City of Ocean City
Strategic Recovery Planning Report

"People typically are unaware of the hazards they face, underestimate those of which they are aware, overestimate their ability to cope when disaster strikes, often blame others for their losses, underutilize pre-impact hazard strategies, and rely heavily on emergency relief when the need arises."

--Dennis S. Mileti, **Disasters by Design**, 1999

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The original of this document has been signed and sealed as required by NJS 45:14A-12.

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1.0 Introduction

On October 29, 2012, the remnants of Superstorm Sandy in the form of a post-tropical cyclone made landfall near Brigantine, NJ. The storm drove a catastrophic storm surge into the New Jersey and New York coastlines. The storm surge, which measured 8.9 feet at its highpoint in Sandy Hook, inundated and severely affected regions of the State's shore from Cape May to Raritan Bay, including the barrier islands and many areas along the Hudson River. Other overland flooding, wind damage, and an ensuing snowstorm further damaged these communities as well as other communities throughout New Jersey. Superstorm Sandy affected, in some way, virtually every household, business and community in New Jersey.

With estimated damages of $65 billion, Superstorm Sandy is the second costliest hurricane in the Nation's history and the largest storm of its kind to hit the U.S. east coast. Twenty-six states were impacted by Sandy, with major disaster declarations issued in 13.

HURRICANE SANDY QUICK FACTS
$65 billion in damages and economic losses
159 total fatalities caused by the storm
8.5 million customers without power
650,000 homes damaged or destroyed
13 States with Major Disaster declarations

Superstorm Sandy forced local governments across New Jersey to reassess their emergency services. This unique event created opportunity to review emergency plans, response and infrastructure in a different light. The City continues to implement changes in policies and practices intended to minimize damage from different types of emergency situations, not just a tidal surge such as that associated with Sandy.

Future actions by Ocean City should better account for resiliency to and mitigation of future weather events. Planning and development will be reassessed, beginning with a reexamination of the Master Plan and review of the City's zoning ordinance. As

property owners will be facing increased flood insurance rates phased-in over the next few years as a result of the Biggert-Waters Act, future development should be carefully assessed to assist property owners in complying with the Act's requirements. Considering recent practices regarding new regulations pertaining to building and construction the City should continue its vigilance to assure that local ordinances are in compliance and complimentary to FEMA requirements.

The Strategic Recovery Planning Report is a prerequisite for a municipality or county to receive funding from the NJ Department of Community Affairs' Post Sandy Planning Assistance program. Grant awards are based on the planning needs demonstrated in the Strategic Recovery Planning Report, and are intended to support long range planning for community redevelopment in municipalities and counties that sustained damage from Superstorm Sandy.

Ocean City's "Strategic Recovery Planning Report" recommends actions for upgrading planning and hazard mitigation documents to properly respond to the impact of Superstorm Sandy and mitigate future weather events and natural disasters. The Strategic Recovery Planning Report will enable the City to obtain funding from the DCA to upgrade planning documents in order to implement the recommendations contained within the SRPR. Funding will be requested through the DCA program for amendments to or creation of new master plan elements, neighborhood plans, design standards, capital improvement plans, hazard mitigation plans, ordinances and analysis of the City's permit and application process. This Strategic Recovery Planning Report also contains detailed descriptions of proposed projects, implementation strategies, and funding.

This Report serves as a blueprint to guide the continuing recovery from the effects of Superstorm Sandy and to reduce vulnerabilities to future storms, and it will

a. Evaluate the impacts on affected community features and address the conditions created or exacerbated by the storm.
b. Articulate the planning goals, strategies, and priority actions that are most urgently needed to improve public safety, increase resistance to damage from future storms, and stimulate economic recovery.
c. Describe each of the projects proposed; a statement of need that demonstrates how each project relates to the impacts of Superstorm Sandy; why the project is important to the economic and environmental health of the community; the major tasks associated with each project; the estimated cost of implementation;

and identification of potential or actual funding sources to pay for project implementation.

d. Prioritize actions needed to assure public safety and economic recovery.

In accord with NJDCA guidelines, this report addresses the following tasks.

Task A. Examine the adequacy of the existing documents listed below and describe what changes are needed, if any, to support municipal or county planning needs and goals related to post storm recovery and to mitigate future storm impacts.

1. Community and/or county Master Plan, land use regulations, master plan elements, Capital Improvement Plans, Stormwater Management Plan and any associated official maps.
2. County Hazard Mitigation Plan, if one is currently in use.
3. Approved but not constructed site plans, and approved but not completed subdivisions.
4. Adopted redevelopment plans.
5. Evacuation and emergency management plans.

Task B. Evaluate:

1. The major impacts of Superstorm Sandy on land use and public infrastructure, i.e. transportation and communications systems, water and power lines, and public institutions including schools, hospitals, post offices, and prisons.
2. The current status of major long term recovery efforts since Superstorm Sandy.
3. Meetings with government officials, local businesses and residents in order develop an assessment of the most pressing concerns and recommendations for rebuilding the community.

Task C. Delineate a timeframe for completing each of the foregoing tasks.

Task D. Use the information compiled in Tasks A, B and C to prepare a report that:

1. Summarizes community vulnerabilities and opportunities created or exacerbated by the storm.
2. Identifies approaches to rebuilding that will be more resistant to damage from future storm events.
3. Recommends and prioritizes municipal actions (short and long range) to promote recovery from the effects of Sandy and reduce vulnerabilities to future storms.

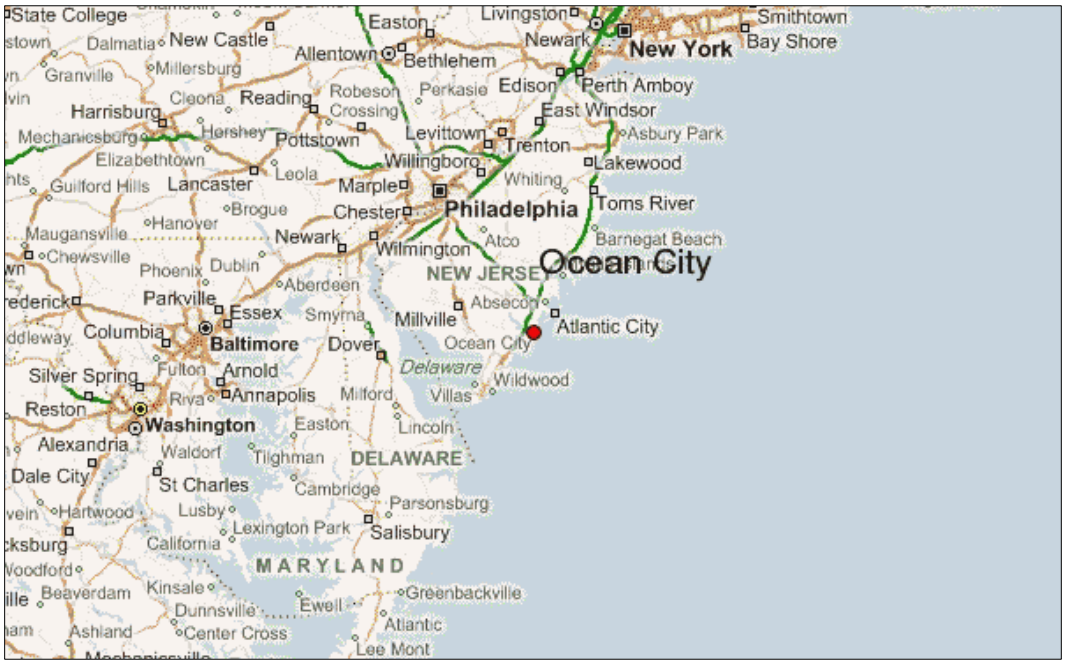
4. Describes proposed projects specifically related to an application for a NJ Department of Community Affairs' Post Sandy Planning Assistance Grant.
5. Lists critical infrastructure and their vulnerability to disruption of services. Maps areas of critical current and future vulnerability, including FEMA flood plain zones and elevation requirements

This Strategic Recovery Planning Report has been prepared in accordance with the regulations governing the CDBG-R and NJDCA SRPR process. Although the content of this report has been informed by public comment, it is recommended that it be made available for public inspection and comment via the City's website prior to final approval. The Planning Board may wish to make specific recommendations to City Council relative to the findings of this report. Comments should also be solicited relative to rebuilding strategies, code and ordinance solutions, green building and environmental sustainability options and long-term viability of infrastructure. Following public comments, City Council may consider adopting this report as a framework document to inform and support continuing resilience strategies.

Preparation of this Strategic Recovery Planning Report was fully funded by a grant provided by the New Jersey Department of Community Affairs Community Development Block Grant – Disaster Recovery program.

2.0 Community Profile

The City of Ocean City is a resort community located on the northernmost barrier island in Cape May County, between the Great Egg Harbor Bay and Atlantic Ocean. The City occupies the entire 7-mile long Peck's Beach Island, a coastal barrier island with Corson's Inlet State Park at the southern end. Ocean City is also the largest of the resort communities in Cape May County. To the west, the municipality includes a large portion of the Great Egg Harbor Bay and Intracoastal Waterway, bay islands and coastal salt marsh wetlands and the tidal waterways through them. Ocean City is bounded on the north by Atlantic County and the Great Egg Harbor Bay, on the east by the Atlantic Ocean, on the south-southwest by the Township of Upper and the City of Sea Isle City and the west by the Township of Upper.



According to the NJDEP 2007 Land Use/Land Cover geographical information systems (GIS) database, there are 7,553 acres within the City's municipal boundary. Seventy-five percent of this area is classified as undevelopable area comprised of water, wetlands, preserved lands and beach. The remaining 1,893 acres of developable area consists primarily of residential land use. Commercial uses are located primarily along Asbury Avenue, the Boardwalk, 9th Street, 34th Street and West Avenue. According to the 2010 United States Census, the City's population was 11,701, and there were 20,871 housing units. New construction consists primarily of redevelopment of residential properties. There continues to be significant investment in public facilities and infrastructure.

3.0 Existing Conditions and Vulnerability

3.1 Coastal Zone Characteristics

The New Jersey coastal zone is comprised of multiple shoreline types that sustain habitat and wildlife, support viable maritime and tourism industries, and harbor a way of life for many residents. Much of this coastal landscape is threatened by the impacts of episodic and chronic erosion, subsidence, shallow coastal flooding, nor'easters, tropical storms and hurricanes.

Historically, coastal communities have merely responded to the impacts of natural hazards. In recent decades, the federal government has proactively attempted to protect people and property from natural disasters by improving coastal construction standards, developing incentives to reduce flood losses, and requiring mitigation planning in order for local governments to obtain pre- and post-disaster mitigation funding. New Jersey has further strengthened floodplain construction standards by requiring all new residential development to be constructed with lowest floor at least two feet above base flood elevation.

As a coastal barrier island Ocean City is particularly vulnerable to flooding from tropical storms, extratropical cyclones, and to a lesser extent, severe thunderstorm activity. Most serious tidal flooding problems are attributed to hurricanes which in addition to heavy precipitation produce high tides and strong waves and storm surge. During the March 1962 storm, tidal flooding reached depths of two feet over much of the island and caused extensive damage to the beach and dune system. A total of 6,195 residences and 392 commercial establishments were damaged, of which 1,961 were structurally damaged or destroyed. [1]

To enhance public safety and increase resilience Ocean City has amended its flood damage prevention ordinance to comply with FEMA. The combined effects of storm severity and rising sea level will contribute to the magnitude of loss and damage caused by future storm events. Strategies to reduce impacts associated with these factors are critical to the City's efforts to strengthen resilience.

Climate change threatens to exacerbate the impacts of coastal hazards by increasing the frequency and intensity of coastal storms, accelerating rates of sea level rise, increasing

[1] *Flood Insurance Study, FEMA, March 5, 1984*

coastal erosion, and inundating low-lying portions of the shore.[2] As a result, more people, development, and natural resources will be vulnerable to the impacts of coastal hazards than in the past. While communities will have ample time to plan for increases in sea level, they will be challenged by stronger and more frequent coastal storms.

Projections indicate that Atlantic City will likely be impacted by 100-year storms every 5 to 30 years [3], and similar increases in storm patterns will likely occur in coastal regions throughout the state. Local decision-makers continue to have the greatest influence on their community's resiliency through land use planning and permitting, floodplain management, disaster preparedness, and public education. Unfortunately, few communities are aware of their existing vulnerabilities to coastal hazards, let alone, the potential impacts of climate change and sea level rise.

The ability of coastal communities to stand against coastal hazards is rooted in understanding their potential exposure and vulnerabilities. However, there is currently a lack of clear guidance to assess existing and future hazard vulnerabilities on the local level. Existing all-hazard mitigation plans are typically developed on the county level and do not provide vulnerability assessments of cultural and historic properties, businesses, critical natural resources, or other features that are integral to a community's character, nor do they typically address the potential impacts of climate change. Without baseline information, it is difficult for communities to identify and implement hazard mitigation and climate adaptation strategies. Ocean City's strategic implementation plan includes a proposal to develop a hazard mitigation plan at the local community level.

In September 2006, a "Summit Confronting Climate Change in New Jersey" was convened to examine the economic ramifications of global climate change, sea level rise, and coastal hazard impacts for the State of New Jersey and generate strategic policy options that the State should consider. One of the recommendations stemming from the Summit was the need to develop more accurate information to determine the degrees of vulnerability to coastal hazards in New Jersey's coastal communities. Recognizing that coastal decision-makers need access to resources, tools and science-based information, the New Jersey Coastal Management Program identified coastal hazards as a top priority area in its 2006-2011 Section 309 Strategy.

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[2] *U.S. Indian Ocean Tsunami Warning System Program. (2007).*
[3] *Cooper, M.J.P.; Beevers, M.D.; and M. Oppenheimer. (2005).*

Through the support of federal, state, and local partners, the New Jersey Office of Coastal Management developed the *Coastal Community Vulnerability Assessment and Mapping Protocol* and the *Getting to Resilience* questionnaire to help coastal decision-makers understand and address the full spectrum of factors that influence community resilience. These tools can be used to inform and improve state and local policies and regulations, spur interagency collaboration and educate the public on natural hazards in their community. By providing coastal communities with the criteria they need to assess their vulnerability and resilience to coastal hazards (i.e., storm surge and sea level rise), they will have the necessary knowledge to guide their land use, hazard mitigation, emergency management, and conservation efforts in a more holistic and sustainable manner that considers both present and future conditions of the shore. Ocean City has used the results of the completed *Getting to Resilience* questionnaire to identify specific elements to improve the community's resilience. The survey is included as Appendix 8.4 of this Report.

According to the Surging Seas Sea Level Rise Analysis [4] global warming has raised sea level about eight inches since 1880, and the rate is accelerating. Rising seas dramatically increase the odds of damaging floods from storm surges. This analysis indicates that for two-thirds of the locations analyzed global warming more than doubles the estimated odds of "century" or worse floods occurring within the next 18 years – meaning floods so high they would historically be expected just once a century.

The increased odds come despite the fact that sea level rise from warming, over the next two decades and over the last century, are better measured in inches than in feet. In many places, only inches separate the once-a-decade flood from the once-a-century one; and separate the water level communities have prepared for, from the one no one has seen. ***Critically, a small change can make a big difference, like the last inch of water that overflows a tub***. Sea level rise is raising the launch pad for storms and high tides, and manifests itself by the ever-more-frequent occurrence of extreme high water levels during these events – long before the ocean reaches damaging heights permanently. Refer to Appendix 8.7 for details regarding sea level rise and coastal flood risk for Ocean City.

3.2 Coastal Hazards

New Jersey coastal communities are susceptible to numerous types of coastal hazards, including erosion, coastal storms, and flooding. Despite this susceptibility, people and businesses continue to locate along the shore. Often times, they are unaware of the

[4] Surging Seas Sea Level Rise Analysis, Climate Central, February 2012

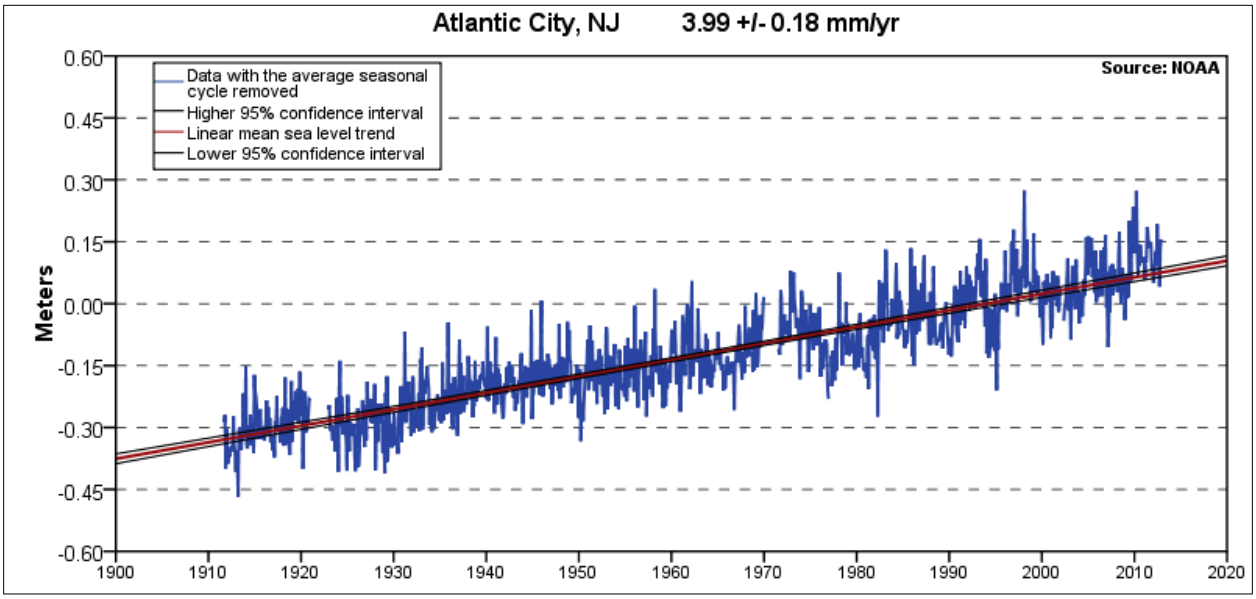
potential hazards that they face both structurally and financially. Because coastal communities are highly vulnerable to coastal processes and hazards, coastal decision-makers should understand the risks and deter future development and redevelopment away from high hazard areas.

Global climate change is expected to increase the rate of sea level rise resulting in increased saltwater intrusion into coastal aquifers, increase levels of land-based pollutants into coastal waters, and more powerful El Nino and La Nina events. [5] As a result, more people, property, infrastructure, habitat and wildlife will be exposed to coastal hazards than in the past. Due to local geologic factors, including subsidence, depleted sedimentation, and glacial isostatic adjustment, New Jersey already experiences higher than average rates of sea level rise in comparison to global averages. Long-term tide gauge data indicates that the New Jersey coastal zone has experienced sea level rise rates of 3.90 to 4.05 mm/year since the beginning of the twentieth century.[6] If this trend were extrapolated into the future without considering accelerated rates of sea level rise due to global climate change, the New Jersey shore could experience approximately 0.4 meters (1.3 feet) of sea level rise over the next century, nearly twice global averages. But projections indicate that the seas will vertically rise 0.5 to 1.5 meters (~1.6 to 4.9 feet) by 2100 as a result of increased global temperatures, thermal expansion of water, glacial and Arctic ice sheet melting, and localized conditions. [7]

Researchers from Rutgers University and the New Jersey Geological Survey agree that sea level rise along the East Coast will exceed 1 meter (~3 feet) by 2100. [8] As climate change alters the natural processes of the New Jersey shore, coastal communities will likely experience more regular shallow coastal flooding events, greater rates of salinity intrusion into freshwater resources, changes in and loss of critical habitat, and more intense and frequent coastal storms. Additionally, the life expectancy of coastal engineering projects will decrease, the cost of shoreline stabilization will increase, making coastal resource protection harder to achieve. [9]

[5] *US Indian Ocean Tsunami Warning System Program. (2007).*
[6] *NOAA. (2011).*
[7] *PDE. (2010); Najjar, R., Patterson, L., and S. Graham. (2009); Ramstorf, S. (2007).*
[8] *Miller, K., Sugarman, P.J., and J.V. Browning. (2011).*
[9] *Hayes, M. (2004).*

Exhibit 1
Sea Level Rise Trend



Source: NOAA. 2011. Sea Level Rise Trends

Because climate change is expected to accelerate overtime, little change will be visible on a year-to-year basis, making it difficult to make the case to plan for changing coastal conditions. However, as time goes on, the cumulative increase in sea level will become evident. Multiple studies have been undertaken to identify the threat of accelerated sea level rise and exacerbated coastal storms to the Jersey shore. [10] These studies have been effective in providing insight on potential changes in flooding and habitat, but comprehensive hazard and vulnerability assessments have not been performed at the county or municipal levels. The assessment tools identified in this document are intended to provide guidance on how to perform local assessments and take steps to improve resilience to existing and future hazard conditions.

