Fence: 24-inch height above ground, installed, as per the Plans.
 - a. Geotextile fabric section shall have a width of at least three feet (3'). The total exposed silt fence height shall be two feet (2') high after one foot (1') of fabric is buried in the existing soil.

- b. Join geotextile sections in such a manner that, when in operation, the sections work effectively as a continuous fence. Install fence posts at a slight angle toward the anticipated runoff source.
 - 5. Inlet Filters
 - a. Install inlet filters, consisting of geotextile fabric, to control sedimentation at inlet drainage structures.
 - b. For existing inlet structures, place geotextile fabric under the grates, over the curb and extend beyond a minimum of six inches (6"). Place coarse aggregate size No. 8 shall behind each curb piece and on the geotextile fabric to secure the fabric in place.
- B. Any other materials required shall conform to the Standards for Soil Erosion and Sediment Control in New Jersey.

PART 3 – EXECUTION

3.1 INSTALLATION

- A. Install soil erosion and sediment control devices in accordance with the sequence of construction shown on the Soil Erosion and Sediment Control Plan.
- B. Install soil erosion and sediment control devices in accordance with the Standards for Soil Erosion and Sediment Control in New Jersey.

3.2 DUST CONTROL

- A. Employ construction methods and means that keep flying dust to the minimum.
- B. The use of calcium chloride or petroleum products or other chemicals for dust control is prohibited.
- C. Wet sweep the public streets adjacent to the site as needed to maintain dust control and in order to eliminate obstructions to street drainage.

3.3 DIRT CONTROL

- A. Provide for prompt removal from existing roadways of all dirt and other materials that have been spilled, washed, tracked or otherwise deposited thereon. Haul off-site or use any other methods to dispose of whenever the accumulation is sufficient to cause the formation of mud, interfere with drainage, damage pavements or create a traffic hazard.
- B. In order to minimize tracking of dirt and other materials onto roadways, construct a construction driveway at locations where vehicles exit a work site, as shown on the Plans. Maintain the driveways by top dressing with additional stone as directed.

3.4 DEWATERING

- A. Perform dewatering operations in accordance with the Standards for Soil Erosion and Sediment Control in New Jersey.
- B. When dewatering will occur and a dewatering permit is not required, monitor for adverse effects to structures or wells due to dewatering and remedy the same to the satisfaction of the Engineer. Discharges from dewatering activities which contain silt are subject to the following controls:
 - 1. All discharges from dewatering activities to surface waters, wetlands, vernal habitats, or storm sewers shall be free of sediment. Exercise care to not damage or kill vegetation by excessive watering or by damaging silt accumulation in the discharge area. If discharges

are sediment laden, employ techniques to remove sediment prior to discharge. A sedimentation basin shall be constructed and used where necessary to protect vegetation and to achieve environmental objectives.

3.5 PROHIBITED CONSTRUCTION PROCEDURES

A. Prohibited construction procedures include, but are not limited to, the following:

1. Dumping of spoil material into any stream corridor, any wetlands, any vernal habitats, any surface waters, any sites listed or eligible for listing on the New Jersey or National Registers of Historic Places, or at unspecified locations;

END OF SECTION

SECTION 329200

TURF AND GRASSES

PART 1 – GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Topsoil
 - 2. Soil conditioning
 - 3. Seeding
 - 4. Mulch and Mulch Stabilization

1.2 RELATED WORK

- D. The work under this Section shall be coordinated with that specified under the following sections, whenever applicable:
 - 1. Section 312500 - Erosion and Sedimentation Controls

1.2 REFERENCES

- A. The publications listed below form a part of this Specification to the extent referenced.
 - 1. U.S. Department of Agriculture (DOA)
DOA FSA: Federal Seed Act Rules and regulations of the Secretary of Agriculture (latest edition)
 - 2. New Jersey Department of Transportation (NJDOT) 2007 Standard Specifications for Road and Bridge Construction
 - 3. New Jersey Standards for Soil Erosion and Sediment Control, latest edition.

1.3 PLANTING DATES

- A. Refer to the dates in the Master Soil Erosion and Sediment Control Notes and Details Plan for temporary and permanent planting dates. If the season prevents establishment of temporary or permanent cover, treat disturbed areas by mulching as specified on the Plans.

PART 2 – PRODUCTS

2.1 SEED

- A. State certified of the latest season's crop delivered in original sealed packages, bearing producer's guaranteed analysis for percentages of mixtures, purity, germination, weed seed content, and inert material. Label in conformance with DOA FSA. Seed which has become wet, moldy, or otherwise damaged in transit or storage will not be accepted. Refer to the Plans for the required seed mixtures.

2.2 TOPSOIL

- A. Reusable surface soil stripped and stockpiled on site may be used if in compliance with the Specifications for composition.
- B. Off-site topsoil shall conform to the Specifications for composition.

C. Composition:

1. Topsoil shall be obtained from naturally drained areas and shall be fertile, friable loam suitable for plant growth. Topsoil shall be subject to inspection and approval at the source of supply and upon delivery.
2. The topsoil shall be of uniform quality, free from subsoil stiff or lump clay, hard clods, hardpan, rocks, disintegrated debris, plants, roots, seeds, and any other materials that would be toxic or harmful to plant growth. Topsoil shall contain no noxious weeds or noxious weed seeds.
3. The topsoil shall contain at least 2.75 percent organic matter as determined by loss of weight after ignition of dried (moisture-free) samples in accordance with current methods of the Association of Official Agricultural Chemists.
4. The acidity range of the topsoil shall be pH 5.5 to 7.5. The salinity level shall be less than 1 millimhos/cm.

2.3 pH ADJUSTERS

A. The following shall be used to adjust soil pH properties:

1. Raw ground limestone conforming to NJDOT Standard Specifications Section 917.04, Pulverized Limestone.

2.4 FERTILIZER

- A. Fertilizer must meet the requirements of NJDOT Standard Specification Section 806, Fertilizing and Seeding and the requirements included on the Plans.

2.5 MULCHES

A. Mulches for seeded areas meet the requirements of NJDOT Standard Specification Section 917.06, Mulch, and shall be one, or a combination of, the following:

1. Wood Chips: Ground redwood or fir tree bark, 3/16-inch maximum particle size.
2. Straw: Stalks from oats, wheat, rye, barley, or rice. Furnish in air-dry condition and of proper consistency for placing with commercial mulch blowing equipment.
3. Hay: Air-dry condition and of proper consistency for placing with commercial mulch blowing equipment. Provide only marsh hay for lawn areas.
4. Wood Cellulose Fiber: Processed to contain no growth or germination-inhibiting substances and dyed an appropriate color to facilitate visual metering of materials application. Composition on air-dry weight basis: 9 to 15 percent moisture, pH range from 3.5 to 5.0. Use with hydraulic application of grass seed and fertilizer.

PART 3 – EXECUTION

3.1 PREPARATION OF SUBGRADE

A. "Hard pan" or heavy shale:

1. Plow to a minimum depth of 6".
2. Loosen and grade by harrowing, discing, or dragging.
3. Handrake subgrade. Remove stones over 2" in diameter and other debris.

B. Loose loam, sandy loam, or light clay:

1. Loosen and grade by harrowing, discing, or dragging.
2. Handrake subgrade. Remove rocks over 2" in diameter and other debris.

3.2 PLACING TOPSOIL

- A. Strip and stockpile topsoil from areas of disturbance for reuse.
- B. After demolition and filling operations are complete, spread stockpiled topsoil and add additional topsoil from offsite sources to establish minimum depth.
- C. Place topsoil and spread over the prepared subgrade to obtain the required depth and grade elevation. Final compacted thickness of topsoil not less than 4".
- D. Handrake topsoil and remove all materials unsuitable or harmful to plant growth.
- E. Do not place topsoil when the subgrade is frozen, excessively wet, or extremely dry.
- F. Do not handle topsoil when frozen or muddy.

3.3 TILLAGE

- A. After seed bed areas have been brought to proper compacted elevation, thoroughly loosen to a minimum depth 5" by discing, harrowing, or other approved methods. Do not work topsoiled areas when frozen or excessively wet.
 - 1. Incorporate liming and fertilizer as part of tillage operation at the rates indicated on the Plans.

3.4 MULCHING

- A. Mulch within 48 hours of seeding.
- B. Place straw mulch in a continuous blanket at a minimum rate as indicated on the Plans and secure as indicated on the Plans.
- C. Apply wood cellulose fiber hydraulically at the rates indicated on the Plans.
 - 1. Incorporate as an integral part of the slurry after seed and soil supplements have been thoroughly mixed.
- D. When mulch is applied to grass areas by blowing equipment, the use of cutters in the equipment will be permitted to the extent that a minimum of 95% of the mulch is 6" or more in length. For cut mulches applied by the blowing method, achieve a loose depth in place of not less than 2".

END OF SECTION

Appendix A

11 Weber Ave



9000 Commerce Parkway, Ste B
 Mount Laurel, NJ 08054
 Toll Free 877-428-4285
 Local: 856-231-9449
 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: USA Environmental Mgmt. Inc.
 344 West State Street
 Trenton NJ 08618

Report Date: 7/7/2014
Report No: 338965
Project: 11 Weber Ave; Residence
Project No.: 14-020617-01

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5363732	Description / Location: Lt. Tan Sheetrock			
Client No.: 01 BW070114	1st Floor, Ceiling, Living Room			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	15	Cellulose	85

Lab No.: 5363732	Description / Location: Off-White Joint Compound	Layer No.: 2		
Client No.: 01 BW070114	1st Floor, Ceiling, Living Room			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
PC 2.0	Chrysotile	None Detected	None Detected	98

Lab No.: 5363733	Description / Location: Lt. Tan Sheetrock			
Client No.: 02 BW070114	1st Floor, Ceiling, Master Bedroom			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	20	Cellulose	80

Lab No.: 5363733	Description / Location: White Joint Compound	Layer No.: 2		
Client No.: 02 BW070114	1st Floor, Ceiling, Master Bedroom			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

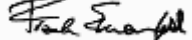
Accreditation **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

*This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any agency of the U.S. government
 This report shall not be reproduced except in full, without written approval of the laboratory.*

Analytical Method: US EPA 600/R-93/116 by Polarized Light Microscopy, (ELAP 198.1 where applicable)

Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analysis Performed By: E. Smith

Approved By: 

Date: 7/7/2014

Frank E. Ehrenfeld, III
 Laboratory Director



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 Mount Laurel, NJ 08054
 Toll Free 877-428-4285
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CERTIFICATE OF ANALYSIS

Client: USA Environmental Mgmt. Inc.
 344 West State Street
 Trenton NJ 08618

Report Date: 7/7/2014
Report No: 338965
Project: 11 Weber Ave; Residence
Project No.: 14-020617-01

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5363734	Description / Location: Lt. Tan Sheetrock			
Client No.: 03 BW070114	1st Floor, Bathroom Off Garage			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	20	Cellulose	80

Lab No.: 5363734	Description / Location: Off-White Joint Compound	Layer No.: 2		
Client No.: 03 BW070114	1st Floor, Bathroom Off Garage			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
PC 0.75	Chrysotile	None Detected	None Detected	PC 99.25

Lab No.: 5363734	Description / Location: White Texture	Layer No.: 3		
Client No.: 03 BW070114	1st Floor, Bathroom Off Garage			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Accreditation **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

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Analysis Performed By: E. Smith

Date: 7/7/2014



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 344 West State Street
 Trenton NJ 08618

Report Date: 7/7/2014
Report No: 338965
Project: 11 Weber Ave; Residence
Project No.: 14-020617-01

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5363735	Description / Location: Lt. Tan Sheetrock			
Client No.: 04 BW070114	1st Floor, Bathroom Off Garage			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	Trace	Fibrous Glass	70
		30	Cellulose	

Lab No.: 5363735	Description / Location: White Joint Compound	Layer No.: 2		
Client No.: 04 BW070114	1st Floor, Bathroom Off Garage			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 5363736	Description / Location: Lt. Tan Sheetrock			
Client No.: 05 BW070114	Basement, Kitchen Wall			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	20	Cellulose	78
		2	Fibrous Glass	

Accreditation **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

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Analytical Method: US EPA 600/R-93/116 by Polarized Light Microscopy, (ELAP 198.1 where applicable)

Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analysis Performed By: E. Smith

Date: 7/7/2014



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Report Date: 7/7/2014
Report No: 338965
Project: 11 Weber Ave; Residence
Project No.: 14-020617-01

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5363737	Description / Location: Lt. Tan Sheetrock			
Client No.: 06 BW070114	Basement, Bar Area			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	2	Fibrous Glass	73
		25	Cellulose	

Lab No.: 5363737	Description / Location: White Joint Compound	Layer No.: 2		
Client No.: 06 BW070114	Basement, Bar Area			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 5363738	Description / Location: Tan Ceiling Tile; 2x2			
Client No.: 07 BW070114	Basement, Kitchen, Ceiling			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	35	Cellulose	45
		20	Fibrous Glass	

Lab No.: 5363739	Description / Location: Tan Ceiling Tile; 2x2			
Client No.: 08 BW070114	Basement, Bar Area			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	35	Cellulose	45
		20	Fibrous Glass	

Accreditation **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

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Analytical Method: US EPA 600/R-93/116 by Polarized Light Microscopy, (ELAP 198.1 where applicable)

Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analysis Performed By: E. Smith

