



## *6.* MITIGATION STRATEGIES

## SECTION 6 MITIGATION STRATEGY

The Mitigation Strategy outlined in Section 6 of this Plan is New Jersey's blueprint for reducing potential future losses from hazards. The Mitigation Strategy provides information to guide State decision making regarding the protection of critical State facilities. State mitigation strategies also guide local hazard mitigation planning. The Mitigation Strategy consists of:

- A description of the State's hazard mitigation goals and objectives to guide the selection of activities that will mitigate identified hazards and reduce future losses
- Strategies that will lead to the identification, evaluation, and prioritization of mitigation actions and activities
- Strategies that will lead to the identification of current and future sources of federal, State, local, and private funding to implement mitigation activities

### 6.1 GOALS AND OBJECTIVES

*44 CFR 201.4(c)(3)(i): A description of State goals to guide the selection of activities to mitigate and reduce potential losses.*

*44 CFR 201.4(d): Plan must be reviewed and revised to reflect changes in development, progress in statewide mitigation efforts, and changes in priorities*

For this State Hazard Mitigation Plan (HMP) update, SHMP planning process participants determined that all of the 2014 mitigation goals continue to align with the State's priority to reduce potential future losses from hazards. The 2014 goals were compared to goals used in the local jurisdiction HMPs, as discussed in Section 3, Coordination of Local Planning. Table 6-1 compares the goals of the 2014 State HMP with goals presented in local county HMPs. Overall, many of the local HMP goals aligned with the State HMP goals. With the new Risk Assessment Template all local HMP goals will align with the State HMP goals by the next plan iteration.

**Table 6-1 Comparison of State Goals to Local County Hazard Mitigation Plan Goals**

County	State HMP Goals				
	Protect Life	Protect Property	Increase public understanding of risks from natural hazards	Enhance capabilities to make New Jersey less vulnerable to hazards	Post-Disaster
Atlantic	x	x	x	x	x
Bergen	x	x	x		
Burlington	x	x	x	x	x
Camden	x	x	x	x	x
Cape May	x	x	x	x	x
Cumberland	x	x	x	x	x
Essex	x	x	x	x	x
Gloucester	x	x	x	x	x

County	State HMP Goals				
	Protect Life	Protect Property	Increase public understanding of risks from natural hazards	Enhance capabilities to make New Jersey less vulnerable to hazards	Post-Disaster
Hunterdon	x	x	x	x	x
Hudson	x	x	x		x
Mercer	x	x	x	x	x
Middlesex	x	x	x	x	x
Monmouth	x	x	x	x	x
Morris	x	x	x	x	x
Ocean	x	x	x	x	x
Passaic	x	x	x	x	x
Salem	x	x	x	x	x
Somerset	x	x	x		x
Sussex	x	x	x	x	x
Union	x	x	x	x	x
Warren	x	x	x	x	x

On November 1, 2013, the New Jersey Office of Emergency Management (NJOEM) submitted an amendment to the 2011 Plan to Federal Emergency Management Agency (FEMA) Region 2. The amendment proposed that information be added to the Plan regarding the energy and retail fuel resiliency for the State of New Jersey, which will be funded and implemented through the Energy Allocation Initiative and the Sandy HMGP 5% initiative. As part of the amendment, the goals and objectives were revisited, and the following goal and corresponding objectives were added as well. However, it was noted in the amendment that the New Jersey State HMP was currently going through an update process and that this goal and the corresponding objectives would be further refined.

Goal 6 – Continue to enhance and strengthen local mitigation capabilities:

- Support and provide guidance for local hazard mitigation planning and projects.
- Provide technical assistance and training to local governments.
- Encourage the adoption, improvement, and enforcement of local codes, ordinances, and land use planning.
- Ensure integration of mitigation principles and concepts into existing planning mechanisms, codes, and ordinances.
- Encourage planning and the implementation of alternative energy sources, i.e., green initiatives, Leadership in Energy and Environmental Design (LEED) certification.
- Identify and/or provide financial incentives and funding opportunities

In the previous 2014 State HMP the SHMT refined the goals and objectives and incorporated Goal 6. Goal 6 was added to reflect the State's priorities in supporting the continuity of operations before, during, and following hazard events and preventing loss and suffering post disaster by facilitating rapid recovery and building operational resiliency. Goal 5 was reworded; however, the essence of the goal remained the same.