3.3 Coastal Storms

Coastal storms that affect Ocean City fall into two general categories: tropical (tropical depressions, tropical storms and hurricanes) and extra-tropical (mid-Atlantic cyclones locally known as northeasters or Nor'Easters) cyclones. Although these two types of storms can cause a similar level of devastation to developed coastlines, they are vastly different with respect to origin and progression. The hurricane is the most intense type of tropical storm resulting in significant damages and loss of life. The threats caused by

[10] *PDE. (2010); Lathrop, R. G. and A. Love. (2007); Cooper, M. J.P., Beevers, M. D., and M. Oppenheimer. (2005).*

an approaching hurricane can be divided into three main categories: storm surge, wind damage and rainfall/flooding:

- *Storm Surge* is simply water that is pushed toward the shore by the force of the winds swirling around the storm. This advancing surge combines with the normal tides to create the hurricane storm tide, which can increase the mean water level 15 feet or more. Storm surge is responsible for nearly 90-percent of all hurricane-related deaths and injuries.
- *Wind Damage* is the force of wind that can quickly decimate the tree population, down power lines and utility poles, knock over signs, and damage/destroy homes and buildings. Flying debris can also cause damage to both structures and the general population. When hurricanes first make landfall, it is common for tornadoes to form which can cause severe localized wind damage.
- *Rainfall/Flooding* - the torrential rains that normally accompany a hurricane can cause serious flooding. Whereas the storm surge and high winds are concentrated around the "eye", the rain may extend for hundreds of miles and may last for several days, affecting areas well after the hurricane has diminished.

The following table identifies attributes associated with various hazard events experienced in Ocean City.

Table 1
Natural Hazard Risk/Vulnerability Risk Ranking

Rank #	Hazard type	Estimate of Potential Dollar Losses to Structures Vulnerable to the Hazard [a, c]	Probability of Occurrence	Risk Ranking Score (Probability x Impact)	Hazard Ranking [b]
1	Coastal Erosion	Not available	Frequent	54	High
1	Coastal Storm	Min: $2,569,510,000 Max: $2,909,229,694	Frequent	54	High
1	Flood	$1,821,173,000	Frequent	54	High
2	Severe Storm	$339,719,694	Frequent	36	Medium
3	Severe Winter Storm	$31,865,970	Frequent	27	Medium
4	Tsunami	Not available	Rare	18	Low
5	Wildfire	Not available	Occasional	12	Low

Source: Cape May County Multi-Jurisdictional All Hazards Mitigation Plan - 2010

3.4 Vulnerabilities Exacerbated or Highlighted by the Storm

The dune system along the beaches was effective at limiting damage to properties. However, the dune system was significantly disturbed and compromised by the storm, resulting in conditions that, if not repaired, could increase the vulnerability of coastal properties to future storm events.

The City's stormwater management system is susceptible to obstruction by debris following storm events, as occurred during Sandy. In addition, the outfall infrastructure is submerged during storm events. Damage to this infrastructure increases residents' vulnerabilities to health risks, and increased flood risk resulting from compromised stormwater drainage systems.

3.5 Opportunities Created

The impacts of Superstorm Sandy have presented the City with opportunities to improve its resiliency and reduce damages from future storm events. These include:

- Promoting the public's awareness of their flood risks and mitigation strategies to protect themselves and their community;
- Adopting ordinances and design standards that will better enable homes and businesses to withstand the effects of coastal storms;
- Focusing public agencies on community vulnerabilities to hazards such as flooding;
- Encouraging regional solutions to flood- and storm-related impacts;
- Ensuring that future capital projects are designed and constructed to incorporate features that are resilient to storm- and flood-related impacts;
- Integrating hazard mitigation into Master Plan elements;
- Focusing on resiliency when rebuilding damaged facilities;
- Fostering greater awareness of environmental protection and stewardship to provide for a more sustainable future;
- Continue to maintain effective emergency services;
- Maintaining and improving stormwater infrastructure to maximize recovery during and after major storm events.

3.6 Current Status of Post-Sandy Recovery Efforts

As the 3-year anniversary of Superstorm Sandy approaches, much of the damage to buildings, waterfront areas, community facilities and infrastructure have been repaired. Ocean City has responded aggressively to continued recovery from the effects of Superstorm Sandy and has implemented several policies to aid on-going recovery efforts, including the following ordinances:

- Ordinance 12-19 - Ordinance 12-19 defines *Lowest Floor* consistent with the building code. The new term of *Zoning Flood Elevation (ZFE)*, requires the elevation of the *Lowest Floor* in "FEMA A Zones" to be a minimum of two (2) feet above BFE. As a measure to improve consistency between the zoning ordinance and building code, ZFE requires dwellings in "FEMA High Hazard V Zones" to elevate the lowest horizontal structural member a minimum of two (2) feet or three (3) feet above BFE – depending on the direction of wave action.
- Ordinance 13-07 – Permits nonconforming buildings to elevate to conform to FEMA requirements without requiring variance relief.
- Ordinance 13-12 – Modified permissions granted by Ordinance 13-07 regarding nonconforming buildings.
- Ordinance 13-30 – Describes elevation requirements in X Zones, and exempts certain historic properties from elevation requirements.
- Ordinance 13-31 - Adopted the new Advisory Flood Hazard Maps dated December 12, 2012, incorporates Best Available Flood Hazard Data, and provides updated standards for construction that occurs in special flood hazard areas.
- Ordinance 14-09 – Requires minimum elevation of non-oceanfront bulkheads at 7' NAVD88, and oceanfront bulkheads at 11' NAVD88, with construction in compliance with the Flood Damage Prevention Ordinance.
- 14-23 – Specifies screening requirements for the ground-level space beneath elevated buildings.
- 14-30 – Specifies that building height in the Central Business Zone is measured from BFE+1.
- 14-31 – Specifies that building height in the Central Business-1 Zone is measured from BFE+1.
- 14-39 - 14-30 – Specifies that building height in the Drive-in Business Zone is measured from BFE+1.
- 14-40 – Revises the Zoning Flood Elevation to BFE+3.

The City is also advancing the following projects:

- A FEMA hazard mitigation grant is being used to consolidate the drainage systems and construct a pump station to service areas from 1st Street to 8th Street between West Avenue and the bayfront.
- The City has cooperated with ATT and Verizon to install repeaters on utility poles to aid emergency broadcast and communications.

- The City continues to upgrade and increase storm drainage capacity throughout town where systems are currently designed to handle only a 2-year storm.

3.7 Adapting to Flooding and Sea Level Rise

In order to adapt to potential sea level rise, the City and residents may utilize one or more of the following strategies:

- Promote shore protection techniques and open space preservation that allows the beach to attenuate wave action as sea level rises.
- Elevate homes, bulkheads, critical facilities and infrastructure, improve drainage and resilience of major roads and evacuation routes.
- Promote elevation, dry flood-proofing, limited wet flood-proofing and other storm protection measures for businesses, as appropriate.

4.0 Assessment of Planning Documents and Proposed Development

4.1 Community Plan Checklist

The "Community Plan Checklist" developed by the NJ Coastal Management Program includes a list of municipal documents that may be helpful in developing a Strategic Recovery Planning Report. Because communities vary in size and capacity, the target community may not have all of the listed documents. Completion of the Checklist may uncover future planning opportunities.

Table 2
Community Plan Checklist

Plans, Ordinances, and Codes	Yes	No	Adoption Year	Update Frequency
Municipal Master Plan	X		1988	At least every 10 years, or as needed
All Hazards Mitigation Plan	X		2010	
Floodplain Management Plan	X			Annually
Evacuation Plan				
Emergency Response Plan	X		2013	Annually
Continuity of Operations Plan	X		2013	Annually
Disaster Recovery Plan		X		
Post-Disaster Redevelopment Plan		X		
Capital Improvements Plan	X			Annually
Economic Development Plan/Strategy		X		
Coastal Plan or Element		X		
Shoreline Restoration Plan		X		
Open Space Plan	X		2014	At least every 10 years, or as needed
Stormwater Management Plan	X			At least every 10 years, or as needed
Historic Preservation Plan	X		1988	At least every 10 years, or as needed
Zoning Ordinance	X		1988	Multiple times annually
Flood Damage Prevention Ordinance	X			As needed
Subdivision Ordinance	X		1988	At least every 10 years, or as needed
Building Code	X			As needed
Other:				
Other				

4.2 Planning Documents

This section of the Strategic Recovery Planning Report examines the adequacy of existing planning documents describe what changes are needed, if any, to support recovery from the impacts of Hurricane Sandy, and to mitigate negative impacts from future storms. Materials reviewed and discussed in the following section are as follows:

- Ocean City Master Plan (February 1988)
- Ocean City Master Plan Reexamination Report (November 1, 2000)
- Ocean City Master Plan Land Use Element (December 2001)
- Ocean City Redevelopment Plan – Blocks 1001 and 1101 (June 2005)
- Ocean City Stormwater Management Plan (July 13, 2005)
- Ocean City Master Plan Reexamination Report (November 15, 2006)
- Ocean City Housing Element and Fair Share Plan (December 3, 2008)
- Ocean City Master Plan Conservation Plan Element (June 10, 2009)
- Ocean City Beach Maintenance Plan (December 2009)
- Cape May County Hazard Mitigation Plan (October 2010)
- Ocean City Master Plan Reexamination Report (October 17, 2012)
- Ocean City Floodplain Management Plan Committee Report (April 2, 2014)
- Ocean City Redevelopment Plan – Palen Avenue (September 27, 2013)
- Ocean City Capital Improvement Plan (March 2015)
- Ocean City Flood Damage Prevention Ordinance (Chapter 31)
- Ocean City Zoning and Land Use Code (Chapter 225)
- NFIP Community Rating System

4.2-1 Ocean City Master Plan

The 1988 Master Plan is Ocean City's first comprehensive plan and it contains the following objectives which will promote recovery from the impacts of Hurricane Sandy and resiliency to future storms:

1. To encourage municipal actions which will guide the long range appropriate use and development of lands within the City of Ocean City in a manner which will promote the public health, safety, and general welfare of present and future residents.

   Ocean City is keenly aware of changes affecting land use and strives to address these in a manner that is best for the community-as-a-whole. The planning board and governing body support these efforts through capital programming, revisions to the development code, and participation in the CRS program. These coordinated actions will promote recovery from the impacts of Hurricane Sandy and resiliency to future storms

2. To secure safety from fire, flood, panic and other natural and man-made disasters.
   Ocean City staff includes civil engineers, planners, certified floodplain managers, building and subcode officials and public works whose responsibilities include design and maintenance of critical infrastructure, and enforcement of building codes to protect public health and safety. Design parameters for infrastructure improvements and enforcement of building design and elevation requirements will promote recovery from the impacts of Hurricane Sandy and resiliency to future storms
3. To provide for the maintenance of Ocean City's resort character and posture as a recreation resource of the State and eastern United States including protection of the ocean, bay and wetlands, maintenance and replenishment of beaches as needed.
   Ocean City has adopted ordinances and best management practices to protect the ocean, wetlands, bay and beaches. The back bay islands and wetland areas are designated as a Conservation Zone and the entire beachfront is designated as a Beach and Dune Zone. Plans are being finalized that will ensure ongoing maintenance of the entire beachfront, and a comprehensive Open Space and Recreation Plan has been recently completed. The Conservation Zone, Beach and Dune Zone and beach maintenance plan will promote recovery from the impacts of Hurricane Sandy and resiliency to future storms.
4. To support the upgrading of substandard housing in the City through code enforcement, housing improvement loans, technical assistance, education, grants, and the provision of public improvements such as new streets, sidewalks, street lighting, street trees, drainage and sanitary sewage collection facilities.
   Rehabilitation of housing units and construction of new, affordable units helps to increase the structural integrity, safety, and affordability of the Borough's housing stock. This increases resiliency to future storms. Additionally, if affected units are rehabilitated, it can promote recovery from the effects of Hurricane Sandy.
5. To encourage coordination of the numerous regulations and activities which influence land development with a goal of producing efficient uses of land with appropriate development types and scale.
   Ocean City has and will continue to update municipal development regulations and ordinances to encourage land development that is consistent with state and federal regulations.

6. To encourage the efficient management of stormwater runoff through the development of appropriate guidelines which will prevent future drainage problems and provide environmentally sound land use planning, and to reduce water pollution and tidewater infiltration through capital improvements.

   Ocean City has adopted a stormwater management plan and ordinance to regulate stormwater related to new development. The City also has an active Floodplain Management Plan Committee that is responsible for monitoring the City's extensive hazard mitigation efforts. The goals of the Floodplain Management Plan are consistent with promoting recovery from the impacts of Hurricane Sandy and resiliency to future storms.

4.2-2 Ocean City Master Plan Reexamination Report

The November 2000 Master Plan Reexamination Report reaffirms the goals and objectives from the 1988 Master Plan, and notes continuing concern with flooding and drainage problems, beach maintenance and replenishment. The 2000 Report makes a number of recommendations regarding land use, development regulations, civic design, infrastructure, cultural and environmental elements. For the most part, these recommendations have little direct bearing on efforts to advance recovery from storm impacts or increase resiliency to future storms.

4.2-3 Ocean City Master Plan Land Use Element

The 2001 Master Plan Land Use Element serves as an update to the 1988 Master plan and contains the following land use objectives:

1. To maintain the City as a family-oriented resort community;
2. To preserve existing single-family neighborhoods;
3. To create and increase single-family housing in the City;
4. To provide for context-sensitive infill development;
5. To promote architectural detail and design standards as essential components of new development;
6. To increase the year-round population;
7. To improve the quality of life of both residents and tourists;
8. To promote public acquisition and enhancement of open space and recreation areas;
9. To foster economic development by creating an atmosphere to attract private investment for residential and commercial purposes;
10. To maintain and upgrade the City's housing stock;

11. To provide for a variety of residential and non-residential uses and to encourage the continuation and enhancement of Ocean City as a quality family resort community;
12. To consider and evaluate innovative development proposals, which would enhance and protect environmental features, minimize energy usage and encourage development densities consistent with existing patterns and types of development;
13. To encourage economic development through new investment and maintenance and reinvestment in existing commercial, retail, amusement, hotel, motel and related resort activities within the City and areas suitable for such development.

The primary focus of the 2001 Master Plan update was to improve the compatibility of new development with the existing character of the neighborhoods, and to improve opportunities for commerce within the Central Business and Neighborhood Business zones.

4.2-4 Ocean City Redevelopment Plan

The 2005 Redevelopment Plan provides detailed zoning and design controls intended to maintain the Flanders Hotel and enable construction of a resort hotel on the parking lot located on the southeast corner of Ocean Avenue and 11th Street. Substantial improvement to the Flanders Hotel and construction of a new resort hotel will be required to comply with the new flood elevation and building requirements thereby promoting resiliency to future storms.

4.2-5 Ocean City Stormwater Management Plan

The 2005 Stormwater Management Plan conforms to NJDEP requirements and is intended to minimize the adverse effects of stormwater on water quality, water quantity and loss of groundwater recharge. The goals of this MSWMP are to:

- Reduce flood damage, including damage to life and property;
- Minimize, to the extent practical, any increase in stormwater runoff from any new development;
- Reduce soil erosion from any development or construction project;
- Assure the adequacy of existing and proposed culverts and bridges, and other in-stream structures;
- Maintain groundwater recharge;
- Prevent, to the greatest extent feasible, an increase in nonpoint pollution;

- Maintain the integrity of stream channels for their biological functions, as well as for drainage;
- Minimize pollutants in stormwater runoff from new and existing development to restore, enhance, and maintain the chemical, physical, and biological integrity of the waters of the state, to protect public health, to safeguard fish and aquatic life and scenic and ecological values, and to enhance the domestic, municipal, recreational, industrial, and other uses of water; and
- Protect public safety through the proper design and operation of stormwater basins.

The ordinances implementing the stormwater management plan are codified at §25-1700.32 and §25-1700.33 of the City Code. *The goals of the Stormwater Management Plan and implementing ordinances are consistent with promoting recovery from the impacts of Hurricane Sandy and resiliency to future storms.*

4.2-6 Ocean City Master Plan Reexamination Report

The 2006 Master Plan Reexamination Report reaffirms the goals and objectives from the 1988 Master Plan and the 2001 Master Plan update. The 2006 Report contains recommendations to adopt an updated stormwater control ordinance, complete the Master Plan Conservation Plan element, and petition for Plan Endorsement. These intended actions are consistent with promoting recovery from the impacts of Hurricane Sandy and resiliency to future storms.

4.2-7 Ocean City Master Plan Conservation Plan

The 2009 Master Plan Conservation Plan reaffirms 1988 Master Plan objectives that refer directly or indirectly to the preservation, conservation and utilization of natural resources. The goals of the Conservation Element are to:

- Preserve and maintain the ecological, historical, visual, recreational and scenic resources of the City;
- Preserve the environment;
- Avoid or minimize detrimental impacts of land development upon natural and historic resources; and
- Enhance the overall quality of life for City residents and visitors.

Specific recommendations in this plan that are consistent with promoting recovery from the impacts of Hurricane Sandy and resiliency to future storms are as follows:

- Establish Coastal Wetlands/Bay islands as a zoning district, and prohibit development, except structures for public access and wildlife observation.

- Continue to implement measures to elevate streets to prepare for rising sea level.
- Obtain ownership or easement rights for beach and dune building and maintenance for all private properties on the beach east of the bulkhead.
- Study innovative methods of reducing wave damage to the beach due to sea level rise.
- Continue to work with developers to raise properties, so that as roads are re-paved, the elevation can be increased.
- Use the at-grade elevation data as a GIS layer for flood predictions.

4.2-8 Ocean City Beach Maintenance Plan

The 2009 Beach Maintenance Plan is intended to increase the nesting success of listed bird species and to foster the recovery of listed plant species in the City by reducing detrimental human activities and decreasing predation. This management plan is consistent with USFWS's Recreational and Fireworks Guidelines, the State Coastal Zone Management Act Rules. This Plan also outlines beach and dune protocols to physically maintain the City's beaches and dune areas that are consistent with promoting recovery from the impacts of Hurricane Sandy and resiliency to future storms.