Date: 7/7/2014



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CERTIFICATE OF ANALYSIS

Client: USA Environmental Mgmt. Inc.
 344 West State Street
 Trenton NJ 08618

Report Date: 7/7/2014
Report No: 338965
Project: 11 Weber Ave; Residence
Project No.: 14-020617-01

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5363740	Description / Location: Lt. Tan Caulk; Wood & Brick Interface			
Client No.: 09 BW070114	Exterior, Basement Window			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
PC 2.3	Chrysotile	None Detected	None Detected	PC 97.7

Lab No.: 5363741	Description / Location: Sample Not Analyzed			
Client No.: 10 BW070114				
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
	Sample Not Analyzed		Sample Not Analyzed	

Lab No.: 5363742	Description / Location: White Caulk; Alum. & Brick Interface			
Client No.: 11 BW070114	Exterior, Dining Room Window			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 5363743	Description / Location: White Caulk; Alum. & Brick Interface			
Client No.: 12 BW070114	Exterior, Dining Room Window			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

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Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

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Date: 7/7/2014



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 344 West State Street
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Report Date: 7/7/2014
Report No: 338965
Project: 11 Weber Ave; Residence
Project No.: 14-020617-01

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5363744	Description / Location: Lt. Tan Caulk			
Client No.: 13 BW070114	Exterior, Garage Door			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
PC 2.4	Chrysotile	None Detected	None Detected	PC 97.6

Lab No.: 5363745	Description / Location: Sample Not Analyzed			
Client No.: 14 BW070114				
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
	Sample Not Analyzed		Sample Not Analyzed	

Lab No.: 5363746	Description / Location: Off-White Caulk; Stone & Alum. Interface			
Client No.: 15 BW070114	Exterior, Living Room Bay Window			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 5363747	Description / Location: Off-White Caulk; Stone & Alum. Interface			
Client No.: 16 BW070114	Exterior, Living Room Bay Window			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

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Analytical Method: US EPA 600/R-93/116 by Polarized Light Microscopy, (ELAP 198.1 where applicable)

Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analysis Performed By: E. Smith

Date: 7/7/2014



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Project: 11 Weber Ave; Residence
Project No.: 14-020617-01

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5363748	Description / Location: Black Non Fibrous			
Client No.: 17 BW070114	VaporBarrier Below Grade @ Exterior Wall			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 5363749	Description / Location: Black Non Fibrous			
Client No.: 18 BW070114	VaporBarrier Below Grade @ Exterior Wall			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 5363750	Description / Location: Black Felt Paper			
Client No.: 19 BW070114	Under Exterior Brick			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	65	Cellulose	35

Lab No.: 5363751	Description / Location: Black Felt Paper			
Client No.: 20 BW070114	Under Exterior Brick			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	60	Cellulose	40

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Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

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Date: 7/7/2014



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Project: 11 Weber Ave; Residence
Project No.: 14-020617-01

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5363752	Description / Location: Black/Tan Shingle			
Client No.: 21 BW070114	Exterior Roof			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	10	Fibrous Glass	90

Lab No.: 5363753	Description / Location: Black/Tan Shingle			
Client No.: 22 BW070114	Exterior Roof			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	10	Fibrous Glass	90

Lab No.: 5363754	Description / Location: Black Tar Paper			
Client No.: 23 BW070114	Under Shingle; Roof			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	7	Fibrous Glass	93

Lab No.: 5363755	Description / Location: Black Tar Paper			
Client No.: 24 BW070114	Under Shingle; Roof			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	10	Fibrous Glass	90

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Analysis Performed By: E. Smith

Date: 7/7/2014



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Report Date: 7/7/2014
Report No: 338965
Project: 11 Weber Ave; Residence
Project No.: 14-020617-01

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5363756	Description / Location: Black Tar; Joint/Seam Flashing			
Client No.: 25 BW070114	@ Copper & Brick Chimney			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
PC 9.7	Chrysotile	None Detected	None Detected	PC 90.3

Lab No.: 5363757	Description / Location: Sample Not Analyzed			
Client No.: 26 BW070114				
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
	Sample Not Analyzed		Sample Not Analyzed	

Accreditation **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

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Analytical Method: US EPA 600/R-93/116 by Polarized Light Microscopy, (ELAP 198.1 where applicable)

Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analysis Performed By: E. Smith

Date: 7/7/2014



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CERTIFICATE OF ANALYSIS

Client:	USA Environmental Mgmt. Inc.	Report Date:	7/9/2014
	344 West State Street	Report No.:	339091
	Trenton NJ 08618	Project:	11 Weber Ave; Residence
		Project No.:	14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145363743A	Description / Location:	Off-White Caulk; Stone & Alum. Interface
Client No.:	12 BW070114		Ext., Dining Rm Window

Organic Fraction:	96.4 %	
Gravimetrically Reduced Subsample:	3.60 %	
Percent Asbestos Detected:	ND	None Detected
Percent Non-Asbestos Fibrous Material:	ND	None Detected
Percent Non-Fibrous Material:	3.60 %	Other

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
 ELAP 198.4 "Method For Identifying And Quantitating Asbestos In Non-Friable Organically Bound Bulk Samples", Revised 1/11/2005. EPA-600/R-93/116 Section 2.5 "Asbestos In Bulk Building Materials By TEM Gravimetry."

IATL assumes that all sampling methods and data upon which these results are based have been accurately supplied by the client.
The "Gravimetrically Reduced Subsample" is the portion of the submitted sample remaining following the ashing and acid treatment processes. TEM analysis occurs on this portion of the sample. Final results are calculated to represent the sample as submitted.
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Results are verifiable for only those operations and analyses performed in the laboratory.

Analysis Performed By: C. Liska

Approved By:

Date: 7/9/2014

Frank E. Ehrenfeld, III
 Laboratory Director



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CERTIFICATE OF ANALYSIS

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	344 West State Street	Report No.:	339091
	Trenton NJ 08618	Project:	11 Weber Ave;Residence
		Project No.:	14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145363747A	Description / Location:	Off-White Caulk; Stone & Alum. Interface
Client No.:	16 BW070114		Ext.;LivingRmBayWindow

Organic Fraction:	87.9 %	
Gravimetrically Reduced Subsample:	12.1 %	
Percent Asbestos Detected:	ND	None Detected
Percent Non-Asbestos Fibrous Material:	ND	None Detected
Percent Non-Fibrous Material:	12.1 %	Other

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
 ELAP 198.4 "Method For Identifying And Quantitating Asbestos In Non-Friable Organically Bound Bulk Samples", Revised 1/11/2005. EPA-600/R-93/116 Section 2.5 "Asbestos In Bulk Building Materials By TEM Gravimetry."

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Date: 7/9/2014



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	Trenton NJ 08618	Project:	11 Weber Ave;Residence
		Project No.:	14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145363749A	Description / Location:	Black Non-Fibrous VaporBarrierBelowGrade
Client No.:	18 BW070114		@ Exterior Wall

Organic Fraction:	65.4 %	
Gravimetrically Reduced Subsample:	34.6 %	
Percent Asbestos Detected:	ND	None Detected
Percent Non-Asbestos Fibrous Material:	Trace	SiAl, Other Fiber
Percent Non-Fibrous Material:	34.6 %	Other

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
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Date: 7/9/2014



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TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145363751A	Description / Location:	Black Felt Paper	Under Exterior Brick
Client No.:	20 BW070114			

Organic Fraction:	98.9 %		
Gravimetrically Reduced Subsample:	1.10 %		
Percent Asbestos Detected:	Trace	Chrysotile, Detected at < 0.25%	
Percent Non-Asbestos Fibrous Material:	ND	None Detected	
Percent Non-Fibrous Material:	1.10 %	Ti, Titanium Oxide	Other

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
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Date: 7/9/2014



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	Trenton NJ 08618	Project:	11 Weber Ave; Residence
		Project No.:	14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145363753A	Description / Location:	Black/Tan Shingle	Exterior Roof
Client No.:	22 BW070114			

Organic Fraction:	61.4 %		
Gravimetrically Reduced Subsample:	38.6 %		
Percent Asbestos Detected:	ND	None Detected	
Percent Non-Asbestos Fibrous Material:	ND	None Detected	
Percent Non-Fibrous Material:	38.6 %	SiAl M+, Kaolin	Other

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
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TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145363755A	Description / Location:	Black Tar Paper	Under Shingle; Roof
Client No.:	24 BW070114			

Organic Fraction:	55.7 %	
Gravimetrically Reduced Subsample:	44.3 %	
Percent Asbestos Detected:	ND	None Detected
Percent Non-Asbestos Fibrous Material:	ND	None Detected
Percent Non-Fibrous Material:	44.3 %	SiMg M+, Silicate Other

Comments:

NIST-NVLAP No. 101165-0

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NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
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Analysis Performed By: C. Liska

Date: 7/9/2014



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CERTIFICATE OF ANALYSIS

Client: USA Environmental Mgmt. Inc.
 344 West State Street
 Trenton NJ 08618

Report Date: 7/5/2014
Report No: 338966
Project: 11 Weber Ave; Shed
Project No.: 14-020617-01

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5363724	Description / Location: Grey/Brown/Black Shingle			
Client No.: 27 BW070114	Roof (Top Layer)			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	5	Fibrous Glass	95

Lab No.: 5363725	Description / Location: Grey/Brown/Black Shingle			
Client No.: 28 BW070114	Roof (Top Layer)			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	5	Fibrous Glass	95

Lab No.: 5363726	Description / Location: Grey/Brown/Black Shingle			
Client No.: 29 BW070114	Roof (Middle Layer)			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	5	Fibrous Glass	95

Lab No.: 5363727	Description / Location: Grey/Brown/Black Shingle			
Client No.: 30 BW070114	Roof (Middle Layer)			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	5	Fibrous Glass	95

Accreditation **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

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 This report shall not be reproduced except in full, without written approval of the laboratory.*

Analytical Method: US EPA 600/R-93/116 by Polarized Light Microscopy, (ELAP 198.1 where applicable)

Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analysis Performed By: M. Mirza

Approved By: 

Date: 7/5/2014

Frank E. Ehrenfeld, III
 Laboratory Director



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CERTIFICATE OF ANALYSIS

Client: USA Environmental Mgmt. Inc.
 344 West State Street
 Trenton NJ 08618

Report Date: 7/5/2014
Report No: 338966
Project: 11 Weber Ave; Shed
Project No.: 14-020617-01

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5363728	Description / Location: Black Tar Paper			
Client No.: 31 BW070114	Roof (Bottom Layer)			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	80	Cellulose	20

Lab No.: 5363729	Description / Location: Black Tar Paper			
Client No.: 32 BW070114	Roof (Bottom Layer)			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	80	Cellulose	20

Lab No.: 5363730	Description / Location: Black Tar Paper			
Client No.: 33 BW070114	Under Siding			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	80	Cellulose	20

Lab No.: 5363731	Description / Location: Black Tar Paper			
Client No.: 34 BW070114	Under Siding			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	80	Cellulose	20

Accreditation **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

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Analytical Method: US EPA 600/R-93/116 by Polarized Light Microscopy, (ELAP 198.1 where applicable)

Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analysis Performed By: M. Mirza

Date: 7/5/2014



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CERTIFICATE OF ANALYSIS

Client:	USA Environmental Mgmt. Inc.	Report Date:	7/9/2014
	344 West State Street	Report No.:	339041
	Trenton NJ 08618	Project:	11 Weber Ave; Shed
		Project No.:	14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145363725A	Description / Location:	Grey/Brown/Black Shingle	Roof (Top Layer)
Client No.:	28 BW070114			

Organic Fraction:	59.0 %	
Gravimetrically Reduced Subsample:	41.0 %	
Percent Asbestos Detected:	ND	None Detected
Percent Non-Asbestos Fibrous Material:	ND	None Detected
Percent Non-Fibrous Material:	41.0 %	Other

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
 ELAP 198.4 "Method For Identifying And Quantitating Asbestos In Non-Friable Organically Bound Bulk Samples", Revised 1/11/2005. EPA-600/R-93/116 Section 2.5 "Asbestos In Bulk Building Materials By TEM Gravimetry."

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Analysis Performed By: C. Liska

Approved By:

Date: 7/9/2014

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 Laboratory Director



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CERTIFICATE OF ANALYSIS

Client:	USA Environmental Mgmt. Inc.	Report Date:	7/9/2014
	344 West State Street	Report No.:	339041
	Trenton NJ 08618	Project:	11 Weber Ave; Shed
		Project No.:	14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145363727A	Description / Location:	Grey/Brown/Black Shingle	Roof (Middle Layer)
------------------	------------	--------------------------------	--------------------------	---------------------

Client No.: 30 BW070114

Organic Fraction:	62.4 %	
Gravimetrically Reduced Subsample:	37.6 %	
Percent Asbestos Detected:	ND	None Detected
Percent Non-Asbestos Fibrous Material:	ND	None Detected
Percent Non-Fibrous Material:	37.6 %	Other

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
 ELAP 198.4 "Method For Identifying And Quantitating Asbestos In Non-Friable Organically Bound Bulk Samples", Revised 1/11/2005. EPA-600/R-93/116 Section 2.5 "Asbestos In Bulk Building Materials By TEM Gravimetry."