Table 6-2 Goals and Objectives of the State Hazard Mitigation Plan

GOAL	OBJECTIVE
Goal 1: Protect life	1.1: Improve warning and emergency communications systems 1.2: Effectively address hazard mitigation issues, laws, and regulations 1.3: Reduce the impacts of hazards on vulnerable populations 1.4: Strengthen State and local planning, building codes, ordinances, and enforcement
Goal 2: Protect property	2.1: Protect critical facilities 2.2: Reduce repetitive and severe repetitive losses 2.3: Implement hazard mitigation policies to protect environmental resources that serve a natural hazard mitigation function 2.4: Encourage cost-effective and environmentally-sound development and land use
Goal 3: Increase public preparedness and awareness	3.1: Improve public awareness of hazards and the risks they pose 3.2: Improve hazard information databases and maps and increase accessibility to those resources 3.3: Enhance stakeholder education and training
Goal 4: Develop and maintain an understanding of risks from hazards	4.1: Review and incorporate updated hazard data into the State Hazard Mitigation Plan 4.2: Increase support for the development of local mitigation planning and projects 4.3: Incorporate new FEMA guidance, rules, and regulations into the Plan 4.4: Update the Plan from lessons learned on the national level
Goal 5: Enhance State and local mitigation capabilities to reduce hazard vulnerabilities	5.1: Monitor the progress of on-going mitigation activities by State agencies 5.2: Provide current information, technical assistance, and incentives for mitigation planning and actions 5.3: Encourage the formation of partnerships to leverage and share mitigation resources 5.4: Integrate the State Hazard Mitigation Plan with other State and regional planning initiatives 5.5: Incentivize best practices through mitigation planning
Goal 6: Support continuity of operations pre-, during, and post- hazard events	6.1: Ensure continuity of operations of government, non-government, commerce, private sector, and infrastructure 6.2: Increase resiliency by facilitating rapid disaster recovery 6.3: Encourage planning and the implementation of alternative energy sources

To accomplish the State goals through the mitigation strategy, New Jersey will use the following approach:

- Recognize flooding as the major disaster threat facing the State and use mitigation methods such as building elevation or land acquisition between a voluntary seller and a public agency as a means to accomplish all of the goals and objectives (with additional Repetitive Loss Strategy information discussed in Section 8).
- Another means of accomplishing the State goals is to offer assistance in the elevation of homes where or when acquisition is not an option.

- Work with county and municipal governments that have an approved local mitigation plan or plans that are nearing completion to develop sound and beneficial projects to alleviate the impacts of all-natural disasters, including but not limited to flooding.
- Cooperative focused efforts to address energy and retail fuel resiliency, and continuity of operations
- Coordinated funding efforts
- Incentivizing best practices through the creation and prioritization of mitigation actions

## 6.2 STATE CAPABILITY ASSESSMENT

*44 CFR 201.4(c)(3)(ii): The State mitigation strategy shall include 'A discussion of the State's pre- and post-disaster hazard management policies, programs, and capabilities to mitigate the hazards in the area, including: an evaluation of State laws, regulations, policies, and programs related to hazard mitigation as well as to development in hazard-prone areas [and] a discussion of State funding capabilities for hazard mitigation projects...*

The State capability assessment presents the State's pre- and post-disaster management policies, programs, and capabilities, an analysis of State funding opportunities to directly support hazard mitigation, and a summary of new programs and changes in State capabilities. Also included in this assessment are analyses of agency capabilities to initiate support and or implement mitigation programs and activities.

Many departments, agencies, and private organizations perform roles valuable to State government disaster resistance and mitigation efforts. Some seemingly unrelated programs are often complimentary to reducing the human and economic cost of disasters. One of the goals of the State Hazard Mitigation Plan and the State of New Jersey is to educate people in both the public and private sectors on the importance of mitigation. The State continually reaches out to residents and business groups concerning mitigation best practices and how-to guidelines.