4.2-9 Cape May County Hazard Mitigation Plan

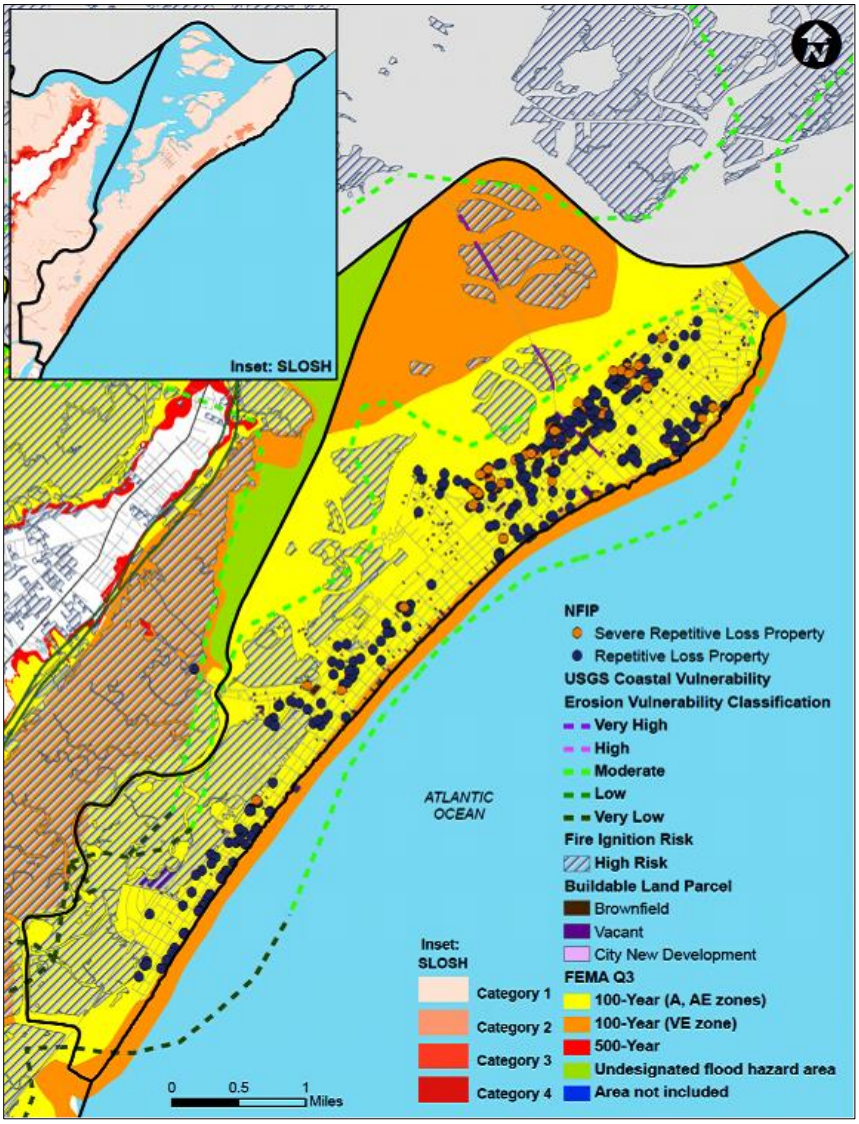
The 2010 Cape May County Multi-Jurisdictional All Hazards Mitigation Plan was prepared in response to the Disaster Mitigation Act of 2000 (DMA 2000). DMA 2000 requires states and local governments to prepare all hazard mitigation plans in order to remain eligible to receive pre-disaster mitigation funds that are annually appropriated or made available in the wake of federally-declared disasters. DMA 2000 effectively improves the disaster planning process by increasing hazard mitigation planning requirements for hazard events and requiring participating municipalities to document their hazard mitigation planning process and identify hazards, potential losses, and mitigation needs, goals, and strategies. This Plan was developed to meet the Floodplain Management Planning (Activity 510) criteria under the National Flood Insurance Program (NFIP) Community Rating System (CRS), in order to provide further credit to CRS-participating communities and lowering NFIP premiums for their insured residents. The following six over-arching mitigation goals summarize the hazard reduction outcomes that the County and participating jurisdictions want to achieve:

1. Protect Life and Property
2. Increase Public Awareness and Preparedness of Natural Hazards and their Risks

3. Promote Sustainability (and Continuity of Operations and Government)
4. Enhance Disaster Preparedness, Response and Recovery
5. Protect Open Space, the Environment and Natural Resources
6. Promote Partnerships

A hazard area extent and location map has been created and is provided below for the City of Ocean City to illustrate the probable areas impacted within the City. This map is based on the best available data at the time of the preparation of this plan for those hazards that can be clearly identified, and for which the City of Ocean City has significant exposure.

Exhibit 2
Ocean City Vulnerability Map



Sources: USGS, 2001; FEMA Q3, Cape May County Planning Department
Notes: The entire municipality is vulnerable to the following hazards: coastal storm, severe storm and severe winter storm. At this time, there is no defined tsunami hazard area for Cape May County.

The proposed hazard mitigation initiatives and municipal actions identified in the Multi-Jurisdictional All Hazard Mitigation Plan are generally supportive of and promote Ocean City's recovery from the effects of Hurricane Sandy, and reduce vulnerabilities to future storms.

4.2-10 Ocean City Master Plan Reexamination Report

The 2012 Master Plan Reexamination Report reaffirms the goals and objectives from the 1988 Master Plan and prior reexamination reports. The 2012 Report contains recommendations for specific changes to the master plan and development regulations, and includes twelve master plan amendments. The recommendation to require a 2-foot freeboard has been adopted via revisions to the development code and flood damage prevention ordinance. These actions are consistent with promoting recovery from the impacts of Hurricane Sandy and resiliency to future storms.

4.2-11 Ocean City Floodplain Management Plan Committee Report

The 2014 Report from the Floodplain Management Committee indicates that Ocean City is a Class 6 Community, and that activities including the 2-foot freeboard requirement, a Program for Public Information and Flood Smart website will help achieve Class 5 status. This report indicates that the City has 17,188 policies in force, with a combined collection of $11,858,169 in annual premiums. The 2014 Action Plan describes a number of activities related to elevation certificates, mapping, public outreach, open space preservation, stormwater and flood plain management planning. The report also provides a hazard mitigation update on 46 specific activities. The actions identified in the 2014 Floodplain Management Plan Report are consistent with promoting recovery from the impacts of Hurricane Sandy and resiliency to future storms.

4.2-12 Ocean City Redevelopment Plan – Palen Avenue and 10th Street

The Redevelopment Plan for the bayfront properties located on Palen Avenue at 10th Street proposes the reconstruction of an abandoned marina severely damaged by Hurricane Sandy. The proposed development includes a full-service marina, parking, and multi-use building to house a tackle shop, restaurant and residence. All construction including new bulkhead, docks and mixed-use building will be built to reduce flood risk and improve public safety in the immediate area. Redevelopment of

this site in accord with the approved Redevelopment Plan is consistent with promoting recovery from the impacts of Hurricane Sandy and resiliency to future storms.

4.2-13 Ocean City Capital Improvement Plan

Ocean City's 5-year Capital Improvement Plan (2015-2019) proposes $79.6M in improvements. Fifteen percent of the total capital program is related to beach fill, dredging and drainage. Lagoon dredging will be compliment habitat restoration in the bay funded by a National Fish and Wildlife Foundation Grant and City funds. Proposed drainage improvements include bulkhead replacement, and pump stations. The City's $3.2M share of costs for the North End pump station is being supplemented with a FEMA grant. The capital plan also provides funds to restore buildings and facilities damaged by Sandy including the piers at the 2nd and Bay marina, City Hall, vehicle maintenance building, Transportation Center and 29th Street fire house. These projects will promote recovery from the impacts of Hurricane Sandy and resiliency to future storm events.

4.2-14 Ocean City Flood Damage Prevention Ordinance

Ocean City's Flood Damage Prevention ordinance is intended to promote public health, safety and general welfare, and minimize public and private losses to flood conditions. Revisions to Chapter 31 of the Ocean City Code were adopted by City Council via Ordinance 13-31 October 22, 2013. The revised ordinance was deemed an appropriate response to the introduction of the Preliminary Work Maps which set forth the "best available data." The 2-foot freeboard requirement was included in the revisions embodied within Ordinance 13-31. The updated Flood Damage Prevention ordinance will serve to promote recovery from the impacts of Hurricane Sandy and resiliency to future storm events.

4.2-15 Ocean City Zoning and Land Use Code

Ocean City's zoning and development code contains regulations that establish minimum first floor elevations for residences at two feet above BFE; limits building and impervious surface coverages; encourages the use of native plant materials and porous paving materials; and contains NJDEP-prescribed design requirements for stormwater control and stormwater management systems. The objective of all of these measures is to reduce the frequency and severity of flood-related damages. Recent ordinance revisions to Chapter 225 are consistent with revisions to the Flood Damage Prevention Ordinance discussed in Section 4.14 of this Report, and will serve to promote recovery from the impacts of Hurricane Sandy and resiliency to future storm events.

4.2-16 NFIP Community Rating System

Administered by the Federal Emergency Management Agency (FEMA), the National Flood Insurance Program (NFIP) was created by Congress in 1968 to offer flood insurance to homeowners, renters, and business owners.

Nearly 3.8 million policyholders in 1,296 communities participate in the CRS by implementing local mitigation, floodplain management, and outreach activities that exceed the minimum NFIP requirements. Under the CRS, flood insurance premium rates are discounted to reward community actions that meet the three goals of the CRS, which are: (1) reduce flood damage to insurable property; (2) strengthen and support the insurance aspects of the NFIP; and (3) encourage a comprehensive approach to floodplain management. CRS discounts on flood insurance premiums range from 5% up to 45%.

All home and business owners who have a mortgage are required to carry flood insurance. Homeowner's insurance policies do not cover loss due to flooding. Ocean City participates in the Nation Flood Insurance Program (NFIP), and is a Community Rating System (CRS) rated community. At the current CRS rating (class 6) all residents get a 20% discount on flood insurance. The City has 16,807policies in force, with a combined collection of $14,507,985.00 a year in total premiums. Ocean City saves homeowners in excess of $2,901,597 on collected annual premiums by participating in the CRS program.

In addition to the reduction in insurance premiums, the benefits of participation in the CRS program include reduction and avoidance of flood damage to insurable properties, comprehensive floodplain management, and the preservation and/or restoration of floodplain natural functions. CRS floodplain management activities enhance public safety, reduce damage to property and public infrastructure, avoid economic disruption and losses, reduce human suffering and protect the environment. Participating in the CRS provides an incentive to maintaining and improving a community's floodplain management program over the years.

The Floodplain Management Committee Report discussed in Section 4.11 above provides details of the City's Action Plan initiatives that will serve to promote recovery from the impacts of Hurricane Sandy and resiliency to future storm events.

4.3 Potential Development

Ocean City has an established land use pattern and is, essentially, a fully-developed community. Of the City's total 5,660 acres, 75% is undevelopable. Of the remaining 25% (1,892 acres) 96% is classified according to NJDEP as urban land. Although there are some tracts capable of subdivision, the predominant form of development in the City involves the redevelopment of existing parcels. Potential development in accord with the Local Housing and Redevelopment Law are described in Section 4.4 and Section 4.12 of this Report.

5.0 Impacts of Sandy

Superstorm Sandy caused unprecedented damage to New Jersey's housing, business, infrastructure, health, social service and environmental sectors. Atlantic, Bergen, Cape May, Essex, Hudson, Middlesex, Monmouth, Ocean and Union Counties have been identified by the U.S. Department of Housing and Urban Development (HUD) as New Jersey's most impacted areas.

High winds, storm surge, and floodwaters in excess of seven feet resulted in extensive damage to buildings, bulkheads and roadways; disruption of electrical service; severe beach erosion; and downed trees caused dangerous conditions in Ocean City. Hurricane Sandy also resulted in the deposition of sand and other debris onto roadways, into the storm sewer system, open space areas and lagoons. Appendix 8.6 illustrates the water levels in the bay before, during and after the Sandy, and compares the flood levels associated with Sandy and other major storm events in Ocean City.

The following image illustrates the severity of inundation between 5th Street and 26th Street associated with flood waters at elevation 7' (NAVD). Floodwaters from Sandy were at elevation 7.25'.

Exhibit 3

Floodwaters at 7 Feet

In economic terms, Hurricane Sandy's impact on Ocean City was severe. Preliminary estimates indicate that the City incurred approximately $17 million in restoration and repair costs for public property and facilities. Sandy-related adjustments for the 539 individual property assessments resulted in a $15.5 million reduction to the City's ratable base in 2013.

City Hall

The following subsections further describe the full range of Hurricane Sandy's impacts on the City. Specifically, they examine the hurricane's specific impacts on residential structures; local businesses; critical infrastructure; municipal parks; bulkheads and dunes; the municipal boardwalk; electrical service; sewer and water service; municipal parking facilities; and, roadways.

5.1 Housing

New Jersey's CDBG-DR Action Plan details the substantial damage that Superstorm Sandy caused to the State's housing sector. While damage from Superstorm Sandy occurred throughout the state, housing damage was particularly concentrated in communities bordering or near the Atlantic Ocean or the Hudson River. Many of these communities were flooded by Sandy's storm surge. FEMA Individual Assistance data as of March 12, 2013 indicate that the greatest concentrations of housing damage were located in the following counties: Atlantic (12%), Bergen (5%), Cape May (4%), Essex (2%), Hudson (6%), Middlesex (5%), Monmouth (16%), Ocean (35%) and Union (6%).

Based on FEMA's Individual Assistance data, approximately 40,500 owners' primary residences and over 15,600 rental units sustained "severe" or "major" damage. Moreover, many residences were "substantially damaged," meaning that damages

exceed 50% of the homes pre-disaster value. In total, the FEMA data indicate that statewide 59,971 owner-occupied homes and 21,900 rental units sustained some level of physical damage from the storm.

Additionally, houses determined to be "substantially damaged" – having damages that exceed 50% of a home's pre-disaster value – must be elevated if they are below the federal Advisory Base Flood Elevation maps. Many of these homeowners likely will be required to elevate their homes. Without financial support, the added costs of housing elevations likely will be overly burdensome. Homeowners of structures that were not "substantially damaged" by Sandy may not be facing mandatory elevation requirements in the short term, but may face significant increases in insurance premiums if they do not elevate their houses in compliance with the final maps adopted by FEMA.

Table 3
Sandy-damaged Homes in Ocean City

Municipality	Census Tract	% of Households with Major/ Severe Damage	Households	Median HH Income	% Households Over 65 Living Alone	% Black Households	% Asian & Pacific Islander Households	% Native American Households	% White (Non-Hispanic) Households	% Hispanic Households	% Owner-Occupied Households	% Renter Occupied Households
CAPE MAY COUNTY		5%	45,185	$55,315	10%	4%	0%	0%	91%	4%	74%	26%
CENSUS TRACTS WITH DAMAGED HOMES												
City of Ocean City	34009020206	39%	463	$71,250	9%	9%	0%	0%	89%	3%	73%	27%
City of Ocean City	34009020101	27%	1,641	$54,089	16%	9%	0%	1%	87%	3%	54%	46%
City of Ocean City	34009020102	26%	1,275	$65,160	18%	1%	0%	0%	96%	4%	61%	39%
City of Ocean City	34009020205	26%	637	$35,542	30%	0%	0%	0%	100%	0%	73%	27%
City of Ocean City	34009020203	19%	1,402	$54,414	22%	1%	0%	0%	99%	0%	65%	35%
City of Ocean City	34009020201	12%	719	$89,018	19%	0%	0%	0%	100%	0%	85%	15%
Sea Isle City	34009020800	20%	1,106	$54,419	10%	0%	0%	0%	94%	3%	71%	29%
City of Wildwood	34009021400	10%	1,982	$27,778	16%	5%	0%	0%	74%	19%	46%	54%

Source: US Census American Community Survey, 2006-2011 Averages and FEMA Individual Assistance Records as of March 12, 2013

As a result of Superstorm Sandy, the DCA Report indicates that 29% of the homes in Ocean City sustained "severe" or "major" damage, totaling 6,137 units. According to the 2010 Census 65% of the City's homes are used as seasonal vacation homes. Within Cape May County, four census tracts had between 25% and 49% of households experience severe or major damage, and another four had between 10% and 24% of households experience such damage. According to Ocean City's 2013 Disaster Relief

Audit, property assessments for 539 properties in the City were reduced as a result of damages from Hurricane Sandy. It is suspected that these figures likely underestimate the breadth of Superstorm Sandy's impact on the City's housing sector. The following table provides specific demographic information about Ocean City and these impacted census tracts.

5.2 Economic Development

Superstorm Sandy devastated many businesses in New Jersey, causing substantial commercial property damage and short-term and long-term business operations losses. In addition to the physical damage Sandy caused to businesses themselves, widespread power outages resulted in inventory losses and working capital losses. Damage to public infrastructure such as roads, rail and bridges as well as compromised water utility systems and gas unavailability compounded those damages.
While Superstorm Sandy caused damage across all state industries, some industries -- particularly the tourism industry -- were critically affected. New Jersey's tourism industry, the State's third largest industry, contributes more than $38 billion to the State's Gross Domestic Product and, for 2011, represented 24.5% of private sector employment. Superstorm Sandy had, and continues to have, severe and far-reaching impacts on this vital sector. Estimates suggest that the tourism industry lost $950 million in the third quarter of 2013 as a result of Superstorm Sandy. This represents approximately 2.5% of the industry's annual revenue.

The storm also is estimated to have affected over 1,000,000 employees in New Jersey's workforce. Data compiled in the months after the storm indicates that approximately 138,000 workers filed unemployment claims in November 2012, the first full month after Superstorm Sandy. By comparison, unemployment claims in November 2011 totaled 54,444 claims.

The US Department of Labor Bureau of Labor Statistics (BLS) reported that the unemployment rate for Ocean City rose 0.2 percentage points in December 2014 to 10.5%. For the same month, the metro unemployment rate was 4.2 percentage points higher than the New Jersey rate. The unemployment rate in Ocean City peaked in June 2012 at 13.6%. From a post peak low of 9.5% in August 2014, the unemployment rate as of May 2015 was 10.4%.

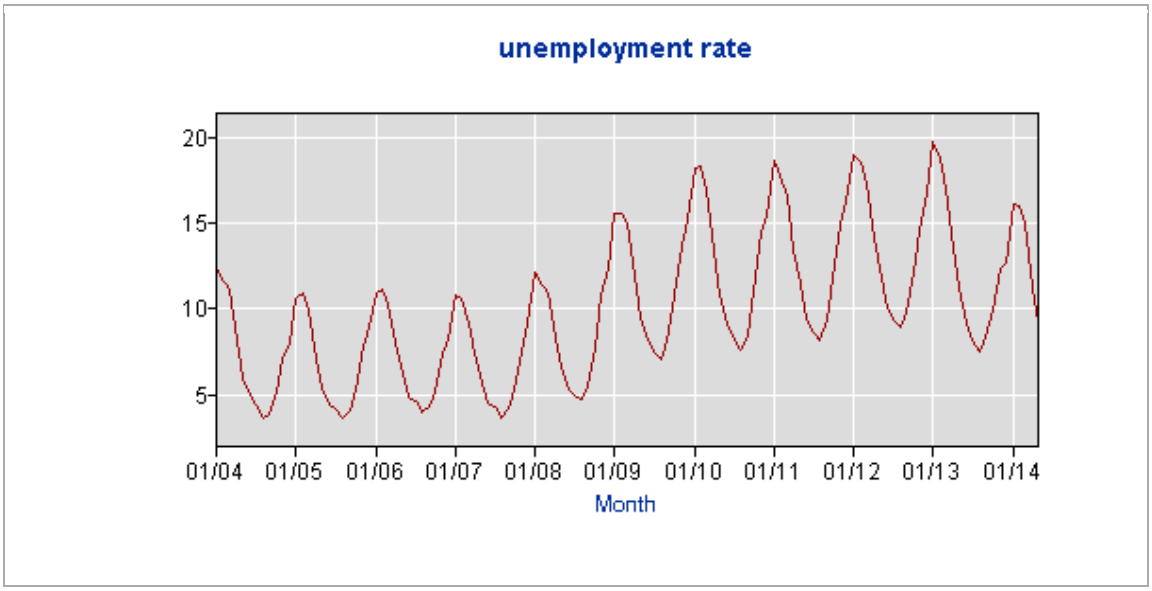
Superstorm Sandy also had a widespread and lasting impact on New Jersey's business sector and particularly affected small businesses. The storm caused substantial damage to commercial property and caused short- and long-term business operations losses.

While most, if not all, New Jersey industries were impacted, the tourism industry has been particularly affected. All of these losses also affected the labor market, which in the month after the storm saw more than double the historically expected amount of unemployment claims filed.

To augment assistance directly supporting economic development and revitalization, the State implemented two recovery programs funded by CDBG-DR monies and administered by the New Jersey Economic Development Authority (EDA). The Stronger NJ Business Grant Program provides grants of up to $50,000 to affected businesses for working capital and construction needs. The Stronger NJ Business Loan program provides loans of up to $5 million to allow businesses to rebuild and expand, which in turn creates jobs for recovering New Jersey households. Other funding sources are described in Appendix 9.9.

Exhibit 4

Sandy's Impact on Jobs (Ocean City)



5.3 Infrastructure

Superstorm Sandy's storm surge and associated flooding extensively impacted New Jersey's infrastructure. Direct damage to critical facilities and assets were wide spread. Sandy left nearly seventy percent of ratepayers statewide without electricity. Water and wastewater treatment facilities were unable to sustain operations. Roadways experienced significant damage from extensive flooding and sustained winds resulted in debris that made critical evacuation routes impassable.

Damage from Sandy significantly impacted students and faculty of many New Jersey schools. Flood waters and power outages forced at least 370 school districts to close for at least one week. A total of 77 schools suffered damages from the storm including flood, roof, structural, and window damage.

Other sectors were also negatively impacted by Superstorm Sandy. For example, the storm had an adverse impact on the environment including beach erosion, compromised levees, and debris strewn across natural habitats and waterways. Furthermore, many municipalities are facing storm-induced budget shortfalls due to decreased revenues, increased expenses and declining property tax bases. Because of these impacts there is a risk that, absent assistance, local governments will not be able to continue to fund important services for their communities.