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Analysis Performed By: C. Liska

Date: 7/9/2014



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CERTIFICATE OF ANALYSIS

Client:	USA Environmental Mgmt. Inc.	Report Date:	7/9/2014
	344 West State Street	Report No.:	339041
	Trenton NJ 08618	Project:	11 Weber Ave; Shed
		Project No.:	14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145363729A	Description / Location:	Black Tar Paper	Roof (Bottom Layer)
Client No.:	32 BW070114			

Organic Fraction:	98.4 %	
Gravimetrically Reduced Subsample:	1.60 %	
Percent Asbestos Detected:	Trace	Chrysotile, Detected at < 0.25%
Percent Non-Asbestos Fibrous Material:	ND	None Detected
Percent Non-Fibrous Material:	1.60 %	Other

Comments:

NIST-NVLAP No. 101165-0 **AIHA-LAP, LLC No. 100188** **NYS-DOH No. 11021**

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
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Analysis Performed By: C. Liska

Date: 7/9/2014



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	344 West State Street	Report No.:	339041
	Trenton NJ 08618	Project:	11 Weber Ave; Shed
		Project No.:	14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145363731A	Description / Location:	Black Tar Paper	Under Siding
Client No.:	34 BW070114			

Organic Fraction:	98.4 %	
Gravimetrically Reduced Subsample:	1.60 %	
Percent Asbestos Detected:	ND	None Detected
Percent Non-Asbestos Fibrous Material:	ND	None Detected
Percent Non-Fibrous Material:	1.60 %	Other

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
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Analysis Performed By: C. Liska

Date: 7/9/2014

46 Weber Ave



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CERTIFICATE OF ANALYSIS

Client: USA Environmental Mgmt. Inc.
344 West State Street
Trenton NJ 08618

Report Date: 7/9/2014
Report No.: 339039
Project: 46 Weber Ave Residence
Project No.: 14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.: 145363918A **Description / Location:** White/Black Shingle Roof; Top Layer
Client No.: 22 BW070214

Organic Fraction:

Gravimetrically Reduced Subsample:

Percent Asbestos Detected:

Percent Non-Asbestos Fibrous Material:

Percent Non-Fibrous Material:

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
ELAP 198.4 "Method For Identifying And Quantitating Asbestos In Non-Friable Organically Bound Bulk Samples", Revised 1/11/2005. EPA-600/R-93/116 Section 2.5 "Asbestos In Bulk Building Materials By TEM Gravimetry."

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Analysis Performed By: _____

Approved By: _____

Date: 7/9/2014 _____

Frank E. Ehrenfeld, III
Laboratory Director



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CERTIFICATE OF ANALYSIS

Client: USA Environmental Mgmt. Inc.
344 West State Street
Trenton NJ 08618

Report Date: 7/9/2014
Report No.: 339039
Project: 46 Weber Ave Residence
Project No.: 14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.: 145363920A **Description / Location:** White/Red/Black Shingle Roof, Middle Layer
Client No.: 24BW070214

Organic Fraction:

Gravimetrically Reduced Subsample:

Percent Asbestos Detected:

Percent Non-Asbestos Fibrous Material:

Percent Non-Fibrous Material:

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
ELAP 198.4 "Method For Identifying And Quantitating Asbestos In Non-Friable Organically Bound Bulk Samples", Revised 1/11/2005. EPA-600/R-93/116 Section 2.5 "Asbestos In Bulk Building Materials By TEM Gravimetry."

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Analysis Performed By: _____

Date: 7/9/2014



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CERTIFICATE OF ANALYSIS

Client:	USA Environmental Mgmt. Inc.	Report Date:	7/9/2014
	344 West State Street	Report No.:	339039
	Trenton NJ 08618	Project:	46 Weber Ave Residence
		Project No.:	14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145363922A	Description / Location:	Black Tar Paper	Roof; ID No.11
Client No.:	26BW070214			

Organic Fraction:

Gravimetrically Reduced Subsample:

Percent Asbestos Detected:

Percent Non-Asbestos Fibrous Material:

Percent Non-Fibrous Material:

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
 ELAP 198.4 "Method For Identifying And Quantitating Asbestos In Non-Friable Organically Bound Bulk Samples", Revised 1/11/2005. EPA-600/R-93/116 Section 2.5 "Asbestos In Bulk Building Materials By TEM Gravimetry."

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Analysis Performed By: _____

Date: 7/9/2014



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CERTIFICATE OF ANALYSIS

Client:	USA Environmental Mgmt. Inc.	Report Date:	7/9/2014
	344 West State Street	Report No.:	339039
	Trenton NJ 08618	Project:	46 Weber Ave Residence
		Project No.:	14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145363924A	Description / Location:	Grey Caulk	Roof; @ Chimney
Client No.:	28BW070214			

Organic Fraction:

Gravimetrically Reduced Subsample:

Percent Asbestos Detected:

Percent Non-Asbestos Fibrous Material:

Percent Non-Fibrous Material:

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
 ELAP 198.4 "Method For Identifying And Quantitating Asbestos In Non-Friable Organically Bound Bulk Samples", Revised 1/11/2005. EPA-600/R-93/116 Section 2.5 "Asbestos In Bulk Building Materials By TEM Gravimetry."

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Analysis Performed By: _____

Date: 7/9/2014



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CERTIFICATE OF ANALYSIS

Client:	USA Environmental Mgmt. Inc.	Report Date:	7/10/2014
	344 West State Street	Report No.:	339033
	Trenton NJ 08618	Project:	46 Weber Ave; Residence
		Project No.:	14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145363817A	Description / Location:	Yellow Mastic;A/W CeramicTile	1st Floor,Bathroom
Client No.:	38 BW070114		Tub Surround	

Organic Fraction:	56.8 %	
Gravimetrically Reduced Subsample:	43.2 %	
Percent Asbestos Detected:	ND	None Detected
Percent Non-Asbestos Fibrous Material:	ND	None Detected
Percent Non-Fibrous Material:	43.2 %	Other

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
 ELAP 198.4 "Method For Identifying And Quantitating Asbestos In Non-Friable Organically Bound Bulk Samples", Revised 1/11/2005. EPA-600/R-93/116 Section 2.5 "Asbestos In Bulk Building Materials By TEM Gravimetry."

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Analysis Performed By: T. Barkley

Approved By: 

Date: 7/10/2014

Frank E. Ehrenfeld, III
 Laboratory Director



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CERTIFICATE OF ANALYSIS

Client:	USA Environmental Mgmt. Inc.	Report Date:	7/10/2014
	344 West State Street	Report No.:	339033
	Trenton NJ 08618	Project:	46 Weber Ave; Residence
		Project No.:	14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145363819A	Description / Location:	Black Tar Paper	ExteriorUnderBrickSiding
Client No.:	40 BW070114			

Organic Fraction:	99.0 %	
Gravimetrically Reduced Subsample:	1.00 %	
Percent Asbestos Detected:	ND	None Detected
Percent Non-Asbestos Fibrous Material:	ND	None Detected
Percent Non-Fibrous Material:	1.00 %	Other

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
 ELAP 198.4 "Method For Identifying And Quantitating Asbestos In Non-Friable Organically Bound Bulk Samples", Revised 1/11/2005. EPA-600/R-93/116 Section 2.5 "Asbestos In Bulk Building Materials By TEM Gravimetry."

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Analysis Performed By: T. Barkley

Date: 7/10/2014



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CERTIFICATE OF ANALYSIS

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	Trenton NJ 08618	Project:	46 Weber Ave; Residence
		Project No.:	14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145363825A	Description / Location:	White/Tan Glazing	Exterior Garage Window
Client No.:	46 BW070114			

Organic Fraction:	89.4 %		
Gravimetrically Reduced Subsample:	10.6 %		
Percent Asbestos Detected:	Trace	Chrysotile, Detected at < 0.25%	
Percent Non-Asbestos Fibrous Material:	0.200 %	Other	
Percent Non-Fibrous Material:	10.4 %	Other	

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
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Analysis Performed By: T. Barkley

Date: 7/10/2014



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CERTIFICATE OF ANALYSIS

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	344 West State Street	Report No.:	339033
	Trenton NJ 08618	Project:	46 Weber Ave Residence
		Project No.:	14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145363827A	Description / Location:	Grey/White Caulk	ExteriorMasterBathWindow
Client No.:	48 BW070114			

Organic Fraction:	91.8 %	
Gravimetrically Reduced Subsample:	8.20 %	
Percent Asbestos Detected:	ND	None Detected
Percent Non-Asbestos Fibrous Material:	ND	None Detected
Percent Non-Fibrous Material:	8.20 %	Other

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
 ELAP 198.4 "Method For Identifying And Quantitating Asbestos In Non-Friable Organically Bound Bulk Samples", Revised 1/11/2005. EPA-600/R-93/116 Section 2.5 "Asbestos In Bulk Building Materials By TEM Gravimetry."

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Results are verifiable for only those operations and analyses performed in the laboratory.

Analysis Performed By: T. Barkley

Date: 7/10/2014



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 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: USA Environmental Mgmt. Inc. 344 West State Street Trenton NJ 08618	Report Date: 7/10/2014 Report No.: 339033 Project: 46 Weber Ave; Residence Project No.: 14-020617-01
--	---

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.: 145363829A	Description / Location: Black Tar	Vapor Barrier Below
Client No.: 50 BW070114	Grade Exterior Wall	

Organic Fraction:	29.9 %	
Gravimetrically Reduced Subsample:	70.1 %	
Percent Asbestos Detected:	ND	None Detected
Percent Non-Asbestos Fibrous Material:	ND	None Detected
Percent Non-Fibrous Material:	70.1 %	Other

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
 ELAP 198.4 "Method For Identifying And Quantitating Asbestos In Non-Friable Organically Bound Bulk Samples", Revised 1/11/2005. EPA-600/R-93/116 Section 2.5 "Asbestos In Bulk Building Materials By TEM Gravimetry."

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Analysis Performed By: T. Barkley

Date: 7/10/2014



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CERTIFICATE OF ANALYSIS

Client: USA Environmental Mgmt. Inc.
 344 West State Street
 Trenton NJ 08618

Report Date: 7/3/2014
Report No: 338955
Project: 46 Weber Ave Residence
Project No.: 14-020617-01

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5363917	Description / Location: White/Black Shingle			
Client No.: 21 BW070214	Roof; Top Layer			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	5	Fibrous Glass	95

Lab No.: 5363918	Description / Location: White/Black Shingle			
Client No.: 22BW070214	Roof; Top Layer			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	5	Fibrous Glass	95

Lab No.: 5363919	Description / Location: White/Red/Black Shingle			
Client No.: 23 BW070214	Roof; Middle Layer			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	20	Cellulose	80

Lab No.: 5363920	Description / Location: White/Red/Black Shingle			
Client No.: 24 BW070214	Roof; Middle Layer			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	20	Cellulose	80

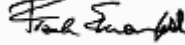
Accreditation **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

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Analytical Method: US EPA 600/R-93/116 by Polarized Light Microscopy, (ELAP 198.1 where applicable)

Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analysis Performed By: M. Mirza

Approved By: 

Date: 7/3/2014

Frank E. Ehrenfeld, III
 Laboratory Director



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CERTIFICATE OF ANALYSIS

Client: USA Environmental Mgmt. Inc.
 344 West State Street
 Trenton NJ 08618

Report Date: 7/3/2014
Report No: 338955
Project: 46 Weber Ave Residence
Project No.: 14-020617-01

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5363921	Description / Location: Black Tar Paper			
Client No.: 25 BW070214	Roof; ID No.11			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	75	Cellulose	25

Lab No.: 5363922	Description / Location: Black Tar Paper			
Client No.: 26 BW070214	Roof; ID No.11			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	75	Cellulose	25

Lab No.: 5363923	Description / Location: Grey Caulk			
Client No.: 27 BW070214	Roof; @ Chimney			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 5363924	Description / Location: Grey Caulk			
Client No.: 28 BW070214	Roof; @ Chimney			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Accreditation **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

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Analytical Method: US EPA 600/R-93/116 by Polarized Light Microscopy, (ELAP 198.1 where applicable)

Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analysis Performed By: M. Mirza

Date: 7/3/2014



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CERTIFICATE OF ANALYSIS

Client:	USA Environmental Mgmt. Inc.	Report Date:	7/10/2014
	344 West State Street	Report No.:	339039
	Trenton NJ 08618	Project:	46 Weber Ave Residence
		Project No.:	14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145363918A	Description / Location:	White/Black Shingle	Roof; Top Layer
Client No.:	22 BW070214			

Organic Fraction:	26.1 %	
Gravimetrically Reduced Subsample:	73.9 %	
Percent Asbestos Detected:	ND	None Detected
Percent Non-Asbestos Fibrous Material:	ND	None Detected
Percent Non-Fibrous Material:	73.9 %	Other

Comments:

NIST-NVLAP No. 101165-0 AIHA-LAP, LLC No. 100188 NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
 ELAP 198.4 "Method For Identifying And Quantitating Asbestos In Non-Friable Organically Bound Bulk Samples", Revised 1/11/2005. EPA-600/R-93/116 Section 2.5 "Asbestos In Bulk Building Materials By TEM Gravimetry."