Training and education are essential to New Jersey's ability to respond to hazards and must remain a priority within budgetary constraints. Public education reduces the burden on the State by increasing citizen capacity. New Jersey is an active member of the National Citizen Corps program with over 10,000 volunteers in 208 communities. The mission of Citizen Corps is to harness the power of every individual through education, training, and volunteer service to make communities safer, stronger, and better prepared to respond to natural and human-caused disasters.

### 6.2.1 PRE- AND POST-DISASTER HAZARD MANAGEMENT ORGANIZATION, POLICIES, PROGRAMS AND CAPABILITIES

New Jersey's statewide hazard mitigation effort is centered in the NJOEM, located in the Division of State Police in the New Jersey Department of Law and Public Safety. NJOEM provides administrative support to participants of the SHMP planning process.

A number of federal and State programs support hazard mitigation in New Jersey. The Governor's Office of Recovery and Rebuilding (GORR) was established to lead the recovery efforts after Superstorm Sandy. The GORR taps the institutional knowledge and bandwidth of New Jersey state agencies in recovering from Superstorm Sandy. To further facilitate hazard mitigation planning efforts, NJOEM works in cooperation with other governmental agencies and relevant industry groups to provide direction and technical assistance in the development of local and multi-jurisdictional plans and projects.

The following sections include reviews of pre- and post-disaster hazard management capabilities (e.g. responsibilities, programs and initiatives) and development guidance offered through agencies and programs that directly support NJOEM and FEMA's hazard mitigation efforts. A more detailed discussion on NJOEM's pre- and post-disaster programs and capabilities is presented following this summary.

#### *Summary*

During the Plan update, the project team invited participating agencies to identify and update their mitigation-related initiatives. A Capability Assessment Questionnaire was developed and presented to the SHMT for review and approval. After approval, the assessment was delivered to agencies on the SHMT for completion, as well as those agencies that support hazard mitigation throughout the State.

Table 6-3 summarizes the pre- and post-disaster hazard management policies, programs, and capabilities throughout the State. Appendix G contains the results of the Capability Assessment Questionnaire which presents more detailed information for each entity including points of contact, hazards addressed, specific mitigation responsibilities, available technical assistance, role in mitigation and summarizes the most significant State-funded and/or State-administered programs, policies, regulations, or practices related to hazard mitigation or loss reduction by agency, department, or organization.

Some of the listed programs in Table 6-3 provide funding for various hazard mitigation activities. Other State and federal programs or initiatives may support (or assist with the implementation of mitigation actions) or facilitate (make implementing mitigation actions easier) hazard mitigation or loss reduction. The State determined that, where possible, it would provide examples of mitigation support as a measure of effectiveness of the organizations, programs, and policies. Finally, while most of the initiatives and policies are in the form of existing programs, a few new programs are included, although evaluation on their effectiveness is premature. More detailed information on the newer programs is available on the respective department or agency's website.

Table 6-3 Summary of Pre- and Post-Disaster Hazard Management Policies, Programs, and Capabilities

Agency	Hazard	Program	Capability		Effect on Loss Reduction		Provides Funding	Description of Policies, Programs, Funding
			Pre-Disaster	Post-Disaster	Support	Facilitate		
Delaware Valley Regional Planning Commission	Flood, Severe Storm, Nor'easter, Hurricane/Tropical Storm	Office of Energy and Climate Change Initiatives	√			√		Yes. DVRPC provides municipalities with tools and resources that help assist communities with land use planning. The also provide resources for funding opportunities, technical assistance programs, consultant opportunities, economic development, and smart growth. Provides workshops on integrating comprehensive planning and hazard mitigation. DVRPC also was contract acted to g update and reformat emergency detour route maps for all limited access highways within the region, replacing outdated paper maps with digital PDF maps.
New Jersey Board of Public Utilities (BPU)	All		√	√	√	√		BPU works with private utility companies to provide analysis of natural hazard information affecting the provision of electric power, telecommunications, public water, sewage collection and treatment, and other regulated public utilities. The data are used during response and recovery efforts in the event of emergency or disaster and is also used to analyze impact of mitigation plans and projects. BPU also provides technical assistance for the Energy Resiliency Program.
New Jersey County Offices of Emergency Management	All		√	√	√	√		County OEM assists the State with distributing dedicated local infrastructure funding for selected local infrastructure projects. They are the point on the multi-jurisdictional plans.