Asbury Avenue

As a result of Superstorm Sandy, many important public and community buildings that provide critical services to the neighborhoods in which they reside and are vital to the proper functionality of local governments and organizations were damaged. These types of buildings can include city/town halls, courthouses, libraries, post offices, correctional facilities, day care, family and social service centers and senior care facilities.

Table 4 provides a historical perspective of major storms affecting Ocean City.

Table 4
Ocean City Storms

Type of Event	FEMA Disaster #	Date	Preliminary Damage Assessment
Coastal Storm, Flooding	DR-124	March, 1962	$3,000,000 (countywide)
Snowstorm	Not applicable	December, 1973	$24,000 (countywide)
Flood	Not applicable	November, 1977	$2,400,000 (countywide)
Flood	Not applicable	March, 1984	$500,000 (countywide)
Tornado (F0)	Not applicable	September, 1985	$300,000 (City of Ocean City)
Coastal Storm	Not applicable	October, 1991	$90,000,000 (statewide) $1,700,000-$4,000,000 (countywide)
Tidal Flood	Not applicable	November, 1991	$167,000 (countywide)
Severe Coastal Storm	DR-936	January, 1992	$16,000 (countywide)
Coastal Storm, High Tides, Heavy Rain, Flooding	DR-973	December, 1992	$16,800,000 (countywide)
Severe Winter Storm	EM-3106	March-01-1993	$2,600,000 (statewide)
Coastal Flood	Not applicable	March, 1994	$167,000 (countywide)
Severe Winter Storm, Coastal Storm	DR-1088	January-01-1996	$800,000 (countywide)
Coastal Flood, Coastal Erosion	Not applicable	January, 1996	$3,600,000 (countywide)
Coastal Flood	Not applicable	January, 1998	$3,800,000 (countywide)
Coastal Storm	DR-1206	February, 1998	$3,600,000-$4,200,000 (countywide)
Hurricane Floyd	EM-3148	September-01-1999	$492,000 (countywide)
Lightning	Not applicable	June, 2002	$50,000 (City of Ocean City)
Snowstorm	EM-3181	February-01-2003	$1,400,000 (countywide)
Strong Winds	Not applicable	March, 2003	$5,000 (countywide)
Thunderstorm, Wind	Not applicable	October, 2003	$32,000 (countywide)
Severe Winter Storm, Coastal Flooding	Not applicable	February, 2006	$225,000 (countywide)
Thunderstorm, Wind	Not applicable	March, 2008	$10,000 (multi-jurisdictional)
Thunderstorm, Funnel Cloud	Not applicable	May, 2008	$1,000 (City of Ocean City)
Coastal Storm and Flooding (Nor'Easter - 5" in 12 hours)	Not applicable	Sept. 11, 2009	Significant street flooding, a number of cars were damaged. GeoTube at Waverly Beach damaged/destroyed and beach erosion was severe.
Severe Storm, Flooding (Tropical Storm Ida and Nor'Easter)	DR-1867	November, 2009	TBD
Hurricane Sandy	DR-4086	Oct. 29, 2012	$22.4 million (City of Ocean City)

Source: DMA 2000 Hazard Mitigation Plan (January 2010), and Ocean City Tax Assessor

6.0 Actions to Assure Public Safety and Economic Recovery

6.1 Mitigation Activities

The following list identifies some of the major ongoing and completed mitigation activities/projects included in the City's 2014 Flood Plain Management Action Plan. A more complete and detailed list of these CRS-related activities can be found in Appendix 8.3.

- Ocean City participates in the NFIP Community Rating System (CRS) and continues to work to improve their CRS rating through various activities.
- The City maintains their stormwater systems regularly according to their established Storm Water Management Plan (SWMP, SPPP). The City recently purchased a Jet-Vac truck to enhance its stormwater maintenance program.
- The City has a special needs link on their website that connects to the State website, allowing residents to identify those with special needs.
- Ocean City extensively documents damages after all major storm events.
- Ocean City has installed Tideflex valves on some of their outfalls to mitigate flooding (e.g. 24th/23rd Street is working well).
- Ocean City's code requires the minimum elevation at the top of non-oceanfront bulkheads to be 7.0 feet NAVD (1988); and the minimum elevation for oceanfront bulkheads to be at 11.0 feet NAVD (1988).
- The City has an ongoing program in their CIP to upgrade substandard bulkheads throughout town and have completed one per year on average.
- Ocean City has allowed location of a Weather Flow station at the south end of City. This station is part of the NOAA hurricane forecasting network.
- Ocean City has installed GeoTubes along sections of their beach (e.g. Waverly Beach), and maintains, repairs and/or replaces these as needed.

6.1-1 Flood Plain Management Plan

The following table is excerpted from the 2014 Flood Plain Management Plan and indicates the City's participation and points earned in the CRS program.

Table 5
Community Rating System Activities

Series	Activity Number	Activity Description	Maximum Points Possible	Points Received for the City of Ocean City
300	310	Elevation Certificates	162	56
300	320	Map Information	140	140
300	330	Outreach Projects	380	180
300	340	Hazard Disclosure	81	0
300	350	Flood Protection Information	102	30
300	360	Flood Protection Assistance	71	0
400	410	Additional Flood Data	1,346	0
400	420	Open Space Preservation	900	354
400	430	Higher Regulatory Standards	2,740	123
400	440	Flood Data Maintenance	239	96
400	450	Stormwater Management	670	37
500	510	Floodplain Management Planning	359	196
500	520	Acquisition and Relocation	3,200	0
500	530	Flood Protection	2,800	0
500	540	Drainage System Maintenance	330	280
600	610	Flood Warning Program	255	170
600	620	Levee Safety	900	0
600	630	Dam Safety	175	67
Point Totals			14,850	**1,729**

6.1-2 Regulatory Tools

The following table describes the various regulatory tools available to the City to mitigate hazards and improve community resiliency.

Table 6
Regulatory Tools

Regulatory Tools (Codes, Ordinances, Plans)	Local Authority (Y or N)	Prohibitions (State or Federal) (Y or N)	Higher Jurisdictional Authority (Y or N)	State Mandated (Y or N)	Code Citation (Section, Paragraph, Page Number, date of adoption)
1) Building Code	Y	Y	Y	Y	Uniform Construction Code
2) Zoning Ordinance	Y	Y	Y	Y	MLUL/Chapter 25 of OC Code
3) Subdivision Ordinance	Y	Y	N	N	OC Code 25-700.6 authorized by N.J.S.A. 40:55D-51.
4) NFIP Flood Damage Prevention Ordinance	Y	Y	Y	N	OC Code Chapter 21, revised October 2013
5) Growth Management	Y	Y	N	Y	Plan Endorsement Petition approving Regional Centers Designation by NJ Office of Smart Growth – November 2009
6) Floodplain Management/Basin Plan	Y	Y	Y	Y	OC Code Chapters 18-22
7) Stormwater Management Plan/Ordinance	Y	Y	Y	Y	OC Code Chapter 25-1700.32
8) Comprehensive Plan / Master Plan/ General Plan	Y	N	N	Y	MLUL/Re-exam Report adopted October 2012.
9) Capital Improvements Plan	Y	N	N	N	5-year CIP (2015-2019) updated approved annually
10) Site Plan Review Requirements	Y	N	Y	N	OC Code Chapter 25 authorized by N.J.S.A. 40:55D-51.
11) Open Space Plan	Y	N	Y	N	Open Space and Recreation Plan adopted November 2014
12) Shoreline Management or Protection Plan	N	Y	N	N	
13) Economic Development Plan	N	N	Y	Y	
14) Emergency Response Plan	Y	Y	Y	N	OC EOP – recently certified
15) Post Disaster Recovery Plan	N	N	N	N	
16) Post Disaster Recovery Ordinance	N	Y	Y	N	
17) Real Estate Disclosure req.	Y	Y	Y	Y	Real estate agents are required to disclose if a property is in a flood zone (all of OC is), however they do not disclose degree and frequency of particular areas
18) Other [Special Purpose Ordinances (i.e., critical or sensitive areas)]	Y	N	Y	Y	Conservation and Beach and Dune District Regulations (OC Code 25-206, adopted 2009)

Regulatory Tools (Codes, Ordinances, Plans)	Local Authority (Y or N)	Prohibitions (State or Federal) (Y or N)	Higher Jurisdictional Authority (Y or N)	State Mandated (Y or N)	Code Citation (Section, Paragraph, Page Number, date of adoption)
					Cumulative Improvements Requirement (Flood Damage Prevention ordinance) – to bring properties up to FEMA and local requirements once >50% cumulative improvement threshold reached Working on an ordinance to require bringing property grades (including driveways and garages) above the BFE for new construction …(see Mitigation Initiative OC-8)
19)					

6.1-3 FloodSmart Program

In an effort to educate citizens about the importance of purchasing flood insurance to protect their homes and businesses, FEMA created FloodSmart, a national marketing campaign to promote the NFIP. Ocean City's website contains a wealth of flood-related information available to residents, businesses and visitors. http://www.ocnj.us/Flood-Smart-Program/

The following links provide access to the resources noted.

- **Elevation Certificates**
- **Benchmark Elevation Disc Set**
- **Flood Hazards & Maps**
- **Flood Warning Systems**
- **Flood Safety**
- **Flood Insurance**
- **Property Protection Measures**
- **Substantial Improvement Requirements**
- **Floodplain Development Permit Requirements**
- **Natural and Beneficial Functions**
- **Drainage System Maintenance**

6.1-4 RREM Program

The Reconstruction, Rehabilitation, Elevation and Mitigation (RREM) Program assists homeowners in the nine most impacted counties that sustained damage during Superstorm Sandy. Homeowners participating in the program will be required to apply, meet eligibility requirements, and proceed with grant and construction agreements as developed by the program. Homebuilders will not be required to identify homeowners, but will be required to sign a construction contract /work with the homeowners determined by the RREM Program in the homebuilding process. The required scope of work for each home will vary based on the amount of damage sustained. Homes may need elevation only, rehabilitation only, rehabilitation and elevation, reconstruction, or reconstruction and elevation. Qualified General Contractor homebuilders should be able to provide, either directly or through a subcontractor, all of these services.

6.1-5 US Army Corps of Engineers Projects

The following USACE flood protection projects for Cape May County.

Table 7
USACOE Flood Protection Projects

USACE Project Titles	Study Area	Project Description and Status
New Jersey Shore Protection, Great Egg Harbor Inlet to Townsends Inlet, NJ	Ocean City, Upper Township, and Sea Isle City	***Description:*** A study investigated flood and coastal storm damage effects with a view toward reducing impacts from coastal erosion and storms. The recommended plan calls for construction of a beachfill with a berm and dune along the study area oceanfront utilizing sand from an offshore borrow source and periodic nourishment for a period of 50 years. ***Status:*** Chief of Engineer's Report was signed on 24 October 2006. The project was authorized in the 2007 Water Resources Development Act. This project did not receive any funding in FY 08. The initiation of initial construction is dependent on the establishment of an adequate funding stream. The next steps toward initial construction once adequate funding is received is to finalize the LRR; develop, approve and execute the Project Partnership Agreement; acquire the necessary real estate; complete plans and specifications; and advertise and award the construction contract. To date the FY 09 budget has not been approved. If this project receives funding in FY 09 project tasks will be determined based on the level of funding (USACE, 2008).
Great Egg Harbor and Peck Beach (Ocean City), NJ	Ocean City	***Description:*** The project consists of providing initial beachfill, with subsequent periodic nourishment, with a minimum berm width of 100 feet at an elevation of +8.0 National Geodetic Vertical Datum (NGVD). The beachfill extends from Surf Road southwest to 34th Street with a 1,000-foot taper south of 34th Street. This plan required the initial placement of approximately 6.2 million cubic yards of material and subsequent periodic nourishment of approximately 1.1 million cubic yards every 3 years. The material for the initial construction and periodic nourishment is being taken from the ebb shoal area located approximately 5,000 feet offshore of the Great Egg Harbor Inlet. This periodic dredging of the ebb shoal area will help alleviate the navigation difficulties in the inlet. Additionally, the initial construction of the project required the extension of 38 storm drain pipes. Under an option in the 1st Periodic Nourishment (Phase II) contract, 360,000 cubic yards of beachfill were placed in the area from 34th to 60th Streets for the City of Ocean City and NJDEP. This work was done for $1.2 million as a 100 percent non-Federal project under the Support for Others Program. Under an option in the 3rd Periodic Nourishment contract, 303,000 cubic yards of beachfill were placed in the area from 48th-59th streets for the City of Ocean City and NJDEP. This work was done for $1.9 million as a 100% non-Federal project, again under the Support for Others Program. ***Status:*** The 5th periodic nourishment cycle was scheduled for the fall of 2006. FY 08 funding was inadequate to initiate the 5th periodic nourishment cycle. To date the FY 09 budget has not been approved. If this project receives funding in FY 09 project tasks including periodic nourishment will be determined based on the level of funding (USACE, 2008).

7.0 Recommendations to Promote Recovery and Resiliency

Making pre-disaster decisions to improve the effectiveness of response and recovery is especially important to reducing the loss of lives and decreasing the amount of time it takes to recover from hazard events, like nor'easters or hurricanes. While major disasters have not affected the New Jersey shore in many years, climatologists agree that there will be an increase in the frequency and intensity of coastal storms, likely challenging response and recovery efforts.

This Strategic Recovery Planning Report recommends that Ocean City facilitate continued recovery from Superstorm Sandy and build resiliency to future storms by advancing the projects/activities described below. These actions have been developed in consultation with City officials and staff, and will be subject to subsequent applications to NJ Department of Community Affairs' Post Sandy Planning Assistance Grant program.

7.1 Immediate/Short-term.

- Reexamine the Master Plan.
- Prepare and adopt amended Master Plan goal statements.
- Prepare and adopt a Floodplain Management Plan as a part of the Master Plan Reexamination.
- Prepare and adopt a Master Plan Economic Development Plan element.
- Prepare and adopt a Master Plan Green Buildings and Sustainability Master element.
- Amend Master Plan Community Facilities element.
- Amend Master Plan Circulation element.
- Develop a Post-Sandy Neighborhood Land Use Plan, which would be adopted as an amendment to the Master Plan. This proposed master plan amendment would recognize the modified land use goals and realities of the areas affected by the Superstorm.
- Prepare an Environmental Design plan for the 9th Street and 34th Street Gateways. These corridors provide the primary entry points into the City and provide opportunities for redevelopment. These plans will include analysis to determine the most appropriate land uses and design standards for these areas.
- Complete installation of a town-wide Supervisory Control and Data Acquisition (SCADA) system.

- Update the City's Hazards Mitigation Plan and Emergency Operating Plan to incorporate updates and revisions based on key lessons learned from Sandy and post-storm response efforts.
- Develop a Debris Management Plan.
- Prepare a beach-dune system susceptibility assessment.
- Develop an electronic "Repetitive Loss Area" Map to meet CRS requirements. Create a Flood Damaged Property Map and Planning Information Profile (Master Plan Analysis, Zoning Analysis, Flood Zone Analysis, Damage Assessment, and Repetitive Loss Assessment) for each affected property. This element should also identify vulnerable critical infrastructure in the City.
    - The New Jersey Department of Environmental Projection Coastal Blue Acres (CBA) program may be used to acquire properties, where appropriate. The CBA program helps municipalities and counties to acquire lands in coastal areas that have been damaged by storms, that may be prone to storm damage, or that buffer or protect other lands from storm damage, for recreation and conservation purposes.
- Revise the Zoning Code to reconcile with the above Master Plan amendments with the City's Land Use and Development Ordinance. This proposed ordinance amendment/revision would codify the changes to the Zoning Map and text of the Zoning Ordinance to recognize the significant policy changes to the land use element of the Master Plan described above. Illustrative design guidelines and green infrastructure strategies will be incorporated into the zoning ordinance to the greatest extent possible to encourage renewable energy, green roofs, permeable pavement, reduction of impervious coverage, and rain gardens among other strategies.
- Amend Flood Damage Prevention Ordinance to require removal or securing of boats, floating docks, gangways, etc. within specified time following notice from Emergency Management.

7.2 Mid-term.

- Incorporate capital improvements for public facilities, fleets and equipment deemed necessary to build local resilience and recovery into the Capital Improvement Plan.
- Encourage resiliency and sustainability:
    - Encourage critical businesses such as supermarkets, gas stations and emergency service centers, to obtain emergency power systems that can continue to operate should the power grid fail.

- Actively pursue Federal funding on behalf of residents through a Municipal Hazard Mitigation Grant Program.
- Encourage retrofitting of aged buildings, with emphases on wind and flood resistance, and stormwater reduction.
- Identify technologies and strategies for returning residents to the City after an evacuation.
- Elevate homes, roads and infrastructure.
- Improve drainage system maintenance overall including county and state facilities.
- Consider using ASCE 24 design and performance standards as guidelines for future ordinance development and housing element recommendations.

7.3 Long-term.

- Update the City's GIS database and user interface to catalog all City-owned infrastructure.
- Continue to evaluate and update the City Code to ensure compliance with the latest FEMA flood requirements.
- Relocate municipal and emergency service functions to areas of the City that are not as flood prone OR improve hazard mitigation measures on existing properties. These may be CRS creditable activities.
- Coordinate with neighboring communities to assist with equipment storage and mutual aid to reduce storm damage.

8.0 Appendices

8.1. Biggert-Waters Flood Insurance Reform Act of 2012

Provisions of the Biggert-Waters Flood Insurance Reform Act of 2012 (BW-12) require the NFIP to raise insurance rates for some older properties in high-risk areas to reflect true flood risk.

The affected properties are among those built before the community joined the NFIP and adopted its first Flood Insurance Rate Map (FIRM). Communities began joining the NFIP in the late 1960s. To find out when your community joined, contact your local floodplain manager. Properties built before that date and not improved since are known as "pre-FIRM."
Many of the pre-FIRM properties in high-risk areas do not meet current standards for construction and elevation, and they have been receiving subsidized rates that do not reflect their actual risk. The subsidized rates are being eliminated in some cases, as noted in the chart below. Some current policyholders and all future policyholders owning pre-FIRM properties in high-risk areas will pay rates based on their full risk of flood damage. However, most NFIP-insured properties (80 percent or more) are not affected by the changes.

How properties and policies are affected by subsidy changes -

For These Pre-FIRM Properties With Newly Issued Policies	**Subsidized Rates Are Eliminated**
Recently purchased pre-FIRM buildings in high-risk areas	Policies for newly purchased pre-FIRM buildings are issued at full-risk rates. Policies that were issued at subsidized rates for pre-FIRM buildings purchased on or after 7/6/2012 renew at full-risk rates starting 10/1/2013.
Policies issued for the first time on buildings in high-risk areas	New policies are issued at full-risk rates. Pre-FIRM subsidized policies first in effect on or after 7/6/2012 renew at full-risk rates starting 10/1/2013.
Policies re-issued after a lapse on pre-FIRM buildings in high-risk areas	Policies are reinstated at full-risk rates. Lapsed policies reinstated on or after 10/4/2012 and before 10/1/2013 will renew at full-risk rates.
For These Pre-FIRM Properties Paying Subsidized Rates	**Subsidized Rates Are Moving to Full-Risk Rates**
Non-primary residences (secondary or vacation homes or rental properties) in high-risk areas	25% annual increases at policy renewal until premiums reach full-risk rates for policies in effect before 7/6/2012. If a pre-FIRM property is sold, the new owner pays full-risk rates.

Non-residential/business buildings in high-risk areas	25% annual increase at policy renewal until premiums reach full-risk rates for policies in effect before 7/6/2012. If a pre-FIRM property is sold, the new owner pays full-risk rates.
Previously flooded residences in high-risk areas	25% annual increases at policy renewal for severely or repetitively flooded properties of 1 to 4 residences until premiums reach full-risk rates for policies in effect before 7/6/2012. If a pre-FIRM property is sold, the new owner pays full-risk rates.
For Other Property Types	**Subsidized Rates Do Not Apply or Can Continue**
Pre-FIRM primary residences in high-risk areas	Subsidized rates continue when policies are in effect before 7/6/2012 until or unless: • Property is substantially improved; • Property of one to four residences incurs severe, repetitive losses or receives insurance payments that exceed the property's value • Property is sold (the new owner pays full-risk rates); or • Policy is allowed to lapse.
Newer post-FIRM residences in high-risk areas	Not affected; already paying full-risk rates.
Residences in moderate- to low-risk areas	Not affected; properties in these areas (shown as B, C, or X zones on flood maps) do not pay subsidized rates.