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Analysis Performed By: R. Shumate

Approved By: 

Date: 7/10/2014

Frank E. Ehrenfeld, III
 Laboratory Director



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CERTIFICATE OF ANALYSIS

Client:	USA Environmental Mgmt. Inc.	Report Date:	7/10/2014
	344 West State Street	Report No.:	339039
	Trenton NJ 08618	Project:	46 Weber Ave Residence
		Project No.:	14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145363920A	Description / Location:	White/Red/Black Shingle	Roof; Middle Layer
Client No.:	24 BW070214			

Organic Fraction:	51.3 %	
Gravimetrically Reduced Subsample:	48.7 %	
Percent Asbestos Detected:	ND	None Detected
Percent Non-Asbestos Fibrous Material:	ND	None Detected
Percent Non-Fibrous Material:	48.7 %	Other

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
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Analysis Performed By: R. Shumate

Date: 7/10/2014



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CERTIFICATE OF ANALYSIS

Client:	USA Environmental Mgmt. Inc.	Report Date:	7/10/2014
	344 West State Street	Report No.:	339039
	Trenton NJ 08618	Project:	46 Weber Ave Residence
		Project No.:	14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145363922A	Description / Location:	Black Tar Paper	Roof; Under ID No.11
Client No.:	26 BW070214			

Organic Fraction:	97.4 %	
Gravimetrically Reduced Subsample:	2.60 %	
Percent Asbestos Detected:	ND	None Detected
Percent Non-Asbestos Fibrous Material:	ND	None Detected
Percent Non-Fibrous Material:	2.60 %	Other

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
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Analysis Performed By: R. Shumate

Date: 7/10/2014



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CERTIFICATE OF ANALYSIS

Client:	USA Environmental Mgmt. Inc.	Report Date:	7/10/2014
	344 West State Street	Report No.:	339039
	Trenton NJ 08618	Project:	46 Weber Ave Residence
		Project No.:	14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145363924A	Description / Location:	Grey Caulk	Roof; @ Chimney
Client No.:	28 BW070214			

Organic Fraction:	99.2 %	
Gravimetrically Reduced Subsample:	0.800 %	
Percent Asbestos Detected:	ND	None Detected
Percent Non-Asbestos Fibrous Material:	ND	None Detected
Percent Non-Fibrous Material:	0.800 %	Other

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
 ELAP 198.4 "Method For Identifying And Quantitating Asbestos In Non-Friable Organically Bound Bulk Samples", Revised 1/11/2005. EPA-600/R-93/116 Section 2.5 "Asbestos In Bulk Building Materials By TEM Gravimetry."

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Analysis Performed By: R. Shumate

Date: 7/10/2014



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CERTIFICATE OF ANALYSIS

Client: USA Environmental Mgmt. Inc.
344 West State Street
Trenton NJ 08618

Report Date: 7/9/2014
Report No.: 339040
Project: 46 Weber Ave; Shed
Project No.: 14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.: 145363674A	Description / Location: Grey/Black Shingle	Roof
Client No.: 54 BW070114		

Organic Fraction:

Gravimetrically Reduced Subsample:

Percent Asbestos Detected:

Percent Non-Asbestos Fibrous Material:

Percent Non-Fibrous Material:

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
ELAP 198.4 "Method For Identifying And Quantitating Asbestos In Non-Friable Organically Bound Bulk Samples", Revised 1/11/2005. EPA-600/R-93/116 Section 2.5 "Asbestos In Bulk Building Materials By TEM Gravimetry."

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Results are verifiable for only those operations and analyses performed in the laboratory.

Analysis Performed By: _____

Approved By: _____

Date: 7/9/2014

Frank E. Ehrenfeld, III
Laboratory Director



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 Mount Laurel, NJ 08054
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 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client:	USA Environmental Mgmt. Inc.	Report Date:	7/9/2014
	344 West State Street	Report No.:	339040
	Trenton NJ 08618	Project:	46 Weber Ave; Shed
		Project No.:	14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145363676A	Description / Location:	Black Tar Paper	Under Shingle;Roof
Client No.:	56 BW070114			

Organic Fraction:

Gravimetrically Reduced Subsample:

Percent Asbestos Detected:

Percent Non-Asbestos Fibrous Material:

Percent Non-Fibrous Material:

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
 ELAP 198.4 "Method For Identifying And Quantitating Asbestos In Non-Friable Organically Bound Bulk Samples", Revised 1/11/2005. EPA-600/R-93/116 Section 2.5 "Asbestos In Bulk Building Materials By TEM Gravimetry."

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Results are verifiable for only those operations and analyses performed in the laboratory.

Analysis Performed By: _____

Date: 7/9/2014



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 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client:	USA Environmental Mgmt. Inc.	Report Date:	7/9/2014
	344 West State Street	Report No.:	339040
	Trenton NJ 08618	Project:	46 Weber Ave; Shed
		Project No.:	14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145363674A	Description / Location:	Grey/Black Shingle	Roof
Client No.:	54 BW070114			

Organic Fraction:	59.7 %	
Gravimetrically Reduced Subsample:	40.3 %	
Percent Asbestos Detected:	ND	None Detected
Percent Non-Asbestos Fibrous Material:	ND	None Detected
Percent Non-Fibrous Material:	40.3 %	Other

Comments:

NIST-NVLAP No. 101165-0

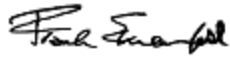
AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
 ELAP 198.4 "Method For Identifying And Quantitating Asbestos In Non-Friable Organically Bound Bulk Samples", Revised 1/11/2005. EPA-600/R-93/116 Section 2.5 "Asbestos In Bulk Building Materials By TEM Gravimetry."

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Results are verifiable for only those operations and analyses performed in the laboratory.

Analysis Performed By: B. Reich

Approved By: 
 Frank E. Ehrenfeld, III
 Laboratory Director

Date: 7/9/2014



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CERTIFICATE OF ANALYSIS

Client:	USA Environmental Mgmt. Inc.	Report Date:	7/9/2014
	344 West State Street	Report No.:	339040
	Trenton NJ 08618	Project:	46 Weber Ave; Shed
		Project No.:	14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145363676A	Description / Location:	Black Tar Paper	Under Shingle;Roof
Client No.:	56 BW070114			

Organic Fraction:	94.3 %	
Gravimetrically Reduced Subsample:	5.70 %	
Percent Asbestos Detected:	ND	None Detected
Percent Non-Asbestos Fibrous Material:	ND	None Detected
Percent Non-Fibrous Material:	5.70 %	Other

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
 ELAP 198.4 "Method For Identifying And Quantitating Asbestos In Non-Friable Organically Bound Bulk Samples", Revised 1/11/2005. EPA-600/R-93/116 Section 2.5 "Asbestos In Bulk Building Materials By TEM Gravimetry."

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Results are verifiable for only those operations and analyses performed in the laboratory.

Analysis Performed By: B. Reich

Date: 7/9/2014

61 Weber Ave



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 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: USA Environmental Mgmt. Inc.
 344 West State Street
 Trenton NJ 08618

Report Date: 7/7/2014
Report No: 338969
Project: 61 Weber Ave; Residence
Project No.: 14-020617-01

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5363655	Description / Location: Off-White Sheetrock			
Client No.: 59 BW070114	1st Floor, Living Room W/Fireplace			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	Trace	Cellulose	100

Lab No.: 5363655	Description / Location: Off-White Joint Compound	Layer No.: 2		
Client No.: 59 BW070114	1st Floor, Living Room W/Fireplace			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 5363656	Description / Location: Off-White Sheetrock			
Client No.: 60 BW070114	1st Floor, Hall Off Bedrooms			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	Trace	Cellulose	100

Lab No.: 5363656	Description / Location: Off-White Joint Compound	Layer No.: 2		
Client No.: 60 BW070114	1st Floor, Hall Off Bedrooms			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Accreditation

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA-LAP, LLC No. 100188

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Analytical Method:

US EPA 600/R-93/116 by Polarized Light Microscopy, (ELAP 198.1 where applicable)

Comments:

Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analysis Performed By: R. Kennedy

Approved By:

Date: 7/7/2014

Frank E. Ehrenfeld, III
 Laboratory Director



9000 Commerce Parkway, Ste B
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 Toll Free 877-428-4285
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CERTIFICATE OF ANALYSIS

Client: USA Environmental Mgmt. Inc.
 344 West State Street
 Trenton NJ 08618

Report Date: 7/7/2014
Report No: 338969
Project: 61 Weber Ave; Residence
Project No.: 14-020617-01

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5363657	Description / Location: Off-White Sheetrock			
Client No.: 61 BW070114	Garage			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	Trace	Cellulose	100

Lab No.: 5363657	Description / Location: Off-White Joint Compound	Layer No.: 2		
Client No.: 61 BW070114	Garage			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 5363658	Description / Location: Off-White Sheetrock			
Client No.: 62 BW070114	Garage			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	Trace	Cellulose	100

Lab No.: 5363658	Description / Location: Off-White Joint Compound	Layer No.: 2		
Client No.: 62 BW070114	Garage			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Accreditation

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA-LAP, LLC No. 100188

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Analytical Method:

US EPA 600/R-93/116 by Polarized Light Microscopy, (ELAP 198.1 where applicable)

Comments:

Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analysis Performed By: R. Kennedy

Date: 7/7/2014



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Report Date: 7/7/2014
Report No: 338969
Project: 61 Weber Ave; Residence
Project No.: 14-020617-01

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5363659	Description / Location: Grey Cementitious			
Client No.: 63 BW070114	Basement @ Flue			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 5363660	Description / Location: Grey Cementitious			
Client No.: 64 BW070114	Basement @ Flue			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 5363661	Description / Location: Black Tar Paper			
Client No.: 65 BW070114	Under Brick Siding; Exterior			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	80	Cellulose	20

Lab No.: 5363662	Description / Location: Black Tar Paper			
Client No.: 66 BW070114	Under Brick Siding; Exterior			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	80	Cellulose	20

Accreditation **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

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Analytical Method: US EPA 600/R-93/116 by Polarized Light Microscopy, (ELAP 198.1 where applicable)

Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

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Date: 7/7/2014



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 344 West State Street
 Trenton NJ 08618

Report Date: 7/7/2014
Report No: 338969
Project: 61 Weber Ave; Residence
Project No.: 14-020617-01

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5363663	Description / Location: Tan/Black Shingle			
Client No.: 67 BW070114	Roof			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	10	Fibrous Glass	90

Lab No.: 5363664	Description / Location: Tan/Black Shingle			
Client No.: 68 BW070114	Roof			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	10	Fibrous Glass	90

Lab No.: 5363665	Description / Location: Black Tar Paper			
Client No.: 69 BW070114	Under Shingle; Roof			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	80	Cellulose	20

Lab No.: 5363666	Description / Location: Black Tar Paper			
Client No.: 70 BW070114	Under Shingle; Roof			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	80	Cellulose	20

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Analysis Performed By: R. Kennedy

Date: 7/7/2014



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Report Date: 7/7/2014
Report No: 338969
Project: 61 Weber Ave; Residence
Project No.: 14-020617-01

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5363667	Description / Location: Clear Caulk			
Client No.: 71 BW070114	@ Brick & Metal Interface; Roof@Chimney			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 5363668	Description / Location: Clear Caulk			
Client No.: 72 BW070114	@ Brick & Metal Interface; Roof@Chimney			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 5363669	Description / Location: Grey Debris			
Client No.: 73 BW070114	VaporBarrierBelowGradeOnExteriorWall			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Note: Not building material. 1% threshold may not apply.
 Note: Different material than indicated on Sample Log / Description.

Accreditation **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

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Analytical Method: US EPA 600/R-93/116 by Polarized Light Microscopy, (ELAP 198.1 where applicable)

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Date: 7/7/2014



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Report Date: 7/7/2014
Report No: 338969
Project: 61 Weber Ave; Residence
Project No.: 14-020617-01

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5363670	Description / Location: Grey Debris			
Client No.: 74 BW070114	VaporBarrierBelowGradeOnExteriorWall			
% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	None Detected	None Detected	100

Note: Not building material. 1% threshold may not apply.
 Note: Different material than indicated on Sample Log / Description.

Accreditation **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

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Date: 7/7/2014



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CERTIFICATE OF ANALYSIS

Client:	USA Environmental Mgmt. Inc.	Report Date:	7/9/2014
	344 West State Street	Report No.:	339074
	Trenton NJ 08618	Project:	61 Weber Ave; Residence
		Project No.:	14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145363662A	Description / Location:	Black Tar Paper	Under Brick Siding
Client No.:	66 BW070114		Exterior	

Organic Fraction:	99.1 %	
Gravimetrically Reduced Subsample:	0.900 %	
Percent Asbestos Detected:	ND	None Detected
Percent Non-Asbestos Fibrous Material:	ND	None Detected
Percent Non-Fibrous Material:	0.900 %	Other

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
 ELAP 198.4 "Method For Identifying And Quantitating Asbestos In Non-Friable Organically Bound Bulk Samples", Revised 1/11/2005. EPA-600/R-93/116 Section 2.5 "Asbestos In Bulk Building Materials By TEM Gravimetry."

*IATL assumes that all sampling methods and data upon which these results are based have been accurately supplied by the client.
 The "Gravimetrically Reduced Subsample" is the portion of the submitted sample remaining following the ashing and acid treatment processes. TEM analysis occurs on this portion of the sample. Final results are calculated to represent the sample as submitted.
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 Results are verifiable for only those operations and analyses performed in the laboratory.*

Analysis Performed By: B. Reich

Approved By: 

Date: 7/9/2014

Frank E. Ehrenfeld, III
 Laboratory Director



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CERTIFICATE OF ANALYSIS

Client:	USA Environmental Mgmt. Inc.	Report Date:	7/9/2014
	344 West State Street	Report No.:	339074
	Trenton NJ 08618	Project:	61 Weber Ave; Residence
		Project No.:	14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145363664A	Description / Location:	Tan/Black Shingle	Roof
Client No.:	68 BW070114			

Organic Fraction:	68.3 %	
Gravimetrically Reduced Subsample:	31.7 %	
Percent Asbestos Detected:	ND	None Detected
Percent Non-Asbestos Fibrous Material:	ND	None Detected
Percent Non-Fibrous Material:	31.7 %	Other

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
 ELAP 198.4 "Method For Identifying And Quantitating Asbestos In Non-Friable Organically Bound Bulk Samples", Revised 1/11/2005. EPA-600/R-93/116 Section 2.5 "Asbestos In Bulk Building Materials By TEM Gravimetry."