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Agency	Hazard	Program	Capability		Effect on Loss Reduction		Provides Funding	Description of Policies, Programs, Funding
			Pre-Disaster	Post-Disaster	Support	Facilitate		
New Jersey Department of Agriculture (NJDA)	Animal Disease and Crop Failure		√	√	√	√		NJDA coordinates with the USDA, the National Association of State Departments of Agriculture, the Northeastern Association of State Departments of Agriculture, and the Communications Officers of State Department of Agriculture to participate in national and regional planning and crisis communications initiatives regarding agriculture and agricultural livestock. NJDA coordinates with both governmental agencies and industry groups and maintains emergency response procedures for agricultural emergencies, including serving as a central communications points for those agencies and groups. Agricultural groups such as the New Jersey Agricultural Society and New Jersey Farm Bureau, as well as individual agricultural commodity groups, participate in routine communications with NJDA on issues of response to manmade agricultural emergencies.
New Jersey Department of Banking and Insurance (DOBI)	All		√	√	√			DOBI regulates the banking, insurance, and real estate industries. It provides assistance and, through A07-126, mandates companies authorized to sell homeowner insurance to have a prepared Business Continuation Plan.



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Agency	Hazard	Program	Capability		Effect on Loss Reduction		Provides Funding	Description of Policies, Programs, Funding
			Pre-Disaster	Post-Disaster	Support	Facilitate		
New Jersey Department of Community Affairs	All		√	√	√	√	√	DCA provides administrative guidance, financial support, and technical assistance to local governments, community development organizations, businesses, and individuals to improve the quality of life. They administer the HUD CDBG-DR funding (through RREM and other state programs). DCA offers a wide range of programs and services that respond to issues of public concern including fire and building safety, housing production, community planning and development, and local government management and finance. DCA's programs and services are provided through, among others, the following Divisions:• Division of Codes and Standards• Division of Community Resources• Division of Fire Safety• Division of Local Government Services• Office for Planning Advocacy
New Jersey Department of Education (DOE)	All		√	√	√			New Jersey DOE has oversight and review authority over all public schools in New Jersey. The DOE does not own any property or facilities. All public schools are owned by their respective school districts.

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Agency	Hazard	Program	Capability		Effect on Loss Reduction		Provides Funding	Description of Policies, Programs, Funding
			Pre-Disaster	Post-Disaster	Support	Facilitate		
New Jersey Department of Environmental Protection	All	Division of Water Supply and Geoscience (DW&GS)	√	√	√	√	√	DW&GS works to ensure that adequate, reliable, and safe water supply is available for the future. This goal is accomplished through the regulation of ground and surface water diversions, permitting of wells, permitting of drinking water infrastructure, monitoring of drinking water quality, and technical support for water systems to achieve compliance with all federal and State standards. In addition, Water Supply staff act in a support role during an emergency situation to provide technical assistance, as needed to re-establish safe and adequate public water supplies. Additionally, DW&GS provides operator licensing and training support as well as financial assistance through the DW State Revolving Fund program. For further funding information, see New Jersey Environmental Infrastructure Financing Program.

Agency	Hazard	Program	Capability		Effect on Loss Reduction		Provides Funding	Description of Policies, Programs, Funding
			Pre-Disaster	Post-Disaster	Support	Facilitate		
NJDEP	All	WRM, Municipal Finance and Construction Element New Jersey Environmental Infrastructure Financing Program (NJEIFP)	√	√	√	√	√	<p>NJEIFP is a revolving loan program for the construction of drinking water facilities, wastewater treatment facilities, sludge management systems, combined sewer overflow abatement, stormwater, and other non-point source management projects. The program also offers funding to publicly and privately-owned drinking water systems for the construction or upgrade of drinking water facilities, transmission and distribution systems, storage facilities, and source development.</p> <p>NJEIFPT also offers a disaster relief fund that will be able to provide short-term or bridge loans to entities that are in need of an upfront cash flow.</p>