Note: Discounted, lower-cost rating options for properties affected by flood map changes (Grandfathering; Preferred Risk Policy Eligibility Extension) are not affected by the removal of pre-FIRM subsidies. Policyholders can continue paying rates based on the risk shown on the previous flood map until Section 100207 of BW-12 is implemented.

The best way to determine exactly how property and insurance premiums will be affected by changes to subsidies is to talk with your insurance agent.

8.2. Reconstruction, Rehabilitation, Elevation and Mitigation (RREM) Program

The State of New Jersey has allocated $1.1 billion in federal funds to help eligible homeowners repair or rebuild their Superstorm Sandy-impacted homes. The RREM Program provides grant awards to the primary residences of homeowners for activities necessary to restore their storm-damaged homes, including reconstruction, rehabilitation, elevation and/or other mitigation activities. The Department of Community Affairs (DCA) administers the RREM Program with federal funding provided through Community Disaster Block Grant Disaster Recovery (CDBG-DR) funds allocated to New Jersey by the U.S. Department of Housing and Urban Development (HUD). Additionally, the RREM Program ensures that homeowners participating in the program are able to comply with federal elevation requirements for structures located in flood plains.

The RREM Program provides eligible homeowners with grant awards up to $150,000. The RREM Program is intended to "fill the gap" between the cost of repairs and other funds the owner has received to repair the structure. The calculation of RREM assistance takes into consideration the cost of repairs and amounts the homeowner has received for home repairs from other sources such as insurance, FEMA, SBA, and non-profit organizations.

To assist homeowners through the grant process, the RREM Program provides the homeowner with a Housing Advisor and a RREM Project Manager. The Housing Advisor helps the homeowner navigate the RREM Program and assists with eligibility determination, application processing and execution of grant awards. The RREM Project Manager works with the homeowner to provide details and offer technical assistance for the completion of the homeowner's scope of work to ensure it complies with RREM construction standards. The RREM Project Manager also inspects the construction while it is in progress and approves payment requests as construction is completed.

The following spreadsheet from the DCA shows that 140 Ocean City residents have had RREM funds allocated for their use. To date however, only 23 have actually been approved and received money. The others are still in the process of providing the necessary documents to determine their eligibility.

RREM ID#	Status	County	Damaged Property Address	Municipality	ZIP Code	Construction Phase
RRE0001402	Funded	Cape May	318 Battersea Rd	Ocean City	08226	
RRE0001445	Funded	Cape May	69 Sunset Pl	Ocean City	08226	
RRE0001495	Funded	Cape May	3711 Oxford Ln	Ocean City	08226-1813	
RRE0001559	Funded	Cape May	177 W 17th St	Ocean City	08226	
RRE0001668	Funded	Cape May	9 Garfield Pl	Ocean City	08226	

RRE0001685	Funded	Cape May	1962 West Ave	Ocean City	08226	Finalize Design
RRE0001742	Funded	Cape May	10 Roosevelt Blvd	Ocean City	08226	
RRE0001837	Funded	Cape May	25 Sindia Rd	Ocean City	08226	
RRE0002294	Funded	Cape May	115 Victoria Ln	Ocean City	08226	Construction Phase
RRE0002432	Funded	Cape May	30 W 8th St	Ocean City	08226	
RRE0002681	Funded	Cape May	3141 West Ave	Ocean City	08226	
RRE0002739	Funded	Cape May	1359 Tioga Terrace	Ocean City	08226	Construction Phase
RRE0003170	Funded	Cape May	3714 Westminster Ln	Ocean City	08226	
RRE0004386	Funded	Cape May	3404 Bay Ave	Ocean City	08226	Construction Phase
RRE0005019	Funded	Cape May	1334 Bay Ave	Ocean City	08226	
RRE0005023	Funded	Cape May	201 W Inlet Rd	Ocean City	08226	
RRE0005222	Funded	Cape May	12 E 4th St	Ocean City	08226	
RRE0006059	Funded	Cape May	15 5th St	Ocean City	08226	
RRE0006981	Funded	Cape May	1 E 11th St	Ocean City	08226	Construction Phase
RRE0006992	Funded	Cape May	22 Simpson Rd	Ocean City	08226	
RRE0007408	Funded	Cape May	240 Clipper Dr	Ocean City	08226	
RRE0007837	Funded	Cape May	104 53rd St	Ocean City	08226	
RRE0008113	Funded	Cape May	417 Bay Ave	Ocean City	08226	
RRE0008275	Funded	Cape May	101 W 10th St	Ocean City	08226	
RRE0008679	Funded	Cape May	2117 Bay Ave	Ocean City	08226	
RRE0008735	Funded	Cape May	2320 West Ave	Ocean City	08226	
RRE0009530	Funded	Cape May	849 Park Pl	Ocean City	08226	
RRE0009789	Funded	Cape May	1105 Simpson Ave	Ocean City	08226	
RRE0009844	Funded	Cape May	1412 Pleasure Ave	Ocean City	08226	Construction Phase
RRE0010208	Funded	Cape May	34 E Station Rd	Ocean City	08226	Finalize Design
RRE0010485	Funded	Cape May	2811 West Ave	Ocean City	08226	

RRE0011058	Funded	Cape May	218 Central Ave	Ocean City	08226	
RRE0011145	Funded	Cape May	118 Crescent Rd	Ocean City	08226	
RRE0011363	Funded	Cape May	218 Central Ave # 2	Ocean City	08226	
RRE0011975	Funded	Cape May	144 West Ave	Ocean City	08226	Construction Phase
RRE0012265	Funded	Cape May	5160 West Ave	Ocean City	08226	
RRE0013754	Funded	Cape May	21 E Station Rd	Ocean City	08226	
RRE0013784	Funded	Cape May	5308 Haven Ave	Ocean City	08226	
RRE0014027	Funded	Cape May	236 Haven Ave	Ocean City	08226	Construction Phase
RRE0017646	Funded	Cape May	204 Haven Ave	Ocean City	08226	
RRE0020638	Funded	Cape May	9 W 14th St	Ocean City	08226	
RRE0022428	Funded	Cape May	204 31st St	Ocean City	08226	
RRE0022994	Funded	Cape May	1233 Haven Ave	Ocean City	08226	
RRE0023437	Funded	Cape May	429 Bay Ave	Ocean City	08226	
RRE0025064	Funded	Cape May	501 East 4th Street	Ocean City	08226	
RRE0026132	Funded	Cape May	3713 Westminster Ln	Ocean City	08226	
RRE0026510	Funded	Cape May	8 Sunset Pl	Ocean City	08226	
RRE0026795	Funded	Cape May	152 West Ave	Ocean City	08226	
RRE0026890	Funded	Cape May	3713 Oxford Ln	Ocean City	08226	
RRE0027267	Funded	Cape May	3215 Simpson Ave	Ocean City	08226	
RRE0027619	Funded	Cape May	6 Victoria Ln	Ocean City	08226	
RRE0028336	Funded	Cape May	128 West Ave	Ocean City	08226	
RRE0028998	Funded	Cape May	622 Wesley Ave	Ocean City	08226	
RRE0029199	Funded	Cape May	2204 Bay Ave	Ocean City	08226	
RRE0032278	Funded	Cape May	233 Anchorage Dr	Ocean City	08226	
RRE0032517	Funded	Cape May	250 Bay Rd	Ocean City	08226	
RRE0034944	Funded	Cape May	1415 Bay Ave	Ocean City	08226	

RRE0035031	Funded	Cape May	3516 Bay Ave	Ocean City	08226	
RRE0037783	Funded	Cape May	66-68 Sunset Pl	Ocean City	08226	
RRE0040762	Funded	Cape May	444 West Ave	Ocean City	08226	
RRE0041149	Funded	Cape May	346 Simpson Ave	Ocean City	08226	
RRE0041214	Funded	Cape May	32 Battersea Rd	Ocean City	08226	
RRE0042136	Funded	Cape May	2817 Haven Ave	Ocean City	08226	
RRE0042284	Funded	Cape May	13 W 55th St	Ocean City	08226	
RRE0042576	Funded	Cape May	900 2nd St	Ocean City	08226	
RRE0001296	Funded	Cape May	1210 Pleasure Ave	Ocean City	08226	
RRE0001329	Funded	Cape May	5232 Bay Ave	Ocean City	08226	
RRE0001389	Funded	Cape May	233 Simpson Ave	Ocean City	08226	
RRE0001392	Funded	Cape May	2912 Haven Ave	Ocean City	08226	
RRE0001403	Funded	Cape May	5404 West Ave	Ocean City	08226	Construction Phase
RRE0001435	Funded	Cape May	29 Sindia Rd	Ocean City	08226	
RRE0001588	Funded	Cape May	309 Haven Ave	Ocean City	08226	
RRE0001613	Funded	Cape May	433 Simpson Ave	Ocean City	08226	
RRE0001666	Funded	Cape May	212 Crescent Rd	Ocean City	08226	
RRE0001755	Funded	Cape May	33 W Revere Pl # 35	Ocean City	08226	
RRE0001847	Funded	Cape May	9 Bayonne Pl	Ocean City	08226	Design Preparation
RRE0002150	Funded	Cape May	113 W 10th St	Ocean City	08226	Construction Phase
RRE0002335	Funded	Cape May	3520 Bay Ave	Ocean City	08226	
RRE0002494	Funded	Cape May	17 Simpson Rd	Ocean City	08226	
RRE0002599	Funded	Cape May	440 Simpson Ave	Ocean City	08226	Construction Phase
RRE0002752	Funded	Cape May	236 Crescent Rd	Ocean City	08226	
RRE0002819	Funded	Cape May	221 Simpson Ave	Ocean City	08226	
RRE0003113	Funded	Cape May	5033 Haven Ave	Ocean City	08226	Construction Phase

RRE0003903	Funded	Cape May	732 Moore Ave	Ocean City	08226	
RRE0004175	Funded	Cape May	117-119 7th Street	Ocean City	08226	
RRE0004551	Funded	Cape May	3121 Bayland Dr	Ocean City	08226	
RRE0004734	Funded	Cape May	212 Haven Ave	Ocean City	08226	
RRE0004735	Funded	Cape May	640 Haven Ave	Ocean City	08226	
RRE0005785	Funded	Cape May	6 E 52nd St	Ocean City	08226	Design Preparation
RRE0005811	Funded	Cape May	106 E 6th St	Ocean City	08226	
RRE0006321	Funded	Cape May	3707 Westminster Ln	Ocean City	08226	
RRE0006333	Funded	Cape May	18 Simpson Rd	Ocean City	08226	
RRE0006653	Funded	Cape May	308 Bay Ave	Ocean City	08226	
RRE0006776	Funded	Cape May	3709 Oxford Ln	Ocean City	08226	Construction Phase
RRE0007097	Funded	Cape May	125 Central Ave # 127	Ocean City	08226	
RRE0008328	Funded	Cape May	4701 West Ave	Ocean City	08226	Construction Phase
RRE0008541	Funded	Cape May	330 Simpson Ave	Ocean City	08226	
RRE0008671	Funded	Cape May	3304 Haven Ave	Ocean City	08226	
RRE0008730	Funded	Cape May	432 Simpson Ave	Ocean City	08226	
RRE0009655	Funded	Cape May	19 Lincoln Pl	Ocean City	08226	
RRE0011198	Funded	Cape May	801 Bay Ave	Ocean City	08226	Construction Phase
RRE0011652	Funded	Cape May	1430 Prospect Pl	Ocean City	08226	
RRE0011704	Funded	Cape May	801 Park Ridge Rd	Ocean City	08226	
RRE0011878	Funded	Cape May	303 E 4th St	Ocean City	08226	
RRE0012177	Funded	Cape May	1436 Simpson Ave	Ocean City	08226	
RRE0012633	Funded	Cape May	112 Victoria Ln	Ocean City	08226	
RRE0013328	Funded	Cape May	5133 Central Ave	Ocean City	08226	
RRE0013783	Funded	Cape May	1 E 8th St	Ocean City	08226	
RRE0014105	Funded	Cape May	413 Simpson Ave	Ocean City	08226	Final Pre-Construction Meeting

RRE0014163	Funded	Cape May	1506 Bay Ave	Ocean City	08226	
RRE0014177	Funded	Cape May	59 W 16th St	Ocean City	08226	
RRE0014240	Funded	Cape May	1357 Tioga Terrace	Ocean City	08226	
RRE0015141	Funded	Cape May	220 Haven Ave	Ocean City	08226	Construction Phase
RRE0016022	Funded	Cape May	148 W Atlantic Blvd	Ocean City	08226	
RRE0016688	Funded	Cape May	448 West Ave	Ocean City	08226	Construction Phase
RRE0016778	Funded	Cape May	1115 Asbury Ave	Ocean City	08226	
RRE0016857	Funded	Cape May	30 Bayview Pl	Ocean City	08226	
RRE0017493	Funded	Cape May	1355 Tioga Terrace	Ocean City	08226	Construction Phase
RRE0018656	Funded	Cape May	3939 West Ave # 2	Ocean City	08226	
RRE0019452	Funded	Cape May	208 Bartram Ln	Ocean City	08226	
RRE0019775	Funded	Cape May	204 23rd St	Ocean City	08226	
RRE0020041	Funded	Cape May	1046 Bay Ave	Ocean City	08226	
RRE0020889	Funded	Cape May	2 Sunnyside Ct	Ocean City	08226	
RRE0021279	Funded	Cape May	108 E 11th St	Ocean City	08226	
RRE0021369	Funded	Cape May	228 Haven Ave	Ocean City	08226	
RRE0022361	Funded	Cape May	9 E 11th St	Ocean City	08226	
RRE0022522	Funded	Cape May	86 E Station Rd	Ocean City	08226	
RRE0023081	Funded	Cape May	320 W Surf Rd	Ocean City	08226	Construction Phase
RRE0023577	Funded	Cape May	108 Bark Dr	Ocean City	08226	
RRE0024067	Funded	Cape May	19 East 13 St	Ocean City	08226	
RRE0026930	Funded	Cape May	600 Central Ave	Ocean City	08226	
RRE0027409	Funded	Cape May	3935 West Ave	Ocean City	08226	
RRE0029178	Funded	Cape May	3402 Bay Ave	Ocean City	08226	
RRE0030116	Funded	Cape May	148 Asbury Ave	Ocean City	08226	
RRE0030350	Funded	Cape May	632 Simpson Ave	Ocean City	08226	

RRE0032004	Funded	Cape May	320 Bay Ave	Ocean City	08226	
RRE0032521	Funded	Cape May	412 Simpson Ave	Ocean City	08226	
RRE0039574	Funded	Cape May	15 Marine Pl	Ocean City	08226	
RRE0040377	Funded	Cape May	344 Simpson Ave	Ocean City	08226	
RRE0041588	Funded	Cape May	21 E 12th St	Ocean City	08226	

8.3. Community Rating System (CRS)

Activity 310

Elevation Certificates for Properties in Ocean City

Ocean City Flood Plain Map

Activity 320

Ocean City Elevation 10 NGVD Bench Marks – (includes NAVD88)

Activity 330

Tide Reference Chart for Ocean City, NJ 08226

Predicted Tide Elevations for Ocean City, NJ 08226

Real Time Weather Station – Atlantic City, NJ

List of Outreach Projects at Emergency Management Web Page

OCTV2

Activity 410

Hurricane Sandy Storm Tide Map

Ocean City, NJ Flooding Maps

10 year and 50 year Tidal Flooding Heights

1st Street to 8th Street Flooding at Various Flood Heights

26th Street to 34th Street Flooding at Various Flood Heights

Activity 440

Ocean City Zoning Map

Flood Insurance Rate Maps (FIRM) for Ocean City

Ocean City Map Index

345310 0001 C – Gardens to 9th Street

345310 0002 C –9th Street to 30th Street

345310 0003 C– 31st Street to 52nd Street

345310 0004 D – 53rd Street to 59th Street

Advisory Base Flood Elevation Maps for Ocean City – (These maps available on the following pages and via the following links.)

Ocean City SE– Ocean City, Gardens to 1st Street

Ocean City SW– Ocean City, 1st Street to 35th Street

Sea Isle NW– Ocean City, 47st Street to 59th Street

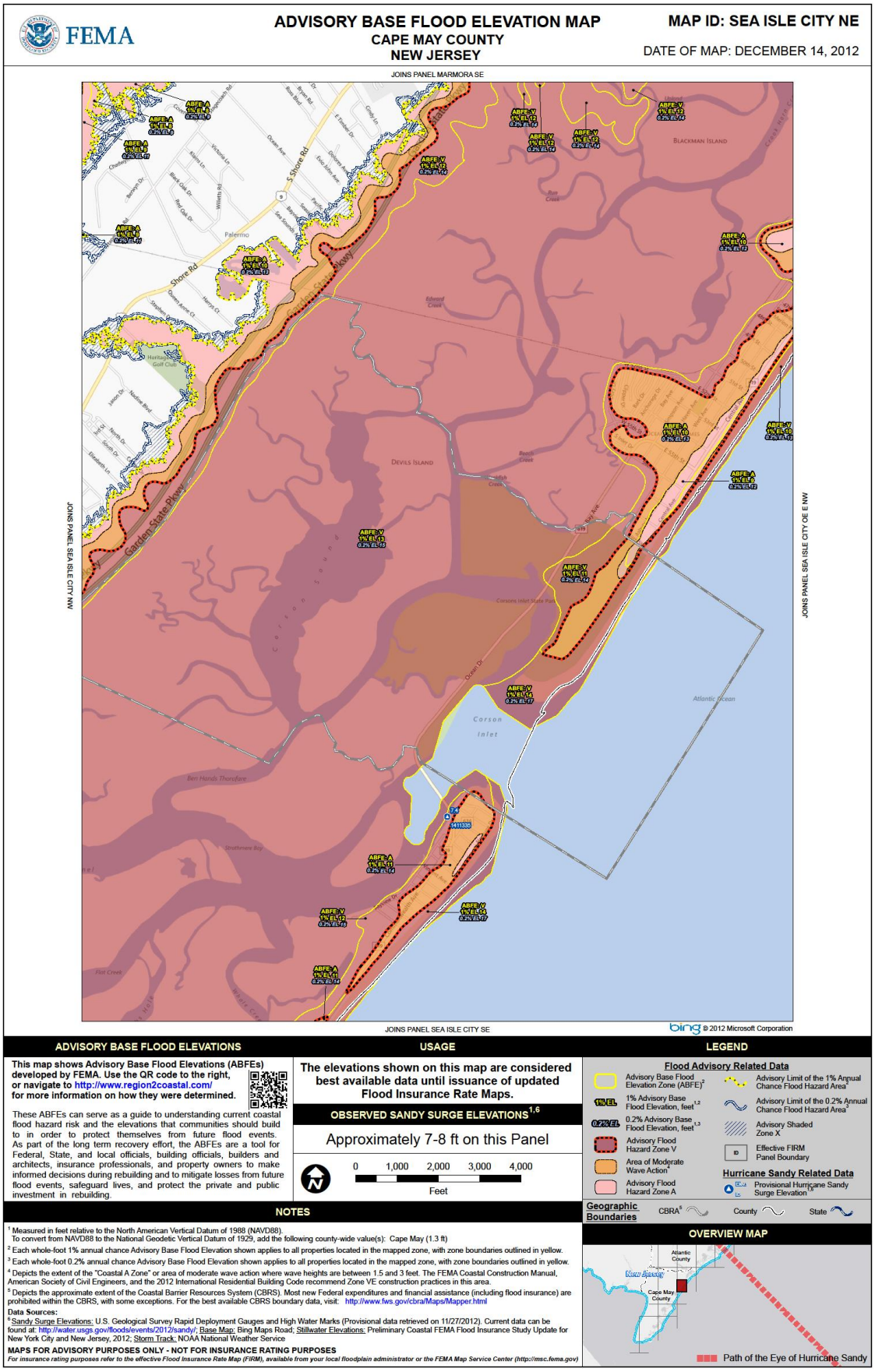
Sea Isle NE– Ocean City, 47st Street to 59th Street