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Date: 7/9/2014



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	344 West State Street	Report No.:	339074
	Trenton NJ 08618	Project:	61 Weber Ave; Residence
		Project No.:	14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145363666A	Description / Location:	Black Tar Paper	Under Shingle;Roof
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Client No.: 70 BW070114

Organic Fraction:	98.0 %	
Gravimetrically Reduced Subsample:	2.00 %	
Percent Asbestos Detected:	ND	None Detected
Percent Non-Asbestos Fibrous Material:	ND	None Detected
Percent Non-Fibrous Material:	2.00 %	Other

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
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Date: 7/9/2014



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	344 West State Street	Report No.:	339074
	Trenton NJ 08618	Project:	61 Weber Ave; Residence
		Project No.:	14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145363668A	Description / Location:	Clear Caulk @Brick&MetalInterface
Client No.:	72 BW070114		Roof @ Chimney

Organic Fraction:	47.2 %	
Gravimetrically Reduced Subsample:	52.8 %	
Percent Asbestos Detected:	ND	None Detected
Percent Non-Asbestos Fibrous Material:	ND	None Detected
Percent Non-Fibrous Material:	52.8 %	Other

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
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		Report No.:	339074
		Project:	61 Weber Ave; Residence
		Project No.:	14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145363670A	Description / Location:	Grey Debris On Exterior Wall	VaporBarrierBelowGrade
Client No.:	74 BW070114			

Organic Fraction:	19.6 %	
Gravimetrically Reduced Subsample:	80.4 %	
Percent Asbestos Detected:	ND	None Detected
Percent Non-Asbestos Fibrous Material:	2.40 %	SiAl, Other Fiber
Percent Non-Fibrous Material:	78.0 %	Other

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
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Analysis Performed By: B. Reich

Date: 7/9/2014

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CERTIFICATE OF ANALYSIS

Client: USA Environmental Mgmt. Inc.
 344 West State Street
 Trenton NJ 08618

Report Date: 7/5/2014
Report No: 338959
Project: 66 Weber Ave, Residence
Project No.: 14-020617-01

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5363854	Description / Location: Tan/White Sheetrock			
Client No.: 75-BW070114	1st FL, 1st Bedroom On Left			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	5	Cellulose	95

Lab No.: 5363854	Description / Location: Tan Joint Compound	Layer No.: 2		
Client No.: 75-BW070114	1st FL, 1st Bedroom On Left			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
PC 1.4	Chrysotile	None Detected	None Detected	PC 98.6

Lab No.: 5363855	Description / Location: Tan/White Sheetrock			
Client No.: 76-BW070114	1st FL, Living Room			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	5	Cellulose	95

Lab No.: 5363855	Description / Location: Tan Joint Compound	Layer No.: 2		
Client No.: 76-BW070114	1st FL, Living Room			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
PC 1.3	Chrysotile	None Detected	None Detected	PC 98.7

Accreditation **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

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Analytical Method: US EPA 600/R-93/116 by Polarized Light Microscopy, (ELAP 198.1 where applicable)

Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analysis Performed By: M. Mirza

Approved By: 

Date: 7/5/2014

Frank E. Ehrenfeld, III
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CERTIFICATE OF ANALYSIS

Client: USA Environmental Mgmt. Inc.
 344 West State Street
 Trenton NJ 08618

Report Date: 7/5/2014
Report No: 338959
Project: 66 Weber Ave, Residence
Project No.: 14-020617-01

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5363856	Description / Location: Tan Mastic			
Client No.: 77-BW070114	Basement Stairwell			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 5363857	Description / Location: Tan Mastic			
Client No.: 78-BW070114	Basement Stairwell			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 5363858	Description / Location: Grey Cement			
Client No.: 79-BW070114	Basement @ Flue			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	2	Wollastonite	98

Lab No.: 5363858	Description / Location: White Caulk	Layer No.: 2		
Client No.: 79-BW070114	Basement @ Flue			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Accreditation **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

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Analytical Method: US EPA 600/R-93/116 by Polarized Light Microscopy, (ELAP 198.1 where applicable)

Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analysis Performed By: M. Mirza

Date: 7/5/2014



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CERTIFICATE OF ANALYSIS

Client: USA Environmental Mgmt. Inc.
 344 West State Street
 Trenton NJ 08618

Report Date: 7/5/2014
Report No: 338959
Project: 66 Weber Ave, Residence
Project No.: 14-020617-01

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5363859	Description / Location: Grey Cement			
Client No.: 80-BW070114	Basement @ Flue			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	2	Wollastonite	98

Lab No.: 5363859	Description / Location: White Caulk	Layer No.: 2		
Client No.: 80-BW070114	Basement @ Flue			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 5363860	Description / Location: White Glazing			
Client No.: 81-BW070114	Ext Kitchen Window			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 5363861	Description / Location: White Glazing			
Client No.: 82-BW070114	Ext 2nd Bedroom On Left			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Accreditation

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA-LAP, LLC No. 100188

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Analytical Method:

US EPA 600/R-93/116 by Polarized Light Microscopy, (ELAP 198.1 where applicable)

Comments:

Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

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Date: 7/5/2014



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CERTIFICATE OF ANALYSIS

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 344 West State Street
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Report Date: 7/5/2014
Report No: 338959
Project: 66 Weber Ave, Residence
Project No.: 14-020617-01

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5363862	Description / Location: Black Tar Paper			
Client No.: 83-BW070114	Ext Under Siding			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	75	Cellulose	25

Lab No.: 5363863	Description / Location: Black Tar Paper			
Client No.: 84-BW070114	Ext Under Siding			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	75	Cellulose	25

Lab No.: 5363864	Description / Location: Black/White Texture Plaster			
Client No.: 85-BW070114	Ext Below Grade			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	2	Wollastonite	98

Lab No.: 5363865	Description / Location: Black/White Texture Plaster			
Client No.: 86-BW070114	Ext Below Grade			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	2	Wollastonite	98

Accreditation **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

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Analytical Method: US EPA 600/R-93/116 by Polarized Light Microscopy, (ELAP 198.1 where applicable)

Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analysis Performed By: M. Mirza

Date: 7/5/2014



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Report Date: 7/5/2014
Report No: 338959
Project: 66 Weber Ave, Residence
Project No.: 14-020617-01

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5363866	Description / Location: Green/Black Shingle			
Client No.: 87-BW070114	Roof;Top Layer			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	5	Fibrous Glass	95

Lab No.: 5363867	Description / Location: Green/Black Shingle			
Client No.: 88-BW070114	Roof;Top Layer			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	5	Fibrous Glass	95

Lab No.: 5363868	Description / Location: Lt Grey/Black Shingle			
Client No.: 89-BW070114	Roof;Middle Layer			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	20	Cellulose	80

Lab No.: 5363869	Description / Location: Lt Grey/Black Shingle			
Client No.: 90-BW070114	Roof;Middle Layer			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	20	Cellulose	80

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Analytical Method: US EPA 600/R-93/116 by Polarized Light Microscopy, (ELAP 198.1 where applicable)

Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analysis Performed By: M. Mirza

Date: 7/5/2014



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Report Date: 7/5/2014
Report No: 338959
Project: 66 Weber Ave, Residence
Project No.: 14-020617-01

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5363870	Description / Location: Black Tar Paper			
Client No.: 91-BW070114	Roof			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	80	Cellulose	20

Lab No.: 5363871	Description / Location: Black Tar Paper			
Client No.: 92-BW070114	Roof			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	80	Cellulose	20

Lab No.: 5363872	Description / Location: Black Tar			
Client No.: 93-BW070114	Roof @ Vent			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	10	Cellulose	90

Lab No.: 5363873	Description / Location: Black Tar			
Client No.: 94-BW070114	Roof @ Chimney			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	5	Cellulose	93
		2	Fibrous Glass	

Accreditation **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

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Analytical Method: US EPA 600/R-93/116 by Polarized Light Microscopy, (ELAP 198.1 where applicable)

Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analysis Performed By: M. Mirza

Date: 7/5/2014



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CERTIFICATE OF ANALYSIS

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Report Date: 7/5/2014
Report No: 338959
Project: 66 Weber Ave, Residence
Project No.: 14-020617-01

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5363874	Description / Location: White Caulk			
Client No.: 95-BW070114	Roof @ Chimney			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None etected	None Detected	100

Lab No.: 5363875	Description / Location: White Caulk			
Client No.: 96-BW070114	Roof @ Chimney			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None etected	None Detected	100

Accreditation **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

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Analytical Method: US EPA 600/R-93/116 by Polarized Light Microscopy, (ELAP 198.1 where applicable)

Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analysis Performed By: M. Mirza

Date: 7/5/2014



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CERTIFICATE OF ANALYSIS

Client:	USA Environmental Mgmt. Inc.	Report Date:	7/10/2014
	344 West State Street	Report No.:	339042
	Trenton NJ 08618	Project:	66 Weber Ave, Residence
		Project No.:	14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145363861A	Description / Location:	White Glazing	Ext.2ndBedrmOnLeft
Client No.:	82 BW070114			

Organic Fraction:	93.3 %	
Gravimetrically Reduced Subsample:	6.70 %	
Percent Asbestos Detected:	ND	None Detected
Percent Non-Asbestos Fibrous Material:	0.300 %	Other
Percent Non-Fibrous Material:	6.40 %	Other

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
 ELAP 198.4 "Method For Identifying And Quantitating Asbestos In Non-Friable Organically Bound Bulk Samples", Revised 1/11/2005. EPA-600/R-93/116 Section 2.5 "Asbestos In Bulk Building Materials By TEM Gravimetry."

IATL assumes that all sampling methods and data upon which these results are based have been accurately supplied by the client.
The "Gravimetrically Reduced Subsample" is the portion of the submitted sample remaining following the ashing and acid treatment processes. TEM analysis occurs on this portion of the sample. Final results are calculated to represent the sample as submitted.
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Results are verifiable for only those operations and analyses performed in the laboratory.

Analysis Performed By: T. Barkley

Approved By: 

Date: 7/10/2014

Frank E. Ehrenfeld, III
 Laboratory Director



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CERTIFICATE OF ANALYSIS

Client:	USA Environmental Mgmt. Inc.	Report Date:	7/10/2014
	344 West State Street	Report No.:	339042
	Trenton NJ 08618	Project:	66 Weber Ave, Residence
		Project No.:	14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145363863A	Description / Location:	Black Tar Paper	Ext.Under Siding
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Client No.: 84 BW070114

Organic Fraction:	97.9 %	
Gravimetrically Reduced Subsample:	2.10 %	
Percent Asbestos Detected:	ND	None Detected
Percent Non-Asbestos Fibrous Material:	ND	None Detected
Percent Non-Fibrous Material:	2.10 %	Other

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
 ELAP 198.4 "Method For Identifying And Quantitating Asbestos In Non-Friable Organically Bound Bulk Samples", Revised 1/11/2005. EPA-600/R-93/116 Section 2.5 "Asbestos In Bulk Building Materials By TEM Gravimetry."

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Analysis Performed By: T. Barkley

Date: 7/10/2014



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	344 West State Street	Report No.:	339042
	Trenton NJ 08618	Project:	66 Weber Ave, Residence
		Project No.:	14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145363865A	Description / Location:	Black/White Texture Plaster	Ext. Below Grade
------------------	------------	--------------------------------	-----------------------------	------------------

Client No.: 86 BW070114

Organic Fraction:	38.8 %	
Gravimetrically Reduced Subsample:	61.2 %	
Percent Asbestos Detected:	ND	None Detected
Percent Non-Asbestos Fibrous Material:	ND	None Detected
Percent Non-Fibrous Material:	61.2 %	Other

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
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	Trenton NJ 08618	Project:	66 Weber Ave, Residence
		Project No.:	14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145363867A	Description / Location:	Green/Black Shingle	Roof; Top Layer
Client No.:	88 BW070114			

Organic Fraction:	46.6 %	
Gravimetrically Reduced Subsample:	53.4 %	
Percent Asbestos Detected:	ND	None Detected
Percent Non-Asbestos Fibrous Material:	ND	None Detected
Percent Non-Fibrous Material:	53.4 %	Other

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
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	Trenton NJ 08618	Project:	66 Weber Ave, Residence
		Project No.:	14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145363869A	Description / Location:	Lt.Grey/Black Shingle	Roof;Middle Layer
------------------	------------	--------------------------------	-----------------------	-------------------

Client No.: 90 BW070114

Organic Fraction:	48.0 %	
Gravimetrically Reduced Subsample:	52.0 %	
Percent Asbestos Detected:	ND	None Detected
Percent Non-Asbestos Fibrous Material:	ND	None Detected
Percent Non-Fibrous Material:	52.0 %	Other

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
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		Project No.:	14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145363871A	Description / Location:	Black Tar Paper	Roof
Client No.:	92 BW070114			

Organic Fraction:	98.0 %	
Gravimetrically Reduced Subsample:	2.00 %	
Percent Asbestos Detected:	ND	None Detected
Percent Non-Asbestos Fibrous Material:	ND	None Detected
Percent Non-Fibrous Material:	2.00 %	Other

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
 ELAP 198.4 "Method For Identifying And Quantitating Asbestos In Non-Friable Organically Bound Bulk Samples", Revised 1/11/2005. EPA-600/R-93/116 Section 2.5 "Asbestos In Bulk Building Materials By TEM Gravimetry."