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Agency	Hazard	Program	Capability		Effect on Loss Reduction		Provides Funding	Description of Policies, Programs, Funding
			Pre-Disaster	Post-Disaster	Support	Facilitate		
NJDEP	Flood, Severe Storm, Nor'easter, Hurricane/Tropical Storm	Bureau of Dam Safety and Flood Control	√	√	√	√	√	The Bureau leads the State's efforts as the State NFIP Coordinator and Community Rating System (CRS) support. In addition, the Bureau's responsibilities include the funding of construction and operation of federal/State/local flood control mitigation projects throughout the State, including the 24-hour operation of the Pompton Lakes Dam Flood Gates. The Bureau has also taken a role on the development and adoption of New Jersey Flood Hazard Area mapping, as well as an active partnership with FEMA on their FEMA Map Modernization Program efforts. The Bureau also provides Community Assistance Program/State Support Services Element funding to meet negotiated objectives for reducing flood hazards in NFIP communities. The program requires that participating communities identify, prevent, and resolve floodplain management issues before the issues require compliance action by FEMA. Since they are a FEMA Cooperating Technical Partner they get funding from FEMA.
NJDEP	Flood, Severe Storm, Nor'easter, Hurricane/Tropical Storm	Open Space and Land Acquisition Programs	√	√	√	√	√	Green Acres/Blue Acres Program - Green Acres and Blue Acres Program acquisition funds are used for the acquisition of repetitive loss and severe repetitive loss structures.

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Agency	Hazard	Program	Capability		Effect on Loss Reduction		Provides Funding	Description of Policies, Programs, Funding
			Pre-Disaster	Post-Disaster	Support	Facilitate		
NJDEP	Coastal Erosion, Hurricane/ Tropical Storm, Severe Storm, Nor'easter	Bureau of Coastal Engineering	√	√	√	√		<p>The Bureau maintains a close relationship with the U.S. Army Corps of Engineers regarding all phases of coast protection. The State has continued funding the non-lapsing Shore Protection Fund for shore protection projects associated with the protection, stabilization, restoration or maintenance of the shore including monitoring studies and land acquisition. Through continued State funding for federal flood control projects through annual State appropriations under the HR-6 Flood Control project budget the Bureau maintains an active series of coastal flood and shore protection projects.</p> <p>The Bureau proactive responsibilities include beach nourishment, construction of shore protection structures, coastal dredging and aids to navigation. The Bureau has reactive responsibilities resulting from coastal storms. Many of the coastal engineering projects involve coordination with the U.S. Army Corps of Engineers in both the Philadelphia and the New York Districts.</p>

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Agency	Hazard	Program	Capability		Effect on Loss Reduction		Provides Funding	Description of Policies, Programs, Funding
			Pre-Disaster	Post-Disaster	Support	Facilitate		
NJDEP	Geologic Hazards, Earthquake, Drought	New Jersey Geological and Water Survey	√	√	√	√		Evaluates geologic, hydrogeological, and water quality data to manage and protect water resources, identify natural hazards and contaminants, and provide mineral resources including offshore sands for beach nourishment. Information provided by the survey includes GIS data and maps of geology, topography, groundwater, and aquifer recharge. In addition, the data track wellhead protection areas, aquifer thicknesses, properties and depths, groundwater quality, drought, geologic resources, and hazards (such as earthquakes, abandoned mines, karst-influenced sinkholes, and landslides).
NJDEP	Flood, Severe Storm, Nor'easter, Hurricane/Tropical Storm	Division of Land Use Regulation (DLUR)	√		√			DLUR has developed rules and regulations to ensure a safer community by reducing flood losses and insurance claims in vulnerable coastal areas. The Division coordinates with the Bureau of Dam Safety and Flood Control and NFIP-participating communities on adopting and maintaining their Flood Damage Prevention Ordinance. The Division enforces compliance with State land use regulations through notices, administrative actions, and penalties.