My Property Advisory Elevation

Activity 610

Topography in Ocean City, NJ 08226

New Jersey Beach Profile Network – 6 Historic Beach Profiles for Ocean City, NJ


FEMA
ADVISORY BASE FLOOD ELEVATION MAP
CAPE MAY COUNTY
NEW JERSEY
MAP ID: SEA ISLE CITY NE
DATE OF MAP: DECEMBER 14, 2012
JOINS PANEL MARMORA SE
JOINS PANEL SEA ISLE CITY NW
JOINS PANEL SEA ISLE CITY OE E NW
JOINS PANEL SEA ISLE CITY SE
© 2012 Microsoft Corporation
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Approximately 7-8 ft on this Panel
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Cape May County
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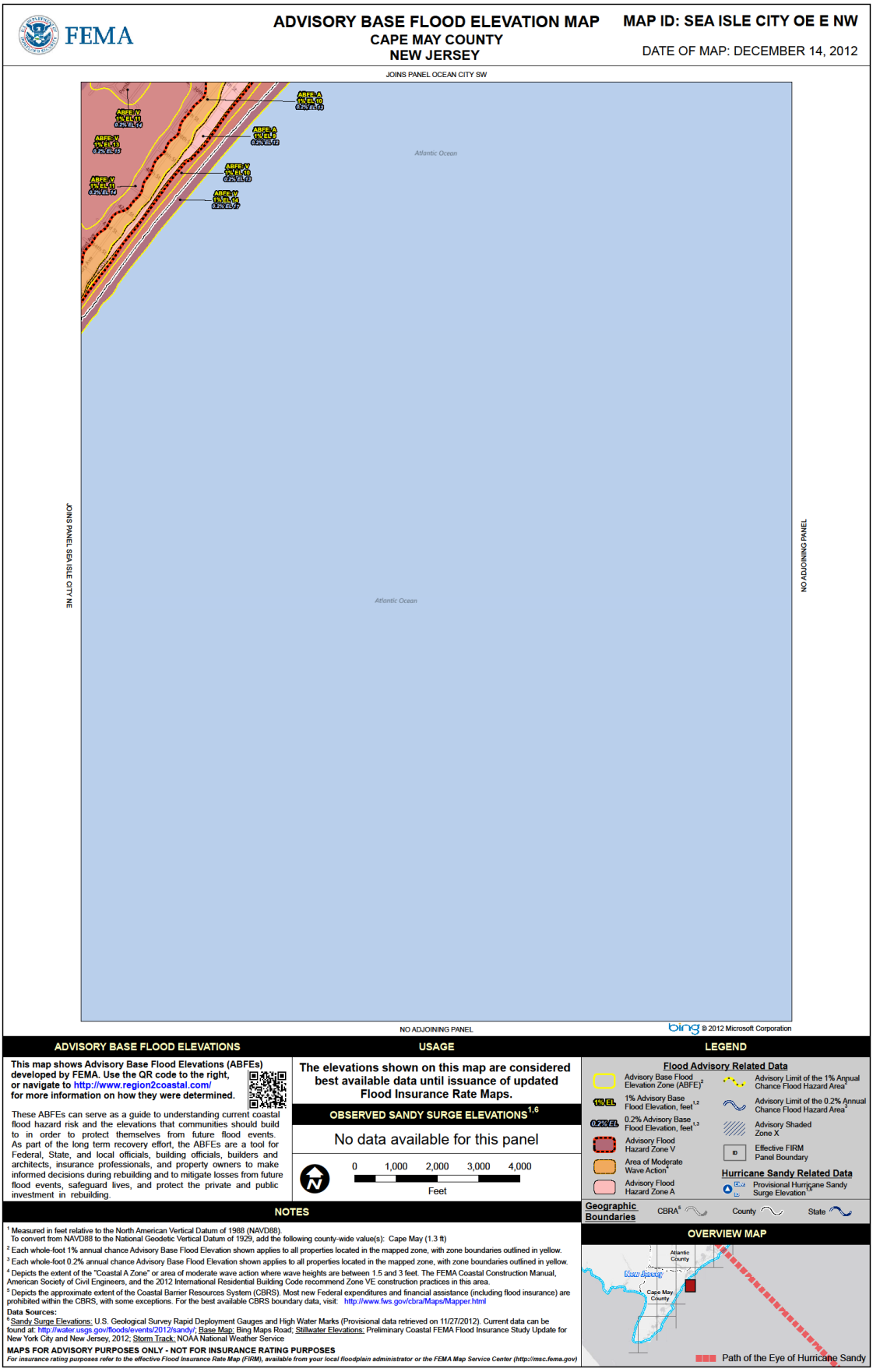
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DATE OF MAP: DECEMBER 14, 2012
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NO ADJOINING PANEL
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bing © 2012 Microsoft Corporation
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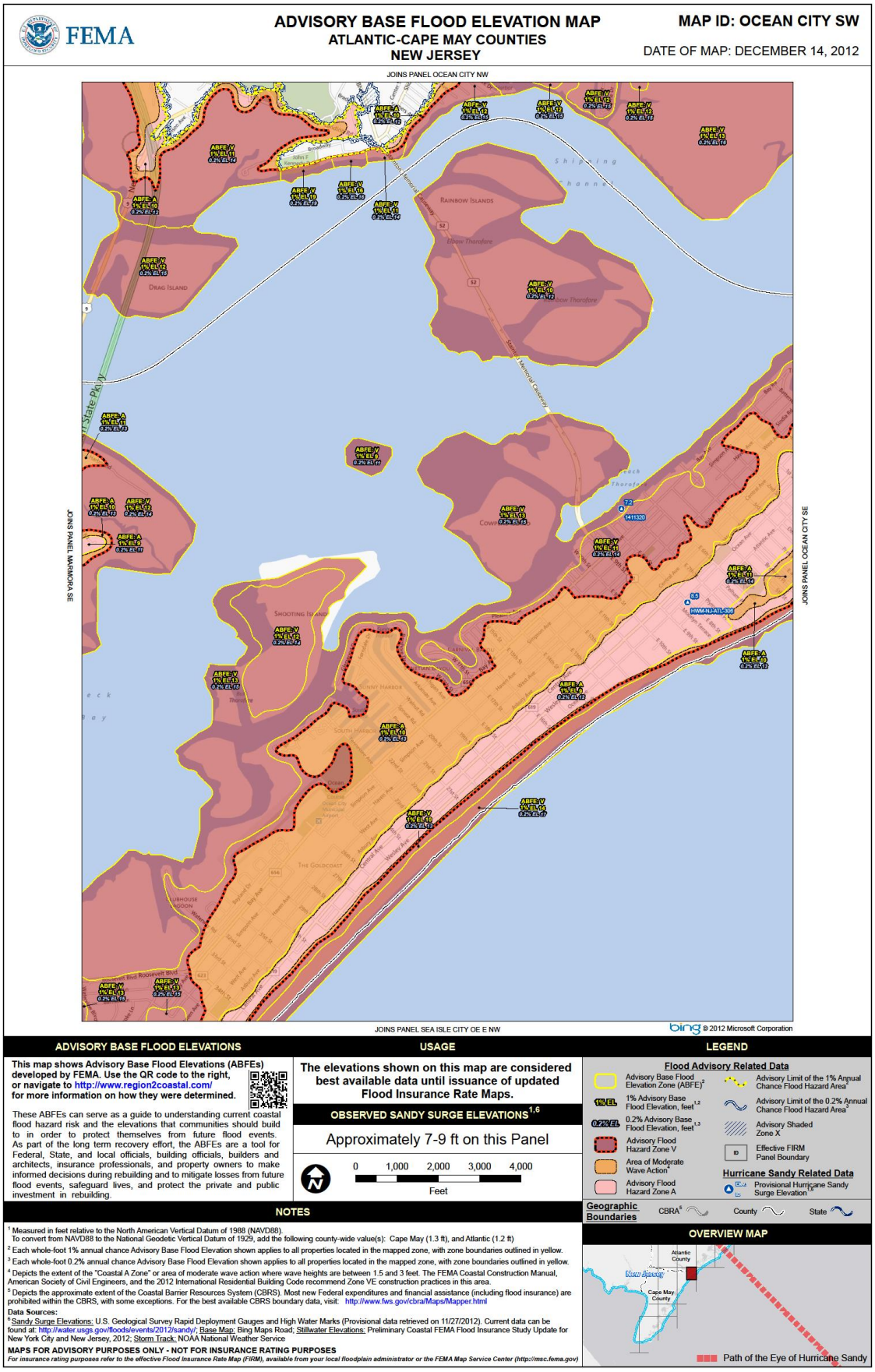
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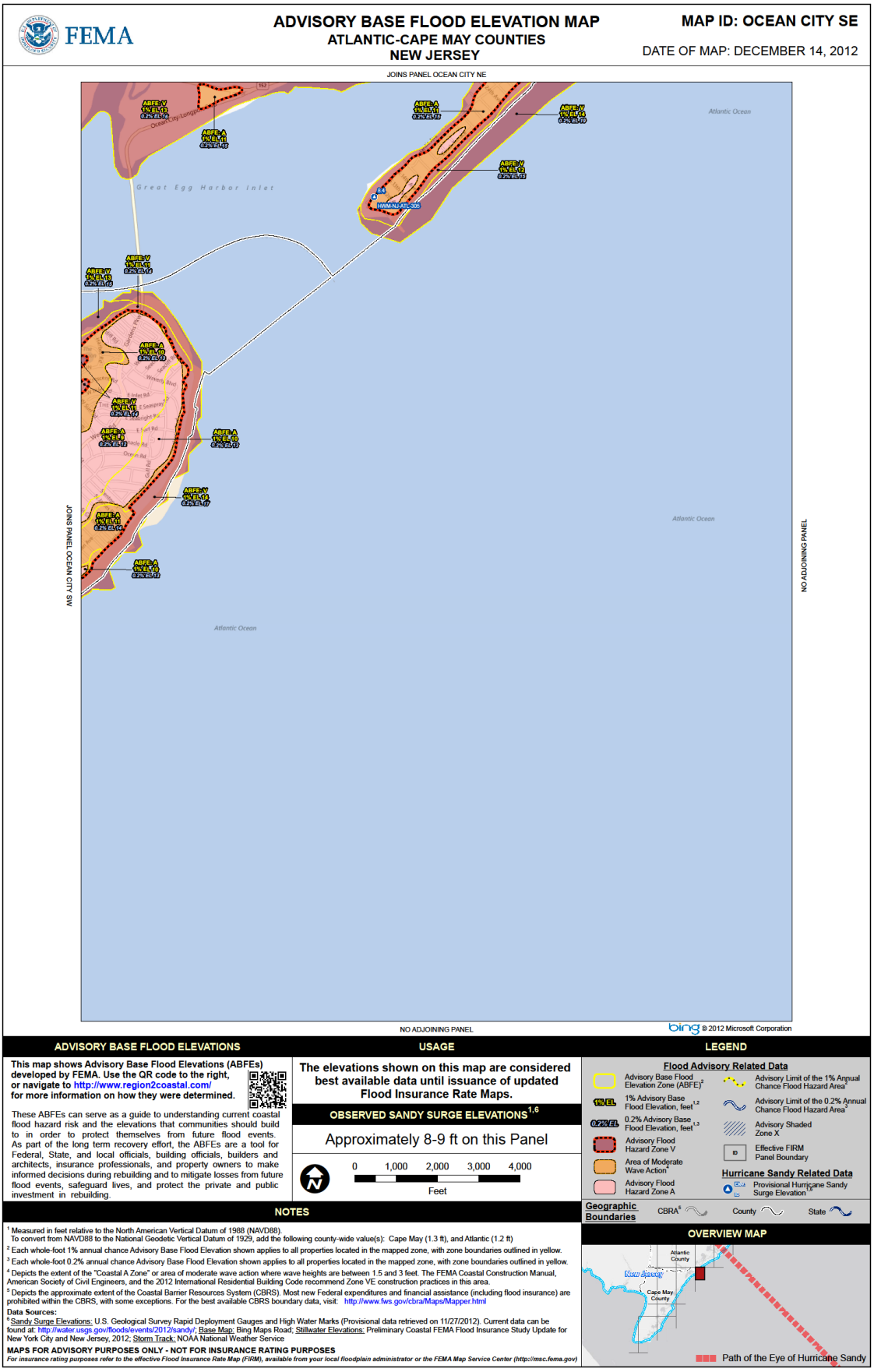
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8.4. Resettlement Program

Frequently Asked Questions about the Resettlement Program
As of August 1, 2013, the Resettlement Program is no longer accepting applications.

Qualifying for Resettlement

1. What is the Resettlement program?

The State of New Jersey has allocated $180 million in CDBG-DR (Community Development Block Grant-Disaster Recovery) funds to encourage Superstorm Sandy impacted Homeowners in the nine (9) most impacted Counties Atlantic, Bergen, Cape May, Essex, Hudson, Middlesex. Monmouth, Ocean, Union to remain in the County where their home was damaged.

2. How does it benefit me?

An applicant who meets the eligibility and selection criteria for the Resettlement program will receive a $10,000 grant award to be used for non-construction purposes.

3. Is the program a loan?

The program is not a loan and does not have to be repaid if the awardee abides by the terms of the Resettlement Program. The awardee must sign a promissory note which will be forgiven if he/she resettles in or continues living in the County of their damaged residence for three years.

4. Who is eligible for a Resettlement grant?

To be eligible to receive a Resettlement grant applicants must meet the following eligibility factors:

- The damaged residence must be located in one of nine (9) most impacted Counties [Atlantic, Bergen, Cape May, Essex, Hudson, Middlesex. Monmouth, Ocean, Union].
- At the time of the storm the damaged residence must have been owned and occupied by the applicant as the applicant's primary residence.
- The applicant must have registered for FEMA assistance.
- The residence must have sustained damage as a result of Superstorm Sandy with a Full Verified Loss (FVL) of at least $8,000 or had more than one foot of water on the first floor as determined by FEMA.
- Homeowners are eligible regardless of their income, but 60% of the funds are reserved for low and moderate income households.

5. What kind of properties are eligible?

Single family homes and owner-occupied units in multi-unit properties (such as duplexes and townhomes).

6. My vacation home was damaged. Can I receive a Resettlement grant?

No. Vacation homes, second homes and recreational vehicles or trailers are not eligible for the Resettlement Program.

7. My home has been foreclosed since Superstorm Sandy, can I still apply?

Yes. You can still apply for a Resettlement grant as long as you are willing to sign a promissory note agreeing to live in the County of your residence for three years.

8. I'm thinking about selling my home can I apply for Resettlement assistance?

Yes. You can still apply for a Resettlement grant as long as you agree to live in the county of your damaged residence for three years following the signing of a promissory note.

The Application Process

9. How do I apply for Resettlement grant?

Applying for the Resettlement grant is easy. You can apply:

- On line at renewjerseystronger.org if you need help while filling out the online application our Call Center can answer your questions. 1 855-SANDYHM (1-855-726-3946).
- By phone: If you would prefer you can call our Call Center and a representative will complete the online application for you.
- In Person: Sandy Housing Assistance Centers will open in each of the nine (9) most impacted Counties [Atlantic, Bergen, Cape May, Essex, Hudson, Middlesex. Monmouth, Ocean, Union] on June 8. You can go to the Center to make an application or get information about the program.

How you apply does not affect your status or the likelihood that your application will be selected for award. Please fill out only one application for the Resettlement grant.

10. Will everyone who applies receive funding?

The State was awarded $180 million from the federal government for use in this program. As a result, we estimate 16,000 Sandy-impacted residents will receive assistance. It is anticipated that more residents will apply than the allocated funds will benefit.

Determining Eligibility

17. What proof do I need that I owned my home and that it was my primary residence?

A title search in public records will be used to confirm ownership. If ownership cannot be confirmed from public records you will be asked to provide additional documentation

18. How will the damage to my home be determined?

In order to be eligible for the Resettlement program the applicant's home must have sustained at least $8,000 of damage or have had at least 1 foot of water on the first floor as determined by FEMA. No action is required by you to determine the level of damage.

19. How will the pre-storm value of my home be established?

For the Resettlement program there is no need to establish a pre-storm value.

20. Does my income affect the amount of my Resettlement grant?

Income is not a criteria used to select recipients of the Resettlement grant. However, 60% of the funds will go to low and moderate income, so an applicant will have to provide their income on the application.

21. If I don't have a FEMA number can I apply for FEMA assistance now?

No. FEMA is no longer taking applications for assistance due to Superstorm Sandy.

Award Calculation

22. How is my award calculated?

There is no calculation for the award. If deemed eligible and selected, the awardee will receive $10,000.

About the Resettlement Program

As of August 1, 2013, the Resettlement Program is no longer accepting applications.

$180 million in federal funds has been allocated to support a Homeowner Resettlement Program designed to encourage Homeowners to remain in the nine (9) most impacted Counties [Atlantic, Bergen, Cape May, Essex, Hudson, Middlesex. Monmouth, Ocean, Union] that were severely impacted by Superstorm Sandy. The funds may be used for any non-construction purpose that assists the Homeowner to remain in, or return to, the County in which they lived prior to Superstorm Sandy. The grant amount is $10,000.

8.5. Getting to Resilience Survey [11]

Getting to Resilience A Community Planning Evaluation Tool

Section 1: Risk & Vulnerability Assessments

While the entire New Jersey shore is vulnerable to coastal hazards, the likelihood and severity of these hazards varies depending upon a community's geography and the integrity of its natural buffers. Risk and vulnerability assessments can inform municipal officials of vulnerable populations, businesses, infrastructure, and natural resources. They can also reveal the best location for future development or land acquisition. Simply identifying the risks and vulnerabilities within one's community often builds the knowledge and capacity for hazard avoidance and mitigation.

	Question	Yes	No	N/A	Clear
1.1	Are previous coastal hazards and disasters identified and mapped through historical information, existing plans and reports, scientific knowledge, and local knowledge?	●	○	○	x
1.2	Are hazard probability, frequency, magnitude, and duration defined?	●	○		x
1.3	Is coastal erosion and/or shoreline change identified as a hazard?	●	○	○	x
1.4	Is sea level rise identified as a hazard?	●	○	○	x
1.5	Are historic rates of sea level defined?	●	○	○	x
1.6	Are conditions defined that could amplify the impact of a hazard, like storm surge inundation at high tide or erosion rates on stabilized shorelines?	○	●	○	x
1.7	Are maps used to define the spatial extent of coastal hazards?	○	●		x

[11] This Survey completed with assistance from the City's Emergency Management Coordinator and Engineer.