IATL assumes that all sampling methods and data upon which these results are based have been accurately supplied by the client.
The "Gravimetrically Reduced Subsample" is the portion of the submitted sample remaining following the ashing and acid treatment processes. TEM analysis occurs on this portion of the sample. Final results are calculated to represent the sample as submitted.
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Results are verifiable for only those operations and analyses performed in the laboratory.

Analysis Performed By: T. Barkley

Date: 7/10/2014



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CERTIFICATE OF ANALYSIS

Client:	USA Environmental Mgmt. Inc.	Report Date:	7/10/2014
	344 West State Street	Report No.:	339042
	Trenton NJ 08618	Project:	66 Weber Ave, Residence
		Project No.:	14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145363873A	Description / Location:	Black Tar	Roof @ Chimney
Client No.:	94 BW070114			

Organic Fraction:	82.5 %	
Gravimetrically Reduced Subsample:	17.5 %	
Percent Asbestos Detected:	ND	None Detected
Percent Non-Asbestos Fibrous Material:	5.30 %	SiAl, Other Fiber
Percent Non-Fibrous Material:	12.3 %	Other

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
 ELAP 198.4 "Method For Identifying And Quantitating Asbestos In Non-Friable Organically Bound Bulk Samples", Revised 1/11/2005. EPA-600/R-93/116 Section 2.5 "Asbestos In Bulk Building Materials By TEM Gravimetry."

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Date: 7/10/2014



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CERTIFICATE OF ANALYSIS

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	344 West State Street	Report No.:	339042
	Trenton NJ 08618	Project:	66 Weber Ave, Residence
		Project No.:	14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145363875A	Description / Location:	White Caulk	Roof @ Chimney
Client No.:	96 BW070114			

Organic Fraction:	93.0 %	
Gravimetrically Reduced Subsample:	7.00 %	
Percent Asbestos Detected:	ND	None Detected
Percent Non-Asbestos Fibrous Material:	ND	None Detected
Percent Non-Fibrous Material:	7.00 %	Other

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
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Analysis Performed By: T. Barkley

Date: 7/10/2014

9 John St



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CERTIFICATE OF ANALYSIS

Client: USA Environmental Mgmt. Inc.
 344 West State Street
 Trenton NJ 08618

Report Date: 7/3/2014
Report No: 338956
Project: 9 John St, Residence
Project No.: 14-020617-01

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5363888	Description / Location: Tan/White Sheetrock			
Client No.: 163-BW070214	1st FL, Living Room			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	5	Cellulose	95

Lab No.: 5363888	Description / Location: White Joint Compound	Layer No.: 2		
Client No.: 163-BW070214	1st FL, Living Room			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 5363888	Description / Location: White Texture Plaster	Layer No.: 3		
Client No.: 163-BW070214	1st FL, Living Room			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Accreditation **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

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Analytical Method: US EPA 600/R-93/116 by Polarized Light Microscopy, (ELAP 198.1 where applicable)

Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analysis Performed By: M. Mirza

Approved By: 

Date: 7/3/2014

Frank E. Ehrenfeld, III
 Laboratory Director



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CERTIFICATE OF ANALYSIS

Client: USA Environmental Mgmt. Inc.
 344 West State Street
 Trenton NJ 08618

Report Date: 7/3/2014
Report No: 338956
Project: 9 John St, Residence
Project No.: 14-020617-01

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5363889	Description / Location: Tan/White Sheetrock			
Client No.: 164-BW070214	1st FL, Bedroom			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	5	Cellulose	95

Lab No.: 5363889	Description / Location: White Texture Plaster	Layer No.: 2		
Client No.: 164-BW070214	1st FL, Bedroom			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 5363890	Description / Location: Tan/White Sheetrock			
Client No.: 165-BW070214	1st FL, Living Room			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	5	Cellulose	95

Lab No.: 5363890	Description / Location: Tan Joint Compound	Layer No.: 2		
Client No.: 165-BW070214	1st FL, Living Room			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
PC 1.4	Chrysotile	None Detected	None Detected	PC 98.6

Accreditation **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

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Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analysis Performed By: M. Mirza

Date: 7/3/2014



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CERTIFICATE OF ANALYSIS

Client: USA Environmental Mgmt. Inc.
 344 West State Street
 Trenton NJ 08618

Report Date: 7/3/2014
Report No: 338956
Project: 9 John St, Residence
Project No.: 14-020617-01

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5363891	Description / Location: Tan/White Sheetrock			
Client No.: 166-BW070214	1st FL, Bedroom			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	5	Cellulose	95

Lab No.: 5363891	Description / Location: Tan Joint Compound	Layer No.: 2		
Client No.: 166-BW070214	1st FL, Bedroom			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
PC 1.6	Chrysotile	None Detected	None Detected	PC 98.4

Lab No.: 5363892	Description / Location: Tan/White Sheetrock			
Client No.: 167-BW070214	1st FL, Sun Room			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	5	Cellulose	95

Lab No.: 5363892	Description / Location: White Joint Compound	Layer No.: 2		
Client No.: 167-BW070214	1st FL, Sun Room			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Accreditation

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA-LAP, LLC No. 100188

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Analytical Method:

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Comments:

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Analysis Performed By: M. Mirza

Date: 7/3/2014



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Client: USA Environmental Mgmt. Inc.
 344 West State Street
 Trenton NJ 08618

Report Date: 7/3/2014
Report No: 338956
Project: 9 John St, Residence
Project No.: 14-020617-01

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5363893	Description / Location: Tan/White Sheetrock			
Client No.: 168-BW070214	1st FL, Sun Room			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	5	Cellulose	95

Lab No.: 5363893	Description / Location: White Joint Compound	Layer No.: 2		
Client No.: 168-BW070214	1st FL, Sun Room			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 5363894	Description / Location: Tan/White Sheetrock			
Client No.: 169-BW070214	2nd FL, Bedroom Off Stairs;Straight			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	5	Cellulose	95

Lab No.: 5363894	Description / Location: Tan Joint Compound	Layer No.: 2		
Client No.: 169-BW070214	2nd FL, Bedroom Off Stairs;Straight			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
PC 1.3	Chrysotile	None Detected	None Detected	PC 98.7

Accreditation

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA-LAP, LLC No. 100188

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Analytical Method:

US EPA 600/R-93/116 by Polarized Light Microscopy, (ELAP 198.1 where applicable)

Comments:

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Date: 7/3/2014



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CERTIFICATE OF ANALYSIS

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 344 West State Street
 Trenton NJ 08618

Report Date: 7/3/2014
Report No: 338956
Project: 9 John St, Residence
Project No.: 14-020617-01

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5363895	Description / Location: Tan/White Sheetrock			
Client No.: 170-BW070214	2nd FL, Bedroom Off Stairs;Right			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	5	Cellulose	95

Lab No.: 5363895	Description / Location: Tan Joint Compound	Layer No.: 2		
Client No.: 170-BW070214	2nd FL, Bedroom Off Stairs;Right			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
PC 1.4	Chrysotile	None Detected	None Detected	PC 98.6

Lab No.: 5363896	Description / Location: Lt Tan Vinyl Sheet Flooring			
Client No.: 171-BW070214	1st FL, Kitchen			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 5363897	Description / Location: Lt Tan Vinyl Sheet Flooring			
Client No.: 172-BW070214	1st FL, Kitchen			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Accreditation **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

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Analytical Method: US EPA 600/R-93/116 by Polarized Light Microscopy, (ELAP 198.1 where applicable)

Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analysis Performed By: M. Mirza

Date: 7/3/2014



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CERTIFICATE OF ANALYSIS

Client: USA Environmental Mgmt. Inc.
 344 West State Street
 Trenton NJ 08618

Report Date: 7/3/2014
Report No: 338956
Project: 9 John St, Residence
Project No.: 14-020617-01

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5363898	Description / Location: Tan Mastic			
Client No.: 173-BW070214	2nd FL, Bathroom			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 5363899	Description / Location: Tan Mastic			
Client No.: 174-BW070214	2nd FL, Bathroom			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 5363900	Description / Location: Tan Stucco			
Client No.: 175-BW070214	Exterior Siding			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 5363901	Description / Location: Tan Stucco			
Client No.: 176-BW070214	Exterior Siding			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Accreditation **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

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Analytical Method: US EPA 600/R-93/116 by Polarized Light Microscopy, (ELAP 198.1 where applicable)

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Analysis Performed By: M. Mirza

Date: 7/3/2014



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 344 West State Street
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Report Date: 7/3/2014
Report No: 338956
Project: 9 John St, Residence
Project No.: 14-020617-01

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5363902	Description / Location: Tan Stucco			
Client No.: 177-BW070214	Exterior Siding			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 5363903	Description / Location: Lt Tan Insulation			
Client No.: 178-BW070214	Basement @ Flue			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
10	Chrysotile	None Detected	None Detected	90

Lab No.: 5363904	Description / Location: Sample Not Analyzed			
Client No.: 179-BW070214				
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
	Sample Not Analyzed		Sample Not Analyzed	

Lab No.: 5363905	Description / Location: Brown/Black Shingle			
Client No.: 180-BW070214	Roof;Top Layer			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	5	Fibrous Glass	95

Accreditation **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

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Analytical Method: US EPA 600/R-93/116 by Polarized Light Microscopy, (ELAP 198.1 where applicable)

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Analysis Performed By: M. Mirza

Date: 7/3/2014



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Project No.: 14-020617-01

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5363906	Description / Location: Brown/Black Shingle			
Client No.: 181-BW070214	Roof;Top Layer			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	5	Fibrous Glass	95

Lab No.: 5363907	Description / Location: Lt Grey/Black Shingle			
Client No.: 182-BW070214	Roof;Middle Layer			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	5	Fibrous Glass	95

Lab No.: 5363908	Description / Location: Lt Grey/Black Shingle			
Client No.: 183-BW070214	Roof;Middle Layer			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	5	Fibrous Glass	95

Lab No.: 5363909	Description / Location: Black Tar Paper			
Client No.: 184-BW070214	Roof;Under Middle Layer			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	75	Cellulose	25

Accreditation **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

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 This report shall not be reproduced except in full, without written approval of the laboratory.*

Analytical Method: US EPA 600/R-93/116 by Polarized Light Microscopy, (ELAP 198.1 where applicable)

Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analysis Performed By: M. Mirza

Date: 7/3/2014



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CERTIFICATE OF ANALYSIS

Client: USA Environmental Mgmt. Inc.
 344 West State Street
 Trenton NJ 08618

Report Date: 7/3/2014
Report No: 338956
Project: 9 John St, Residence
Project No.: 14-020617-01

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5363910	Description / Location: Black Tar Paper			
Client No.: 185-BW070214	Roof; Under Middle Layer			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	75	Cellulose	25

Lab No.: 5363911	Description / Location: Black Tar Paper			
Client No.: 186-BW070214	Exterior Siding-Addition			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	80	Cellulose	20

Lab No.: 5363912	Description / Location: Black Tar Paper			
Client No.: 187-BW070214	Exterior Siding-Addition			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	80	Cellulose	20

Lab No.: 5363913	Description / Location: Tan Glazing			
Client No.: 188-BW070214	Exterior Living Room Window			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Accreditation **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

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Analytical Method: US EPA 600/R-93/116 by Polarized Light Microscopy, (ELAP 198.1 where applicable)

Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analysis Performed By: M. Mirza

Date: 7/3/2014



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CERTIFICATE OF ANALYSIS

Client: USA Environmental Mgmt. Inc.
 344 West State Street
 Trenton NJ 08618

Report Date: 7/3/2014
Report No: 338956
Project: 9 John St, Residence
Project No.: 14-020617-01

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5363914	Description / Location: Tan Glazing			
Client No.: 189-BW070214	Exterior 1st FL Bedroom Window			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 5363915	Description / Location: Black/Tan Tar/Plaster			
Client No.: 190-BW070214	Exterior Below Grade			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 5363916	Description / Location: Black/Tan Tar/Plaster			
Client No.: 191-BW070214	Exterior Below Grade			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Accreditation **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

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Analytical Method: US EPA 600/R-93/116 by Polarized Light Microscopy, (ELAP 198.1 where applicable)

Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analysis Performed By: M. Mirza

Date: 7/3/2014



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CERTIFICATE OF ANALYSIS

Client:	USA Environmental Mgmt. Inc.	Report Date:	7/10/2014
	344 West State Street	Report No.:	339048
	Trenton NJ 08618	Project:	9 John St., Residence
		Project No.:	14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145363897A	Description / Location:	Lt. Tan Vinyl Sheet Flooring	1st FL, Kitchen
Client No.:	172 BW070214			

Organic Fraction:	98.7 %	
Gravimetrically Reduced Subsample:	1.30 %	
Percent Asbestos Detected:	ND	None Detected
Percent Non-Asbestos Fibrous Material:	ND	None Detected
Percent Non-Fibrous Material:	1.30 %	Other

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
 ELAP 198.4 "Method For Identifying And Quantitating Asbestos In Non-Friable Organically Bound Bulk Samples", Revised 1/11/2005. EPA-600/R-93/116 Section 2.5 "Asbestos In Bulk Building Materials By TEM Gravimetry."