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Agency	Hazard	Program	Capability		Effect on Loss Reduction		Provides Funding	Description of Policies, Programs, Funding
			Pre-Disaster	Post-Disaster	Support	Facilitate		
NJDEP	Fishing Failure	Division of Fish and Wildlife Service	√	√	√	√		NJDEP coordinates with the U.S. Department of Commerce, NOAA/National Marine Fisheries Service (NMFS) and the U.S. Department of the Interior, Fish and Wildlife Service in fishery mitigation programs. The Governor may apply to the NMFS for financial assistance to address fishery failures.
NJDEP	Wildfire	Division of Parks and Forests / Forest Fire Service	√	√	√	√		The Fire Service Section provides a full-time and a part-time staff of wildland firefighters. Staff provides continuing mechanical thinning and prescribed fire used to reduce hazardous wildland fuel accumulations Statewide, particularly in high-risk areas. The Forest Fire Service encourages community acceptance and inclusion of FireWise concepts in municipal and regional planning; develops and implements effective silviculture strategies that improve the health of forests and reduce the amount of fuels available for wildland fires from dead and dying trees. The Fire Service also strives to educate the public through NJOEM and the New Jersey Forest Fire Service outreach programs and hazard mitigation workshops.
NJDEP	All		√	√	√	√		NJDEP coordinates with FEMA, USEPA, NJOEM, NJDSS, and the New Jersey Department of Military and Veterans Affairs, and the NJSP to participate in state, county, and local planning initiatives. NJDEP participates, as a member, in the Regional Catastrophic Planning Team.

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Agency	Hazard	Program	Capability		Effect on Loss Reduction		Provides Funding	Description of Policies, Programs, Funding
			Pre-Disaster	Post-Disaster	Support	Facilitate		
NJDEP	All	Water Pollution Management Element (WPME)	√	√	√	√	√	WPME is responsible for protecting New Jersey's ground and surface waters from pollution caused by improperly treated wastewater and its residuals primarily through the implementation of the New Jersey Pollutant Discharge Elimination System (NJPDES) permit program. For funding, see New Jersey Environmental Infrastructure Financing Program.
New Jersey Department of Law & Public Safety, Office of Emergency Management	All	ESF 14, Long-term Recovery Planning	√	√	√	√		Through ESF 14, Long-Term Recovery Planning, NJOEM will work with the Office of Homeland Security and Preparedness to have a plan for long-term planning and recovery prior to a disaster or emergency. One of the areas of planning includes mitigation. This coordination will allow for another Statewide plan to incorporate mitigation principles and planning.
New Jersey Department of Law & Public Safety, Office of Emergency Management	All	Mitigation Unit	√	√	√	√		The Mitigation Unit, within the Emergency Management Section, has the mission of enhancing State, county, and municipal risk reduction through the development and implementation of mitigation strategies. Hazard mitigation, by definition, is any sustained action that prevents or reduces the loss of property or human life from recurring hazards. The Mitigation Unit accomplishes this task by implementing and administering several grant-based programs in conjunction with FEMA. This plan is a product of the Mitigation Unit.



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Agency	Hazard	Program	Capability		Effect on Loss Reduction		Provides Funding	Description of Policies, Programs, Funding
			Pre-Disaster	Post-Disaster	Support	Facilitate		
New Jersey Department of Law & Public Safety, Office of Emergency Management	All	Preparedness Unit	√		√	√		The Preparedness Unit is responsible for disseminating preparedness information in advance of a disaster or potential disaster.
New Jersey Department of Law & Public Safety, Office of Emergency Management	All	Public Assistance	√	√	√	√		The Public Assistance Unit accepts and reviews applications for funds for emergency work submitted by local individuals, households and businesses as well as from local governments during and immediately after a disaster.
New Jersey Department of Law and Public Safety (LPS)	All	Office of the Attorney General	√	√	√			LPS includes the Office of the Attorney General and the Division of State Police among others. The New Jersey Office of Emergency Management is placed within the Division of State Police. The Office of the Attorney General contributes to loss reduction by participating on the State Hazard Mitigation Team and providing counsel to the Office of Emergency Management. OAG also reviews grant applications.