	Question	Yes	No	N/A	Clear
	For example: • Flood Insurance Rate Maps (FIRMs) • Sea, Lake and Overland Surges from Hurricanes (SLOSH) • Shoreline Change Analysis • Cumulative Risk Assessment • Sea Level Rise Inundation Maps				
1.8	Are municipal planners or emergency managers trained in mapping the following risk mapping tools? • Flood Insurance Rate Maps (FIRMs) • Sea, Lake and Overland Surges from Hurricanes (SLOSH) • Shoreline Change Analysis • Cumulative Risk Assessment • Sea Level Rise Inundation Maps	○	●		x
1.9	Are emergency managers and planners aware of the potential flooding extents of the community?	●	○		x
1.10	Are emergency managers and planners aware of potential storm surge heights in the community?	●	○	○	x
1.11	Are local planners, emergency managers, and public works officials aware of the location of repetitive loss?	●	○		x
1.12	Does the municipality track repetitive loss properties within the National Flood Insurance Program?	●	○		x

	Question	Yes	No	N/A	Clear
1.13	Are maps used to spatially define vulnerabilities in relationship to risks? • Populations, e.g. elderly, children, poor, disabled • Buildings, e.g. business and residential • Infrastructure, e.g. roads, schools, wastewater treatment facilities, hospitals, public works • Natural Resources, e.g. freshwater wetlands, forests, beaches • Historical Resources, e.g. historic districts, properties and landmarks • Cultural Resources, e.g. libraries, museums • Economic Resources, e.g. major employers	◉	○		x
1.14	Is the majority of the community in a V or A-zone?	◉	○	○	x
1.14.1	Does the community contain lands within the Coastal Barrier Resource System?	○	◉	○	x
1.15	Has the municipality developed a build-out analysis using existing zoning ordinances?	○	◉		x
1.15.1	If so, has the build-out analysis been compared to the extent of storm surge scenarios?	○	○	◉	x
1.15.2	Has the build-out analysis been compared to various sea level rise scenarios?	○	○	◉	x
1.16	Have municipal employees utilized any of the following vulnerability assessment methodologies?	○	◉		x

	Question	Yes	No	N/A	Clear
	• Community Vulnerability Assessment Tool (CVAT) • Risk and Vulnerability Assessment Tool (RVAT) • Hazard Assessment Tool • HAZUS-MH				
1.17	Are municipal employees trained in the use of FEMA's HAZUS-MH?	○	●		x
1.18	Do any plans describe the damage and cost of previous storms, floods, or erosion?	●	○		x
1.19	Do any plans estimate future financial losses that may result from flooding?	○	●		x
1.20	Do any plans estimate future financial losses that may result from sea level rise?	○	●	○	x
1.21	Have risk and vulnerability assessments been shared with municipal planners, public works officials, transportation planners, and other appropriate municipal, county, or state officials? • Direct communication, e.g. email, mailers • Newspaper or Newsletter • Website • Public Presentations • Other	●	○		

8.6. Projects

Project Summary		
1. Applicant:	Ocean City	
2. County:	Cape May County	
3. a. Project Eligibility: Did the municipality participate in the Multi-Hazard Mitigation Planning Process?	X Yes ☐ No. If no, does the municipality have its own multi-Hazard mitigation plan? ☐ Yes ☐ No	
b. Is the mitigation strategy identified in your MHMP?	X Yes ☐ No (Action OC-25 in County HMP)	
4. a. Project Type:	☐ Flood Control ☐ Acquisition ☐ Elevation ☐ Planning X Other**	
b. Describe Other:	Emergency Alert and Warning System (OC-25), see reverse for additional details.	
5. a. Primary Point of Contact:	Mr. Frank Donato	
b. Title:	CFO	
c. Address:	861 Asbury Ave	
d. Phone:	609-525-9350	
e. Fax:	609-399-3779	
f. Email:	fdonato@ocnj.us	
6. Is the community a small and impoverished community as defined by the State Hazard Mitigation Plan (reference)?	☐ Yes X No	
7. a. Does your jurisdiction participate in the NFIP?		X Yes ☐ No
b. If so, does your jurisdiction participate in the Community Rating System (CRS)?		X Yes ☐ No
8. a. Do you have Flood Insurance?		X Yes ☐ No
b. If so, is this a repetitive loss property?		X Yes ☐ No
9. Cost Estimates*	Total Grant Request:	$520,000
*Cost estimates are rough estimates that are subject to change. Cost estimate sources can include but are not limited to RS Means, contractor estimates, historical data, etc.		
10. Endorsement: I understand that the local share of project funding will be 25% of the total project cost and that we will contribute [ ] all or [ ] seek funding elsewhere for the matching share of the mitigation project. Signed: _____ Date: _____ Title: _____		

Project Summary		
1. Applicant:	Ocean City	
2. County:	Cape May County	
3. a. Project Eligibility: Did the municipality participate in the Multi-Hazard Mitigation Planning Process?	X Yes ☐ No. If no, does the municipality have its own multi-Hazard mitigation plan? ☐ Yes ☐ No	
b. Is the mitigation strategy identified in your MHMP?	X Yes ☐ No (Action OC-29 in County Plan)	
4. a. Project Type:	☐ Flood Control ☐ Acquisition ☐ Elevation ☐ Planning X Other**	
b. Describe Other:	Elevation of Roadway (OC-29), see reverse and attachments for further details	
5. a. Primary Point of Contact:	Mr. Frank Donato	
b. Title:	CFO	
c. Address:	861 Asbury Ave	
d. Phone:	609-525-9350	
e. Fax:	609-399-3779	
f. Email:	fdonato@ocnj.us	
6. Is the community a small and impoverished community as defined by the State Hazard Mitigation Plan (reference)?	☐ Yes X No	
7. a. Does your jurisdiction participate in the NFIP?		X Yes ☐ No
b. If so, does your jurisdiction participate in the Community Rating System (CRS)?		X Yes ☐ No
8. a. Do you have Flood Insurance?		X Yes ☐ No
b. If so, is this a repetitive loss property?		X Yes ☐ No
9. Cost Estimates*	Total Grant Request:	$5,500,000
*Cost estimates are rough estimates that are subject to change. Cost estimate sources can include but are not limited to RS Means, contractor estimates, historical data, etc.		
10. Endorsement: I understand that the local share of project funding will be 25% of the total project cost and that we will contribute [ ] all or [ ] seek funding elsewhere for the matching share of the mitigation project. Signed: _____ Date: _____ Title: _____		

Project Summary		
1. Applicant:	Ocean City	
2. County:	Cape May County	
3. a. Project Eligibility: Did the municipality participate in the Multi-Hazard Mitigation Planning Process?	X Yes ☐ No. If no, does the municipality have its own multi-Hazard mitigation plan? ☐ Yes ☐ No	
b. Is the mitigation strategy identified in your MHMP?	X Yes ☐ No (Action OC-33, identified in 2012 annual plan update submitted to NJOEM)	
4. a. Project Type:	X Flood Control ☐ Acquisition ☐ Elevation ☐ Planning ☐ Other**	
b. Describe Other:	Bulkhead (OC-33) See reverse for further details.	
5. a. Primary Point of Contact:	Mr. Frank Donato	
b. Title:	CFO	
c. Address:	861 Asbury Ave	
d. Phone:	609-525-9350	
e. Fax:	609-399-3779	
f. Email:	fdonato@ocnj.us	
6. Is the community a small and impoverished community as defined by the State Hazard Mitigation Plan (reference)?	☐ Yes X No	
7. a. Does your jurisdiction participate in the NFIP?		X Yes ☐ No
b. If so, does your jurisdiction participate in the Community Rating System (CRS)?		X Yes ☐ No
8. a. Do you have Flood Insurance?		X Yes ☐ No
b. If so, is this a repetitive loss property?		X Yes ☐ No
9. Cost Estimates*	Total Grant Request:	$21,000,000
*Cost estimates are rough estimates that are subject to change. Cost estimate sources can include but are not limited to RS Means, contractor estimates, historical data, etc.		
10. Endorsement: I understand that the local share of project funding will be 25% of the total project cost and that we will contribute [ ] all or [ ] seek funding elsewhere for the matching share of the mitigation project. Signed: _____ Date: _____ Title: _____		

Project Summary		
1. Applicant:	Ocean City	
2. County:	Cape May County	
3. a. Project Eligibility: Did the municipality participate in the Multi-Hazard Mitigation Planning Process?	X Yes ☐ No. If no, does the municipality have its own multi-Hazard mitigation plan? ☐ Yes ☐ No	
b. Is the mitigation strategy identified in your MHMP?	X Yes ☐ No (Action OC-38, identified in 2012 annual plan update submitted to NJOEM)	
4. a. Project Type:	X Flood Control ☐ Acquisition ☐ Elevation ☐ Planning ☐ Other**	
b. Describe Other:	Bulkhead and Pump Station (OC-38) See reverse for further project details.	
5. a. Primary Point of Contact:	Mr. Frank Donato	
b. Title:	CFO	
c. Address:	861 Asbury Ave	
d. Phone:	609-525-9350	
e. Fax:	609-399-3779	
f. Email:	fdonato@ocnj.us	
6. Is the community a small and impoverished community as defined by the State Hazard Mitigation Plan (reference)?	☐ Yes X No	
7. a. Does your jurisdiction participate in the NFIP?		X Yes ☐ No
b. If so, does your jurisdiction participate in the Community Rating System (CRS)?		X Yes ☐ No
8. a. Do you have Flood Insurance?		X Yes ☐ No
b. If so, is this a repetitive loss property?		X Yes ☐ No
9. Cost Estimates*	Total Grant Request:	$23,800,000
*Cost estimates are rough estimates that are subject to change. Cost estimate sources can include but are not limited to RS Means, contractor estimates, historical data, etc.		
10. Endorsement: I understand that the local share of project funding will be 25% of the total project cost and that we will contribute [ ] all or [ ] seek funding elsewhere for the matching share of the mitigation project. Signed: _____ Date: _____ Title: _____		

Project Summary		
1. Applicant:	Ocean City	
2. County:	Cape May County	
3. a. Project Eligibility: Did the municipality participate in the Multi-Hazard Mitigation Planning Process?	X Yes ☐ No. If no, does the municipality have its own multi-Hazard mitigation plan? ☐ Yes ☐ No	
b. Is the mitigation strategy identified in your MHMP?	X Yes ☐ No (Action OC-40, identified in 2012 annual plan update submitted to NJOEM)	
4. a. Project Type:	X Flood Control ☐ Acquisition ☐ Elevation ☐ Planning ☐ Other**	
b. Describe Other:	Bulkhead and Pump Station - (OC-40) See reverse for additional project details	
5. a. Primary Point of Contact:	Mr. Frank Donato	
b. Title:	CFO	
c. Address:	861 Asbury Ave	
d. Phone:	609-525-9350	
e. Fax:	609-399-3779	
f. Email:	fdonato@ocnj.us	
6. Is the community a small and impoverished community as defined by the State Hazard Mitigation Plan (reference)?	☐ Yes X No	
7. a. Does your jurisdiction participate in the NFIP?		X Yes ☐ No
b. If so, does your jurisdiction participate in the Community Rating System (CRS)?		X Yes ☐ No
8. a. Do you have Flood Insurance?		X Yes ☐ No
b. If so, is this a repetitive loss property?		X Yes ☐ No
9. Cost Estimates*	Total Grant Request:	$19,800,000
*Cost estimates are rough estimates that are subject to change. Cost estimate sources can include but are not limited to RS Means, contractor estimates, historical data, etc.		
10. Endorsement: I understand that the local share of project funding will be 25% of the total project cost and that we will contribute [ ] all or [ ] seek funding elsewhere for the matching share of the mitigation project. Signed: _____ Date: _____ Title: _____		

Project Summary		
1. Applicant:	Ocean City	
2. County:	Cape May County	
3. a. Project Eligibility: Did the municipality participate in the Multi-Hazard Mitigation Planning Process?	X Yes ☐ No. If no, does the municipality have its own multi-Hazard mitigation plan? ☐ Yes ☐ No	
b. Is the mitigation strategy identified in your MHMP?	X Yes ☐ No (Action OC-48)	
4. a. Project Type:	X Flood Control ☐ Acquisition ☐ Elevation ☐ Planning ☐ Other**	
b. Describe Other:	Bulkhead and Pump Station - See reverse for additional project details	
5. a. Primary Point of Contact:	Mr. Frank Donato	
b. Title:	CFO	
c. Address:	861 Asbury Ave	
d. Phone:	609-525-9350	
e. Fax:	609-399-3779	
f. Email:	fdonato@ocnj.us	
6. Is the community a small and impoverished community as defined by the State Hazard Mitigation Plan (reference)?	☐ Yes X No	
7. a. Does your jurisdiction participate in the NFIP?		X Yes ☐ No
b. If so, does your jurisdiction participate in the Community Rating System (CRS)?		X Yes ☐ No
8. a. Do you have Flood Insurance?		X Yes ☐ No
b. If so, is this a repetitive loss property?		X Yes ☐ No
9. Cost Estimates*	Total Grant Request:	$25,800,000
*Cost estimates are rough estimates that are subject to change. Cost estimate sources can include but are not limited to RS Means, contractor estimates, historical data, etc.		
10. Endorsement: I understand that the local share of project funding will be 25% of the total project cost and that we will contribute [ ] all or [ ] seek funding elsewhere for the matching share of the mitigation project. Signed: _____ Date: _____ Title: _____		

Project Summary		
1. Applicant:	Ocean City	
2. County:	Cape May County	
3. a. Project Eligibility: Did the municipality participate in the Multi-Hazard Mitigation Planning Process?	X Yes ☐ No. If no, does the municipality have its own multi-Hazard mitigation plan? ☐ Yes ☐ No	
b. Is the mitigation strategy identified in your MHMP?	☒ Yes ☐ No	
4. a. Project Type:	☐ Flood Control ☐ Acquisition X Elevation ☐ Planning ☐ Other**	
b. Describe Other:	Elevation of Homes (Action OC-1a in County HMP)	
5. a. Primary Point of Contact:	Mr. Frank Donato	
b. Title:	CFO	
c. Address:	861 Asbury Ave	
d. Phone:	609-525-9350	
e. Fax:	609-399-3779	
f. Email:	fdonato@ocnj.us	
6. Is the community a small and impoverished community as defined by the State Hazard Mitigation Plan (reference)?	☐ Yes X No	
7. a. Does your jurisdiction participate in the NFIP?		X Yes ☐ No
b. If so, does your jurisdiction participate in the Community Rating System (CRS)?		X Yes ☐ No
8. a. Do you have Flood Insurance?		X Yes ☐ No
b. If so, is this a repetitive loss property?		X Yes ☐ No
9. Cost Estimates*	Total Grant Request:	$72,770,000
*Cost estimates are rough estimates that are subject to change. Cost estimate sources can include but are not limited to RS Means, contractor estimates, historical data, etc.		
10. Endorsement: I understand that the local share of project funding will be 25% of the total project cost and that we will contribute [ ] all or [ ] seek funding elsewhere for the matching share of the mitigation project. Signed: _____ Date: _____ Title: _____		

Subgrant Project Application

Application Title: Ocean City PDM - North Pump

Subgrant Applicant: City of Ocean City

Application Number: NJ-2011-036

Application Year: 2011

Grant Type: Project Application

Address: 861 Asbury Avenue, Ocean City, NJ 08226-3624

Subapplicant Information
Name of Subapplicant Ocean City Office of Emergency Management
State NJ
Type of Subapplicant Local Government
Legal status, function, and facilities owned:
State Tax Number:
21-6000952
Federal Tax Number:
21-6000952
Other type name:
Federal Employer Identification (EIN) 21-6000952
What is your DUNS Number? 030312524 -
Is Subapplication subject to review by Executive Order 12372 Process? No. Program is not covered by E.O. 12372
Is the Subapplicant delinquent on any Federal debt? No
Explanation:
https://eservices.
Scope of Work (Page 1 of 3)
Title of your proposed activity (should include the type of activity and location):
Ocean City PDM - North Pump
Hazard(s) Identified to be mitigated:
Hurricane, Coastal Storm, Severe Storm(s), Flood
Proposed types of Mitigation Activity(ies):
Activity Code Activity Name
405.1 Other Minor Flood Control
If Other or Miscellaneous selected above, please specify: Consolidation of stormwater piping and addition of a pump station
Provide a clear and detailed description of your proposed activity:
The City proposes to install a pump station on 3rd Street between Haven Avenue and Simpson Avenue to assist in the discharge of rain water from 1st Street to the 8th Street and from the Bay Bulkhead to Atlantic Avenue. In order to accomplish this, the drainage systems for 2nd Street, 3rd Street, 4th Street, 5th Street, 6th Street, and 7th Street will need to be partially reconstructed and rerouted to the pump station. On 7th Street the drainage system will be reconstructed west of Haven Avenue and redirected back to Haven Avenue. Then a 42” pipe will be installed in the 600 block of Haven Avenue directing the storm water to 6th Street. On 6th Street the drainage system will be reconstructed west of Haven Avenue and redirected back to Haven Avenue. Then dual 42” pipes will be installed on the access path between the Primary School and the ballfields directing the storm water to 5th Street. On 5th Street the drainage system will be reconstructed west of Simpson Avenue and redirected back to Simpson Avenue. The dual 42” pipes from 6th Street will be installed in 5th Street heading west to Simpson Avenue. Appropriately sized pipes will be installed on Simpson Avenue directing the storm water to 4th Street. Exact pipe sizing may be altered after survey data is compiled so as not to conflict with utilities. For estimating purposes three 42” pipes were used. On 4th Street the drainage system will be reconstructed west of Simpson Avenue and redirected back to Simpson Avenue. Appropriately sized pipes will be installed on Simpson Avenue directing the storm water to 3rd Street. Exact pipe sizing may be altered after survey data is compiled so as not to conflict with utilities. For estimating purposes four 42” pipes were used. On 3rd Street the drainage system will be reconstructed west of West Avenue and redirected back to Simpson Avenue. An underground pump station will be installed within the road of 3rd Street between Simpson Avenue and Haven Avenue. The pump station will have redundancy of pumps so that at least one pump can be taken off line for service or repair without compromising the capacity of the system. Electrical controls and emergency generator systems will be located on the City owned property at the north west corner of 3rd Street and Haven Avenue. A forced main will be installed on 3rd Street directing water out the 3rd Street bulkhead. On 2nd Street the drainage system will be reconstructed west of Haven Avenue and redirected back to Simpson Avenue. Appropriately sized pipes will be installed on Simpson Avenue directing the storm water to 3rd Street.

Exact pipe sizing may be altered after survey data is compiled so as not to conflict with utilities. For estimating purposes four 42” pipes were used. All roads being disrupted by drainage installation will we repaved from curb to

curb with concrete gutter being installed to improve surface drainage. Minor curb, sidewalk, and driveway replacement will be performed as necessary to allow for proper drainage from private properties to the street.
Is there construction in this project? Y

Provide a detailed description of the proposed project's location (e.g. municipality, street address, major intersecting streets and other important landmarks). Supporting documentation such as maps that clearly identify the location and critical features to the project such as topography, waterways, adjacent community boundaries, etc., should be attached:

The subject portion of Ocean City lies between 1st Street to the north, 8th Street to the south, and from West Avenue on the east to the bayfront on the west (see Attached "Project Location Map - North Pump.pdf). As early as 1899, curb grade elevations were established in this section of the island. Elevations generally followed the lay of the land with higher elevations occurring along the eastern part of the island near the oceanfront, and descending grades occurring toward the western part of the island. A low point was created along West Avenue from 1st to 8th Streets. Over time and City expansion, this low point became established along the center of the developed portion of the island with no natural outlet for storm water in this portion of the City. The area of concern in the City is depicted on the Ocean City NFIP community panel 3453100001C (panel 1 of 4). Selected portions of the City of Ocean City, March 1984 Flood Insurance Study, and a FEMA FIRMettes covering the project area are attached ("Excerpts from OC NFIP FIS.pdf" and "Ocean City Firmette - North Pump.pdf"). This project area lies along Transect 7 in the FIS, within an NFIP flood “A7” zone. This 254-acre area has over 900 developed properties (primarily residential) with 70 Repetitive and Severe Repetitive properties. Both Bay Avenue (County Route 656) and West Avenue are major north-south connectors, and Emergency Snow Routes. Bay Avenue is the sole evacuation route serving this portion of the City. The storm water system in this section of the City consists of multiple individual drainage areas culminating in bayfront outfalls at each of the numbered streets. The City accomplished a Master Drainage Study in 1984. It recommended the installation of Tideflex valves at each of the bayfront outfalls.

The installations were completed and have not performed as well as expected over the past twenty years. Generally, due to the flat topography and the tidal back pressure, rainwater cannot effectively drain from the street through Tideflex and then the outfall. These elastomer tide check valves sag over time due to their own weight and water cantilevering out over the connection points. Thus tide water is not effectively prohibited from entering the pipe system and overflowing the streets. Flooding is routinely experienced twice a month at times of lunar high tide, particularly at the intersections of 2nd, 3rd, 4th, 5th, 6th, and 7th Streets with West Avenue and Haven Avenue, where the roads are impassable for several hours during the high of each tidal cycle (estimated at an average of 3 hours per month), and residents and businesses on these road sections are denied access to their properties. Precipitation during lunar high tides exacerbates the situation, extending both the areal extent and duration of these local road closures. Coastal storm events obviously result in far greater flood impacts. The 10-year storm event where flood levels are generally at 5’ NAVD88 results in all roads sections from 2nd to 8th, and from West Avenue to the bayfront being closed for several tidal cycles, with all properties being denied access. In recent history, the fast moving tropical storm remnants of Atlantic hurricanes have been less of an issue than the more frequent Nor’Easters that may linger over the area for days, holding tidal levels high while dumping heavy precipitation on the area. It is noted that the actual frequency of coastal storm events in recent history far exceed the NFIP-identified return intervals based on flood elevations.