IATL assumes that all sampling methods and data upon which these results are based have been accurately supplied by the client.
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Results are verifiable for only those operations and analyses performed in the laboratory.

Analysis Performed By: R. Shumate

Approved By: 

Date: 7/10/2014

Frank E. Ehrenfeld, III
 Laboratory Director



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CERTIFICATE OF ANALYSIS

Client:	USA Environmental Mgmt. Inc.	Report Date:	7/10/2014
	344 West State Street	Report No.:	339048
	Trenton NJ 08618	Project:	9 John St., Residence
		Project No.:	14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145363899A	Description / Location:	Tan Mastic	2nd FL, Bathroom
Client No.:	174 BW070214			

Organic Fraction:	93.4 %	
Gravimetrically Reduced Subsample:	6.60 %	
Percent Asbestos Detected:	ND	None Detected
Percent Non-Asbestos Fibrous Material:	ND	None Detected
Percent Non-Fibrous Material:	6.60 %	Other

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
 ELAP 198.4 "Method For Identifying And Quantitating Asbestos In Non-Friable Organically Bound Bulk Samples", Revised 1/11/2005. EPA-600/R-93/116 Section 2.5 "Asbestos In Bulk Building Materials By TEM Gravimetry."

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Analysis Performed By: R. Shumate

Date: 7/10/2014



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CERTIFICATE OF ANALYSIS

Client:	USA Environmental Mgmt. Inc.	Report Date:	7/10/2014
	344 West State Street	Report No.:	339048
	Trenton NJ 08618	Project:	9 John St., Residence
		Project No.:	14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145363906A	Description / Location:	Brown/Black Shingle	Roof; Top Layer
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Client No.: 181 BW070214

Organic Fraction:	57.1 %	
Gravimetrically Reduced Subsample:	42.9 %	
Percent Asbestos Detected:	ND	None Detected
Percent Non-Asbestos Fibrous Material:	ND	None Detected
Percent Non-Fibrous Material:	42.9 %	Other

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
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Analysis Performed By: R. Shumate

Date: 7/10/2014



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CERTIFICATE OF ANALYSIS

Client: USA Environmental Mgmt. Inc. 344 West State Street Trenton NJ 08618	Report Date: 7/10/2014 Report No.: 339048 Project: 9 John St., Residence Project No.: 14-020617-01
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TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.: 145363908A	Description / Location: Lt.Grey/Black Shingle	Roof;Middle Layer
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Client No.: 183 BW070214

Organic Fraction:	60.1 %	
Gravimetrically Reduced Subsample:	39.9 %	
Percent Asbestos Detected:	ND	None Detected
Percent Non-Asbestos Fibrous Material:	ND	None Detected
Percent Non-Fibrous Material:	39.9 %	Other

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
 ELAP 198.4 "Method For Identifying And Quantitating Asbestos In Non-Friable Organically Bound Bulk Samples", Revised 1/11/2005. EPA-600/R-93/116 Section 2.5 "Asbestos In Bulk Building Materials By TEM Gravimetry."

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Analysis Performed By: R. Shumate

Date: 7/10/2014



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CERTIFICATE OF ANALYSIS

Client:	USA Environmental Mgmt. Inc.	Report Date:	7/10/2014
	344 West State Street	Report No.:	339048
	Trenton NJ 08618	Project:	9 John St., Residence
		Project No.:	14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145363910A	Description / Location:	Black Tar Paper	Roof; Under Middle Layer
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Client No.: 185 BW070214

Organic Fraction:	98.7 %	
Gravimetrically Reduced Subsample:	1.30 %	
Percent Asbestos Detected:	ND	None Detected
Percent Non-Asbestos Fibrous Material:	ND	None Detected
Percent Non-Fibrous Material:	1.30 %	Other

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
 ELAP 198.4 "Method For Identifying And Quantitating Asbestos In Non-Friable Organically Bound Bulk Samples", Revised 1/11/2005. EPA-600/R-93/116 Section 2.5 "Asbestos In Bulk Building Materials By TEM Gravimetry."

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Analysis Performed By: R. Shumate

Date: 7/10/2014



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CERTIFICATE OF ANALYSIS

Client:	USA Environmental Mgmt. Inc.	Report Date:	7/10/2014
	344 West State Street	Report No.:	339048
	Trenton NJ 08618	Project:	9 John St., Residence
		Project No.:	14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145363912A	Description / Location:	Black Tar Paper	Exterior Siding-Addition
Client No.:	187 BW070214			

Organic Fraction:	98.6 %	
Gravimetrically Reduced Subsample:	1.40 %	
Percent Asbestos Detected:	ND	None Detected
Percent Non-Asbestos Fibrous Material:	ND	None Detected
Percent Non-Fibrous Material:	1.40 %	Other

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
 ELAP 198.4 "Method For Identifying And Quantitating Asbestos In Non-Friable Organically Bound Bulk Samples", Revised 1/11/2005. EPA-600/R-93/116 Section 2.5 "Asbestos In Bulk Building Materials By TEM Gravimetry."

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Analysis Performed By: R. Shumate

Date: 7/10/2014



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CERTIFICATE OF ANALYSIS

Client:	USA Environmental Mgmt. Inc.	Report Date:	7/10/2014
	344 West State Street	Report No.:	339048
	Trenton NJ 08618	Project:	9 John St., Residence
		Project No.:	14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145363914A	Description / Location:	Tan Glazing	Exterior 1st FL
Client No.:	189 BW070214		Bedroom Window	

Organic Fraction:	90.2 %	
Gravimetrically Reduced Subsample:	9.80 %	
Percent Asbestos Detected:	0.200 %	Chrysotile
Percent Non-Asbestos Fibrous Material:	1.00 %	Other
Percent Non-Fibrous Material:	8.60 %	Other

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
 ELAP 198.4 "Method For Identifying And Quantitating Asbestos In Non-Friable Organically Bound Bulk Samples", Revised 1/11/2005. EPA-600/R-93/116 Section 2.5 "Asbestos In Bulk Building Materials By TEM Gravimetry."

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Analysis Performed By: R. Shumate

Date: 7/10/2014



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CERTIFICATE OF ANALYSIS

Client: USA Environmental Mgmt. Inc. 344 West State Street Trenton NJ 08618	Report Date: 7/10/2014 Report No.: 339048 Project: 9 John St., Residence Project No.: 14-020617-01
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TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.: 145363916A	Description / Location: Black/Tan Tar/Plaster	Exterior Below Grade
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Client No.: 191 BW070214

Organic Fraction:	34.3 %	
Gravimetrically Reduced Subsample:	65.7 %	
Percent Asbestos Detected:	ND	None Detected
Percent Non-Asbestos Fibrous Material:	ND	None Detected
Percent Non-Fibrous Material:	65.7 %	Other

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
 ELAP 198.4 "Method For Identifying And Quantitating Asbestos In Non-Friable Organically Bound Bulk Samples", Revised 1/11/2005. EPA-600/R-93/116 Section 2.5 "Asbestos In Bulk Building Materials By TEM Gravimetry."

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Analysis Performed By: R. Shumate

Date: 7/10/2014



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CERTIFICATE OF ANALYSIS

Client: USA Environmental Mgmt. Inc.
 344 West State Street
 Trenton NJ 08618

Report Date: 7/3/2014
Report No: 338951
Project: 9 John St;Garage
Project No.: 14-020617-01

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5363986	Description / Location: Tan/Black Shingle			
Client No.: 192BW070214	Roof - Garage			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	5	Fibrous Glass	95

Lab No.: 5363987	Description / Location: Tan/Black Shingle			
Client No.: 193BW070214	Roof - Garage			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	5	Fibrous Glass	95

Lab No.: 5363988	Description / Location: Off-White/Black Shingle			
Client No.: 194BW070214	Roof - Garage			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	20	Cellulose	80

Lab No.: 5363989	Description / Location: Off-White/Black Shingle			
Client No.: 195BW070214	Roof - Garage			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	20	Cellulose	80

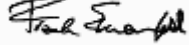
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Analytical Method: US EPA 600/R-93/116 by Polarized Light Microscopy, (ELAP 198.1 where applicable)

Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analysis Performed By: M. Mirza

Approved By: 

Date: 7/3/2014

Frank E. Ehrenfeld, III
 Laboratory Director



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CERTIFICATE OF ANALYSIS

Client: USA Environmental Mgmt. Inc.
 344 West State Street
 Trenton NJ 08618

Report Date: 7/3/2014
Report No: 338951
Project: 9 John St;Garage
Project No.: 14-020617-01

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5363990	Description / Location: Black Tar Paper			
Client No.: 196BW070214	Roof - Garage			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	75	Cellulose	25

Lab No.: 5363991	Description / Location: Black Tar Paper			
Client No.: 197BW070214	Roof - Garage			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	75	Cellulose	25

Lab No.: 5363992	Description / Location: Pink Stucco			
Client No.: 198BW070214	Exterior Siding			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 5363993	Description / Location: Pink Stucco			
Client No.: 199BW070214	Exterior Siding			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Accreditation **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

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Analytical Method: US EPA 600/R-93/116 by Polarized Light Microscopy, (ELAP 198.1 where applicable)

Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analysis Performed By: M. Mirza

Date: 7/3/2014



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CERTIFICATE OF ANALYSIS

Client: USA Environmental Mgmt. Inc.
 344 West State Street
 Trenton NJ 08618

Report Date: 7/3/2014
Report No: 338951
Project: 9 John St;Garage
Project No.: 14-020617-01

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5363994	Description / Location: Pink Stucco			
Client No.: 200BW070214	Exterior Siding			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 5363995	Description / Location: Off-White Glazing			
Client No.: 201BW070214	Exterior Window			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 5363996	Description / Location: Off-White Glazing			
Client No.: 202BW070214	Exterior Window			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Accreditation **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

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Analytical Method: US EPA 600/R-93/116 by Polarized Light Microscopy, (ELAP 198.1 where applicable)

Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analysis Performed By: M. Mirza

Date: 7/3/2014



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CERTIFICATE OF ANALYSIS

Client:	USA Environmental Mgmt. Inc.	Report Date:	7/10/2014
	344 West State Street	Report No.:	339037
	Trenton NJ 08618	Project:	9 John St;Garage
		Project No.:	14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145363987A	Description / Location:	Tan/Black Shingle	Roof-Garage
Client No.:	193 BW070214			

Organic Fraction:	61.0 %	
Gravimetrically Reduced Subsample:	39.0 %	
Percent Asbestos Detected:	ND	None Detected
Percent Non-Asbestos Fibrous Material:	ND	None Detected
Percent Non-Fibrous Material:	39.0 %	Other

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
 ELAP 198.4 "Method For Identifying And Quantitating Asbestos In Non-Friable Organically Bound Bulk Samples", Revised 1/11/2005. EPA-600/R-93/116 Section 2.5 "Asbestos In Bulk Building Materials By TEM Gravimetry."

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 Results are verifiable for only those operations and analyses performed in the laboratory.*

Analysis Performed By: R. Shumate

Approved By: 

Date: 7/10/2014

Frank E. Ehrenfeld, III
 Laboratory Director



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CERTIFICATE OF ANALYSIS

Client:	USA Environmental Mgmt. Inc.	Report Date:	7/10/2014
	344 West State Street	Report No.:	339037
	Trenton NJ 08618	Project:	9 John St;Garage
		Project No.:	14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145363989A	Description / Location:	Off-White/Black Shingle	Roof-Garage
------------------	------------	--------------------------------	-------------------------	-------------

Client No.: 195 BW070214

Organic Fraction:	52.8 %	
Gravimetrically Reduced Subsample:	47.2 %	
Percent Asbestos Detected:	ND	None Detected
Percent Non-Asbestos Fibrous Material:	ND	None Detected
Percent Non-Fibrous Material:	47.2 %	Other

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
 ELAP 198.4 "Method For Identifying And Quantitating Asbestos In Non-Friable Organically Bound Bulk Samples", Revised 1/11/2005. EPA-600/R-93/116 Section 2.5 "Asbestos In Bulk Building Materials By TEM Gravimetry."

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Analysis Performed By: R. Shumate

Date: 7/10/2014



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CERTIFICATE OF ANALYSIS

Client:	USA Environmental Mgmt. Inc.	Report Date:	7/10/2014
	344 West State Street	Report No.:	339037
	Trenton NJ 08618	Project:	9 John St;Garage
		Project No.:	14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145363991A	Description / Location:	Black Tar Paper	Roof-Garage
Client No.:	197 BW070214			

Organic Fraction:	98.5 %	
Gravimetrically Reduced Subsample:	1.50 %	
Percent Asbestos Detected:	ND	None Detected
Percent Non-Asbestos Fibrous Material:	ND	None Detected
Percent Non-Fibrous Material:	1.50 %	Other

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
 ELAP 198.4 "Method For Identifying And Quantitating Asbestos In Non-Friable Organically Bound Bulk Samples", Revised 1/11/2005. EPA-600/R-93/116 Section 2.5 "Asbestos In Bulk Building Materials By TEM Gravimetry."