Scope of Work (Page 2 of 3)
Latitude:
39.28575
Longitude:
-74.57126
Describe the need for this activity. Why should this mitigation activity be completed?
As early as 1899, curb grade elevations were established in this section of the island. Elevations generally followed the lay of the land with higher elevations occurring along the eastern part of the island near the oceanfront, and descending grades occurring toward the western part of the island. A low point was created along West Avenue from 1st to 8th Streets. Over time and City expansion, this low point became established along the center of the developed portion of the island with no natural outlet for storm water in this portion of the City. This 254-acre area has over 900 developed properties primarily residential) with 70 Repetitive and Severe Repetitive properties. Both Bay Avenue and West Avenue are major north-south connectors, and Emergency Snow Routes. Bay Avenue is the sole evacuation route serving this portion of the City. The storm water system in this section of the City consists of multiple individual drainage areas culminating in bayfront outfalls at each of the numbered streets. The City accomplished a Master Drainage Study in 1984. It recommended in the installation of Tideflex valves at each of the bayfront outfalls. The installations were completed and have not performed as well as expected over the past twenty years. Generally, due to the flat topography and the tidal back pressure, rainwater cannot effectively drain from the street through Tideflex and then the outfall. These elastomer tide check valves sag over time due to their own weight and water cantilevering

out over the connection points. Thus tide water is not effectively prohibited from entering the pipe system and overflowing the streets. Flooding is routinely experienced twice a month at times of lunar high tide, particularly at the intersections of 2nd, 3rd, 4th, 5th, 6th, and 7th Streets with West Avenue and Haven Avenue, where the roads are impassable for several hours during the high of each tidal cycle (estimated at an average of 3 hours per month), and residents and businesses on these road sections are denied access to their properties. Precipitation during lunar high tides exacerbates the situation, extending both the areal extent and duration of these local road closures. Coastal storm events obviously result in far greater flood impacts. The 10-year storm event where flood levels are generally at 5' NAVD88 results in all roads sections from 2nd to 8th, and from West Avenue to the bayfront being closed for several tidal cycles, with all properties being denied access. In recent history, the fast moving tropical storm remnants of Atlantic hurricanes have been less of an issue than the more frequent Nor'Easters that may linger over the area for days, holding tidal levels high while dumping heavy precipitation on the area. It is noted that the actual frequency of coastal storm events in recent history far exceed the NFIP-identified return intervals based on flood elevations.

Who will the mitigation activity benefit and/or impact?
This initiative will fully mitigate the chronic lunar high-tide monthly flooding that closes West Avenue and the cross streets of 2nd through 7th. The project will further mitigate flooding and associated street closures up to the 10-year flood level, where currently the entire project area is flooded and the sole evacuation route is impassable. The project is designed to have the capacity to remove water from the project area up to the point that the lowest level back bay bulkheads are overtopped. The minimum bulkhead level in this area is approximately 5' NAVD88 (6.3' NGVD29), which corresponds to the 10-year Stillwater Elevation identified in the National Flood Insurance Program (NFIP) Flood Insurance Study (FIS) for Ocean City, NJ, dated March 5, 1984. The pipe and pump sizing has been determined to be able to fully mitigate roadway flooding and resulting closures in the project area up to the 4' NAVD88 flood level (~5 year return interval). At the 5' NAVD88 (10-year) flood level, the proposed project will lower roadway flooding to approximately the areal extent of that currently experienced during lunar high tide cycles, however of shorter duration. The proposed project is not designed to generally address local flood impacts for flooding exceeding 5' NAVD88, at which point the lowest bulkheading along the back bay will be overtopped, however the proposed system will de-water the area far quicker once flood levels subside to the 5' NAVD88 elevation.

Total Project Cost Estimate: $ 8,202,895.00
https://eservices.
Cost Share
Activity Cost Estimate $ 8,202,895.00
Federal Share Percentage 36.49930921%
Non-Federal Share Percentage 63.50069079%
Dollars Percentage
Proposed Federal Share $ 2,994,000.01 36.49930921%
Proposed Non-Federal Share $ 5,208,894.99 63.50069079%
Non-Federal Funds

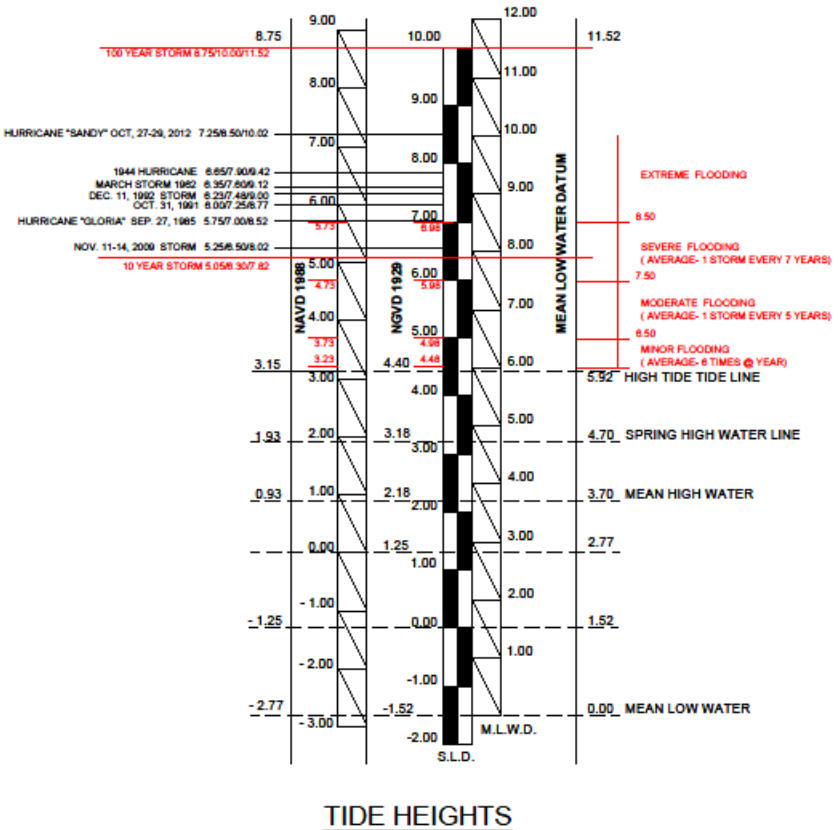
Source Agency Name of Source Agency	Funding Type	Amount ($)	Action
Local Agency Funding City Capital Improvements Budget	Cash	$ 5,208,894.99	View Details
Grand Total		**$ 5,208,894.99**	

8.7. Record Flood Levels

Ocean City Record Flood Levels					
Date	**Storm Name**	**NAVD1988**	**MLW**	**NGVD1929**	**Notes**
10/29/12	Superstorm Sandy	7.25	10.02	8.50	Hybrid Cat 1 hurricane/winter storm makes landfall 12 miles north of O.C. on full-moon tide. 6.72 inches of rain in Beesley's Point. Top O.C. wind gust 70.2 mph. But calm winds in eye of storm spare O.C. during highest tide.
9/15/44	1944 Hurricane	6.65	9.42	7.90	Cat 2 hurricane destroys Jersey Shore on way to landfall on Long Island.
3/6/62 to 3/8/62	Storm of '62	6.35	9.12	7.60	Three-day nor'easter batters Ocean City with 25-foot seas and 80+ mph winds.
12/11/92	December '92 Nor'easter	6.23	9.00	7.48	Slow-moving nor'easter with 80 mph winds caused the most flooding since the Storm of '62.
10/31/91	The Perfect Storm	6.00	8.77	7.25	Author Sebastian Junger dubbed the merger of Hurricane Grace and a massive nor'easter "The Perfect Storm." It destroyed parts of the boardwalk in Ocean City.
9/27/85	Hurricane Gloria	5.75	8.52	7.00	Cat 1 hurricane hits the Outer Banks then Long Island
11/11/09 to 11/14/09	November 2009 Nor'easter	5.25	8.02	6.50	Three-day nor'easter levels dunes at the north end of the island

2014-2015 Storms						
Date	**Storm Name**	**NAVD1988**	**MLW**	**Rainfall**	**Wind**	**Notes**
12/9/14	December	4.52	7.29	2.08	36	Flooding from a winter nor'easter

Ocean City Record Flood Levels						
Date	**Storm Name**	**NAVD1988**	**MLW**	**NGVD1929**		**Notes**
	2014 Nor'easter					closed Ocean City schools — but heavy overnight rain stopped before morning high tide.
1/27/15	Winter Storm Juno	3.81	6.58	0.25	25	Much-hyped winter storm passed farther out to sea than originally predicted.



8.8. Sea Level Rise and Coastal Flood Risk

SEA LEVEL RISE AND COASTAL FLOOD RISK FOR OCEAN CITY, NJ

SUPPORTING MATERIALS
Findings from Surging Seas (SurgingSeas.org), a project of Climate Central (climatecentral.org)
For detailed methodology, see SurgingSeas.org/NationalReport and references therein
Data sources: NOAA, USGS, USFWS, US Census

CITATION
Climate Central (2012). Surging Seas Data Table. Retrieved from SurgingSeas.org/downloadables, based on methodology from SurgingSeas.org/NationalReport. Last updated February 2012.

FILE DETAILS
File creation date: 2012-03-14
File name: NJ_Ocean_City.xls
File URL: slr.s3.amazonaws.com/downloadables/NJ_Ocean_City.zip
Map URL: http://sealevel.climatecentral.org/surgingseas/place/cities/NJ/Ocean_City

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NOTES
- Population and housing findings are based on population and housing on land below stated elevation thresholds, and do not make adjustments for multistory housing
- Land percentages based upon total city area after applying land definition filters used in this study, not upon total area reported by Census
- "Total land" includes freshwater wetland areas as demarked by the National Wetlands Inventory; "dry land" does not.

Flood study station nearest to Ocean City: Atlantic City - Atlantic Ocean
Distance from Ocean City centroid to Atlantic City - Atlantic Ocean: 11 miles

Estimated flood probabilities by level and decade from Atlantic City - Atlantic Ocean at:
slr.s3.amazonaws.com/downloadables/8534720.zip

	Elevation above local mean high tide									
	1ft	**2ft**	**3ft**	**4ft**	**5ft**	**6ft**	**7ft**	**8ft**	**9ft**	**10ft**
Population below elevation	149	428	1,268	2,120	3,762	7,170	11,424	11,677	11,677	11,678
Percent population below elevation	1%	4%	11%	18%	32%	61%	98%	100%	100%	100%
Housing units below elevation	159	584	2,602	4,573	7,781	13,519	20,284	20,825	20,828	20,830
Percent housing units below elevation	1%	3%	12%	22%	37%	65%	97%	100%	100%	100%
Total land below elevation (acres)	66	136	455	745	1,107	1,652	2,348	2,417	2,417	2,418
Percent total land below elevation	3%	6%	19%	31%	46%	68%	97%	100%	100%	100%
Dry land below elevation (acres)	51	105	366	631	983	1,528	2,222	2,291	2,292	2,292
Percent dry land below elevation	2%	5%	16%	28%	43%	67%	97%	100%	100%	100%
Information below pertains to nearest flood study station (Atlantic City - Atlantic Ocean)										
Decade by which there are at least 1 in 6 odds of flooding to elevation	2020	2020	2020	2020	2030	2050	2070	2090	>2100	>2100
Decade by which there are at least 1 in 2 odds of flooding to elevation	2020	2020	2020	2020	2050	2070	2090	>2100	>2100	>2100

8.9. Potential Funding Sources

- **Homeowner Resettlement Program:** A total of $180,000,000 in federal funds has been allocated to support the Homeowner Resettlement Program, which was designed to encourage homeowners to remain in the nine counties (Atlantic, Bergen, Cape May, Essex, Hudson, Middlesex, Monmouth, Ocean, and Union) that were most severely impacted by Hurricane Sandy. The funds may be used for any non-construction purpose that assists the homeowner to remain in, or return to, the county in which they lived prior to Hurricane Sandy. The grant amount is $10,000. This is a Community Development Block Grant Disaster Recovery Program.
- **Homeowner Reconstruction, Rehabilitation, Elevation, and Mitigation Program:** A total of $600,000,000 in federal funds has been allocated to help eligible primary homeowners repair or rebuild homes impacted by Hurricanes Sandy. The Homeowner Reconstruction, Rehabilitation, Elevation, and Mitigation program will assist homeowners in rehabilitation, reconstruction, elevation, and mitigation so that they can do the necessary work on their homes to make them livable and comply with requirements for structures located in flood plains. The program provides grants to eligible homeowners of up to $150,000. The Homeowner Reconstruction, Rehabilitation, Elevation, and Mitigation program is intended to "fill the gap" between the total cost of repairs and all other funds the owner has received to repair the structure. This is a Community Development Block Grant Disaster Recovery Program.
- **Landlord Rental Repair Program:** This program provides up to $50,000 per unit in grant funding assistance to eligible owners of rental properties with up to 25 units. The Small Rental Properties/Landlord Rental Repair program will provide funds to help rental property owners restore their properties through rehabilitation, reconstruction, elevation, and mitigation. The program is intended to help existing owners restore their properties and receive reimbursement for eligible building expenses that have been incurred by owners prior to its implementation, but which have not paid for by other programs. This is a Community Development Block Grant Disaster Recovery Program.
- **Neighborhood Enhancement Program:** This program provides funding to stabilize "threatened but viable" neighborhoods, through the creation of affordable housing. The program is intended to be a tool used by local plans to invest in and rebuild these communities. It funds the rehabilitation or reuse of abandoned, foreclosed, and vacant housing, structures, or lots, and addresses the shortage of affordable housing caused by the storm while returning blighted buildings to viability. The program provides zero percent loans to eligible

entities that will create for sale or rental housing units through rehabilitation or redevelopment. Initial occupancy of the units developed under this program is restricted to households earning no more than 80 percent of the area's medium income, as defined by the United States Department of Housing and Urban Development. A total of $30,000,000 has been allocated to this program. This is a Community Development Block Grant Disaster Recovery Program.

- **Hazard Mitigation Grant Program — Elevation Program:** This is a $100 million reimbursement grant program that has been established to assist homeowners to elevate their properties after Hurricane Sandy. The program provides up to $30,000 to eligible homeowners to elevate their primary, single-family residences. The New Jersey standard is to elevate residential structures one foot higher than the advisory base flood elevation. This reduces the risk of damage to the property and its contents in the event of major flooding. It may also provide a significant reduction in flood insurance premiums compared to a structure that is not elevated. This is a program of the Federal Emergency Management Agency (FEMA).
- **Small Business Administration Disaster Loan Program:** The United States Small Business Administration provides low-interest disaster loans to homeowners, renters, businesses of all sizes, and most private nonprofit organizations. Disaster loans can be used to repair or replace the following items damaged or destroyed in a declared disaster: real estate; personal property; machinery and equipment; and, inventory and business assets.

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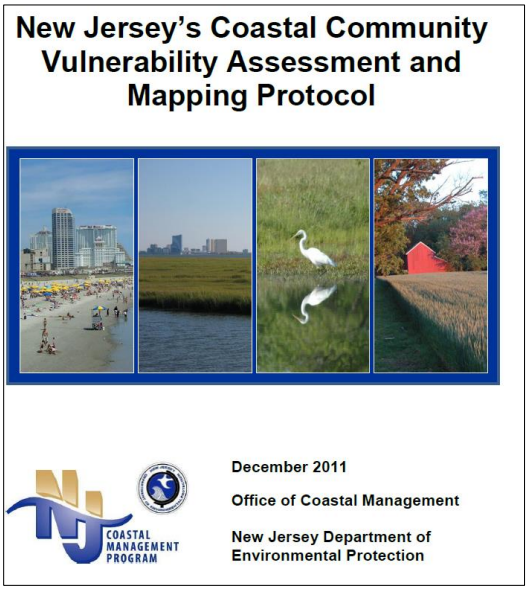

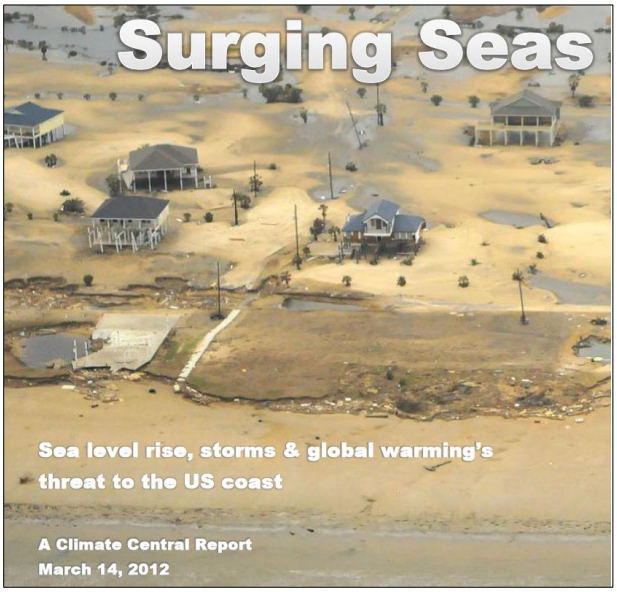

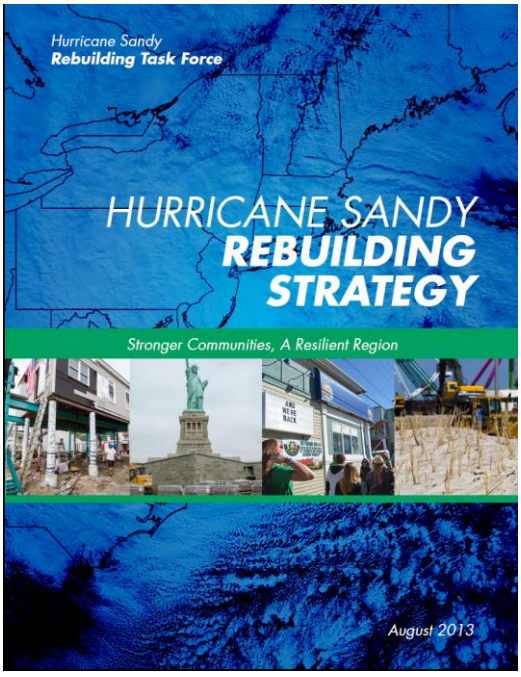

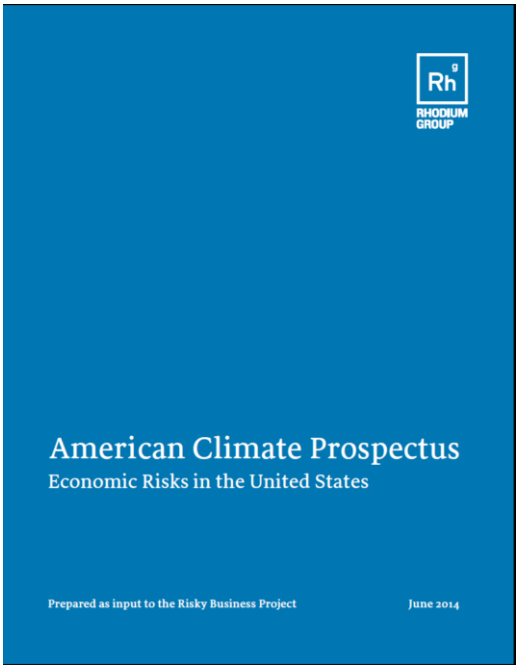

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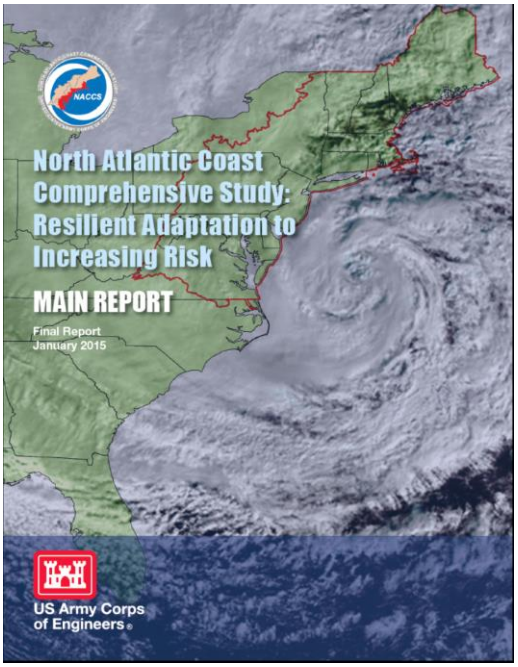
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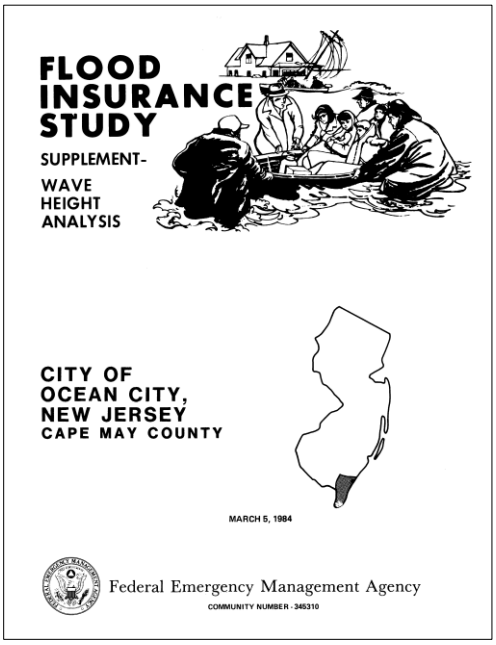
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