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Analysis Performed By: R. Shumate

Date: 7/10/2014



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CERTIFICATE OF ANALYSIS

Client:	USA Environmental Mgmt. Inc.	Report Date:	7/10/2014
	344 West State Street	Report No.:	339037
	Trenton NJ 08618	Project:	9 John St;Garage
		Project No.:	14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145363996A	Description / Location:	Off-White Glazing	Exterior Window
Client No.:	202 BW070214			

Organic Fraction:	84.3 %	
Gravimetrically Reduced Subsample:	15.7 %	
Percent Asbestos Detected:	ND	None Detected
Percent Non-Asbestos Fibrous Material:	0.500 %	Other
Percent Non-Fibrous Material:	15.2 %	Other

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
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Analysis Performed By: R. Shumate

Date: 7/10/2014



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CERTIFICATE OF ANALYSIS

Client: USA Environmental Mgmt. Inc.
 344 West State Street
 Trenton NJ 08618

Report Date: 7/5/2014
Report No: 338958
Project: 9 John St Shed #1
Project No.: 14-020617-01

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5363876	Description / Location: Brown/Black Shingle			
Client No.: 203-BW070214	Roof			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	5	Fibrous Glass	95

Lab No.: 5363877	Description / Location: Brown/Black Shingle			
Client No.: 204-BW070214	Roof			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	5	Fibrous Glass	95

Lab No.: 5363878	Description / Location: Black Tar Paper			
Client No.: 205-BW070214	Roof			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	75	Cellulose	25

Lab No.: 5363879	Description / Location: Black Tar Paper			
Client No.: 206-BW070214	Roof			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	75	Cellulose	25

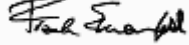
Accreditation **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

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Analytical Method: US EPA 600/R-93/116 by Polarized Light Microscopy, (ELAP 198.1 where applicable)

Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analysis Performed By: M. Mirza

Approved By: 

Date: 7/5/2014

Frank E. Ehrenfeld, III
 Laboratory Director



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CERTIFICATE OF ANALYSIS

Client:	USA Environmental Mgmt. Inc.	Report Date:	7/10/2014
	344 West State Street	Report No.:	339043
	Trenton NJ 08618	Project:	9 John St. Shed #1
		Project No.:	14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145363877A	Description / Location:	Brown/Black Shingle	Roof
Client No.:	204 BW070214			

Organic Fraction:	63.9 %	
Gravimetrically Reduced Subsample:	36.1 %	
Percent Asbestos Detected:	ND	None Detected
Percent Non-Asbestos Fibrous Material:	ND	None Detected
Percent Non-Fibrous Material:	36.1 %	Other

Comments:

NIST-NVLAP No. 101165-0

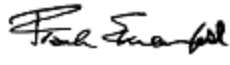
AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
 ELAP 198.4 "Method For Identifying And Quantitating Asbestos In Non-Friable Organically Bound Bulk Samples", Revised 1/11/2005. EPA-600/R-93/116 Section 2.5 "Asbestos In Bulk Building Materials By TEM Gravimetry."

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Analysis Performed By: T. Barkley

Approved By: 
 Frank E. Ehrenfeld, III
 Laboratory Director

Date: 7/10/2014



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CERTIFICATE OF ANALYSIS

Client:	USA Environmental Mgmt. Inc.	Report Date:	7/10/2014
	344 West State Street	Report No.:	339043
	Trenton NJ 08618	Project:	9 John St. Shed #1
		Project No.:	14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145363879A	Description / Location:	Black Tar Paper	Roof
------------------	------------	--------------------------------	-----------------	------

Client No.: 206 BW070214

Organic Fraction:	97.7 %	
Gravimetrically Reduced Subsample:	2.30 %	
Percent Asbestos Detected:	ND	None Detected
Percent Non-Asbestos Fibrous Material:	ND	None Detected
Percent Non-Fibrous Material:	2.30 %	Other

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
 ELAP 198.4 "Method For Identifying And Quantitating Asbestos In Non-Friable Organically Bound Bulk Samples", Revised 1/11/2005. EPA-600/R-93/116 Section 2.5 "Asbestos In Bulk Building Materials By TEM Gravimetry."

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Analysis Performed By: _____

Date: 7/9/2014



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CERTIFICATE OF ANALYSIS

Client: USA Environmental Mgmt. Inc.
 344 West State Street
 Trenton NJ 08618

Report Date: 7/3/2014
Report No: 338949
Project: 9 John St., Sayreville, NJ
Project No.: 14-020617-01

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5364001	Description / Location: Brown/Black Shingle			
Client No.: 208	Roof-Shed #2 (Yard)			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	5	Fibrous Glass	95

Lab No.: 5364002	Description / Location: Brown/Black Shingle			
Client No.: 209	Roof-Shed #2 (Yard)			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	5	Fibrous Glass	95

Lab No.: 5364003	Description / Location: Black Tar Paper			
Client No.: 210	Roof-Shed #2 (Yard)			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	75	Cellulose	25

Lab No.: 5364004	Description / Location: Black Tar Paper			
Client No.: 211	Roof-Shed #2 (Yard)			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	75	Cellulose	25

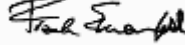
Accreditation **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

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Analytical Method: US EPA 600/R-93/116 by Polarized Light Microscopy, (ELAP 198.1 where applicable)

Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analysis Performed By: M. Mirza

Approved By: 

Date: 7/3/2014

Frank E. Ehrenfeld, III
 Laboratory Director



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CERTIFICATE OF ANALYSIS

Client: USA Environmental Mgmt. Inc.
 344 West State Street
 Trenton NJ 08618

Report Date: 7/3/2014
Report No: 338949
Project: 9 John St., Sayreville, NJ
Project No.: 14-020617-01

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5364005	Description / Location: White/Lt. Grey Transite			
Client No.: 212	Siding			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
10	Chrysotile	None Detected	None Detected	90

Lab No.: 5364006	Description / Location: Black Tar Paper			
Client No.: 213	Siding			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	75	Cellulose	25

Lab No.: 5364007	Description / Location: Black Tar Paper			
Client No.: 214	Siding			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	75	Cellulose	25

Accreditation **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

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Analysis Performed By: M. Mirza

Date: 7/3/2014



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CERTIFICATE OF ANALYSIS

Client:	USA Environmental Mgmt. Inc.	Report Date:	7/10/2014
	344 West State Street	Report No.:	339038
	Trenton NJ 08618	Project:	9 John St., Shed #2(Yard)
		Project No.:	14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145364002A	Description / Location:	Brown/Black Shingle	Roof-Shed #2(Yard)
Client No.:	209			

Organic Fraction:	62.5 %	
Gravimetrically Reduced Subsample:	37.5 %	
Percent Asbestos Detected:	ND	None Detected
Percent Non-Asbestos Fibrous Material:	ND	None Detected
Percent Non-Fibrous Material:	37.5 %	Other

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
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Analysis Performed By: R. Shumate

Approved By: 

Date: 7/10/2014

Frank E. Ehrenfeld, III
 Laboratory Director



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CERTIFICATE OF ANALYSIS

Client:	USA Environmental Mgmt. Inc.	Report Date:	7/10/2014
	344 West State Street	Report No.:	339038
	Trenton NJ 08618	Project:	9 John St.,Shed #2(Yard)
		Project No.:	14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145364004A	Description / Location:	Black Tar Paper	Roof-Shed #2(Yard)
Client No.:	211			

Organic Fraction:	97.3 %	
Gravimetrically Reduced Subsample:	2.70 %	
Percent Asbestos Detected:	ND	None Detected
Percent Non-Asbestos Fibrous Material:	ND	None Detected
Percent Non-Fibrous Material:	2.70 %	Other

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
 ELAP 198.4 "Method For Identifying And Quantitating Asbestos In Non-Friable Organically Bound Bulk Samples", Revised 1/11/2005. EPA-600/R-93/116 Section 2.5 "Asbestos In Bulk Building Materials By TEM Gravimetry."

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Results are verifiable for only those operations and analyses performed in the laboratory.

Analysis Performed By: R. Shumate

Date: 7/10/2014



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 Local: 856-231-9449
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CERTIFICATE OF ANALYSIS

Client:	USA Environmental Mgmt. Inc.	Report Date:	7/10/2014
	344 West State Street	Report No.:	339038
	Trenton NJ 08618	Project:	9 John St., Shed #2(Yard)
		Project No.:	14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145364007A	Description / Location:	Black Tar Paper	Siding
Client No.:	214			

Organic Fraction:	98.6 %	
Gravimetrically Reduced Subsample:	1.40 %	
Percent Asbestos Detected:	ND	None Detected
Percent Non-Asbestos Fibrous Material:	ND	None Detected
Percent Non-Fibrous Material:	1.40 %	Other

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
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Analysis Performed By: R. Shumate

Date: 7/10/2014

76 Miller Ave



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CERTIFICATE OF ANALYSIS

Client: USA Environmental Mgmt. Inc.
 344 West State Street
 Trenton NJ 08618

Report Date: 7/5/2014
Report No: 338957
Project: 76 Miller Ave, Residence
Project No.: 14-020617-01

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5363880	Description / Location: Black Tar Paper			
Client No.: 155-BW070214	Exterior Siding			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	75	Cellulose	25

Lab No.: 5363881	Description / Location: Black Tar Paper			
Client No.: 156-BW070214	Exterior Siding			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	75	Cellulose	25

Lab No.: 5363882	Description / Location: Brown/Black Shingle			
Client No.: 157-BW070214	Roof;Top Layer			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	5	Fibrous Glass	95

Lab No.: 5363883	Description / Location: Brown/Black Shingle			
Client No.: 158-BW070214	Roof;Top Layer			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	5	Fibrous Glass	95

Accreditation **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

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Analytical Method: US EPA 600/R-93/116 by Polarized Light Microscopy, (ELAP 198.1 where applicable)

Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analysis Performed By: M. Mirza

Approved By: 

Date: 7/5/2014

Frank E. Ehrenfeld, III
 Laboratory Director



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CERTIFICATE OF ANALYSIS

Client: USA Environmental Mgmt. Inc.
 344 West State Street
 Trenton NJ 08618

Report Date: 7/5/2014
Report No: 338957
Project: 76 Miller Ave, Residence
Project No.: 14-020617-01

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5363884	Description / Location: Green/Black Shingle			
Client No.: 159-BW070214	Roof;Middle Layer			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	5	Fibrous Glass	95

Lab No.: 5363885	Description / Location: Green/Black Shingle			
Client No.: 160-BW070214	Roof;Middle Layer			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	5	Fibrous Glass	95

Lab No.: 5363886	Description / Location: Black Tar Paper			
Client No.: 161-BW070214	Roof			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	15	Fibrous Glass	85

Lab No.: 5363887	Description / Location: Black Tar Paper			
Client No.: 162-BW070214	Roof			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	15	Fibrous Glass	85

Accreditation **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

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Analytical Method: US EPA 600/R-93/116 by Polarized Light Microscopy, (ELAP 198.1 where applicable)

Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analysis Performed By: M. Mirza

Date: 7/5/2014



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CERTIFICATE OF ANALYSIS

Client:	USA Environmental Mgmt. Inc.	Report Date:	7/10/2014
	344 West State Street	Report No.:	339047
	Trenton NJ 08618	Project:	76 Miller Ave, Residence
		Project No.:	14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145363881A	Description / Location:	Black Tar Paper	Exterior Siding
Client No.:	156 BW070214			

Organic Fraction:	93.4 %	
Gravimetrically Reduced Subsample:	6.60 %	
Percent Asbestos Detected:	ND	None Detected
Percent Non-Asbestos Fibrous Material:	ND	None Detected
Percent Non-Fibrous Material:	6.60 %	Other

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

Methodology: Transmission Electron Microscopy (TEM) In Accordance With :
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Analysis Performed By: R. Shumate

Approved By: _____

Date: 7/10/2014

Frank E. Ehrenfeld, III
 Laboratory Director



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CERTIFICATE OF ANALYSIS

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	344 West State Street	Report No.:	339047
	Trenton NJ 08618	Project:	76 Miller Ave, Residence
		Project No.:	14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145363883A	Description / Location:	Brown/Black Shingle	Roof; Top Layer
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Client No.: 158 BW070214

Organic Fraction:	56.7 %	
Gravimetrically Reduced Subsample:	43.3 %	
Percent Asbestos Detected:	ND	None Detected
Percent Non-Asbestos Fibrous Material:	ND	None Detected
Percent Non-Fibrous Material:	43.3 %	Other

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

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	Trenton NJ 08618	Project:	76 Miller Ave, Residence
		Project No.:	14-020617-01

TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145363885A	Description / Location:	Green/Black Shingle	Roof;Middle Layer
Client No.:	160 BW070214			

Organic Fraction:	67.9 %	
Gravimetrically Reduced Subsample:	32.1 %	
Percent Asbestos Detected:	ND	None Detected
Percent Non-Asbestos Fibrous Material:	ND	None Detected
Percent Non-Fibrous Material:	32.1 %	Other

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

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TEM BULK SAMPLE ANALYSIS SUMMARY

IATL No.:	145363887A	Description / Location:	Black Tar Paper	Roof
Client No.:	162 BW070214			

Organic Fraction:	92.3 %	
Gravimetrically Reduced Subsample:	7.70 %	
Percent Asbestos Detected:	ND	None Detected
Percent Non-Asbestos Fibrous Material:	ND	None Detected
Percent Non-Fibrous Material:	7.70 %	Other

Comments:

NIST-NVLAP No. 101165-0

AIHA-LAP, LLC No. 100188

NYS-DOH No. 11021

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