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Agency	Hazard	Program	Capability		Effect on Loss Reduction		Provides Funding	Description of Policies, Programs, Funding
			Pre-Disaster	Post-Disaster	Support	Facilitate		
New Jersey Department of State, Office for Planning Advocacy	Natural hazards		√	√	√	√		Supports and coordinates planning throughout New Jersey to protect the environment; mitigate development hazards; and guide future growth into compact, mixed-use development and redevelopment projects while fostering a robust long-term economy. The last plan was created in 2001.
New Jersey Department of the Treasury	All	Division of Administration and the Emergency Response Unit (ERU)	√	√	√	√	√	The ERU is the State Treasurer's representative and coordinating agency for all of the Department of Treasury's roles and responsibilities in and to Emergency Management. The ERU acts as the lead for the Department of the Treasury and deployment coordinator for the Department in Planning, Mitigation, Response, and Recovery. The Division Coordinates and delegates mitigation and corrective action policies, programs and projects within the Division of Administration and to other Divisions of the Department.

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Agency	Hazard	Program	Capability		Effect on Loss Reduction		Provides Funding	Description of Policies, Programs, Funding
			Pre-Disaster	Post-Disaster	Support	Facilitate		
NJDOT	All	Geographic Information System (GIS)	√	√	√			The department uses GIS to create maps that are used in several areas including planning and highway construction. The maps that are created using this information aid other agencies, including law enforcement, in finding solutions to reduce traffic incidents. The GIS data can also be used to identify geographical changes after a natural disaster, so that any anomalies or problems can be addressed.
NJDOT	All	Capital Program	√	√	√	√	√	NJDOT uses GIS to create maps that are used in several areas including planning and highway construction. The maps that are created using this information aid other agencies, including law enforcement, in finding solutions to reduce traffic incidents. The GIS data can also be used to identify geographical changes after a natural disaster, so that any anomalies or problems can be addressed.
NJDOT	All	Reverse Lane Strategies (or contraflow operations)	√	√	√	√		NJDOT has three contraflow plans in place. The New Jersey Turnpike Authority and the South Jersey Transportation Authority also have one plan each (Garden State Parkway and Atlantic City Expressway). When activated, for a temporary period of time, NJDOT and its partners expand the lanes available for all travel in an outbound direction (away from the anticipated area of danger) and facilitate its usage for outbound vehicular travel.

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Agency	Hazard	Program	Capability		Effect on Loss Reduction		Provides Funding	Description of Policies, Programs, Funding
			Pre-Disaster	Post-Disaster	Support	Facilitate		
NJDOT	All	County Diversionary Route Plans	√	√	√	√		Diversion plans are a compilation of predetermined diversion routes developed to improve coordination between State and local agencies when incidents occur. These Diversion Plans offer the Incident Commanders viable alternate routes to utilize during incidents.
NJDOT	All	Local Aid and Economic Development	√	√	√	√	√	NJDOT is committed to advancing transportation projects that enhance safety, renew aging infrastructure, and support new transportation opportunities at the county and municipal level. The Transportation Trust Fund and the Safe, Accountable, Flexible, Efficient Transportation Equity Act (SAFE-TEA) legislation provide the opportunity for funding assistance to local governments for road, bridge, and other transportation projects. NJDOT has established a number of local aid programs that provide financial support to counties and municipalities for capital improvements to transportation infrastructure.

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Agency	Hazard	Program	Capability		Effect on Loss Reduction		Provides Funding	Description of Policies, Programs, Funding
			Pre-Disaster	Post-Disaster	Support	Facilitate		
NJDOT	All	Office of Maritime Resources - Dredged Material Management	√	√	√	√		<p>NJDOT provides interagency support, program planning, and policy recommendations on maritime issues to the Governor. NJDOT serves as the primary advisory body for the support of New Jersey's \$50 billion maritime industry, which includes ports and terminals, cargo movement, boat manufacturing and sales, ferry operations, marine trades, recreational and commercial boating and maritime environmental resources.</p> <p>Management of dredging activities in New Jersey is generally divided into three main geographic areas – New Jersey/New York Harbor, Delaware River/Delaware River Ports and the State's Navigation Channels. This program also promotes coordination and cooperation among federal, state, regional, and non-governmental agencies.</p>
NJDOT	Hazardous Substance Release	Division of Multimodal Grants and Programs	√	√	√	√		<p>NJDOT, through the Division of Multimodal Services, is responsible for the oversight and / or support of several modes of transportation including general aviation, maritime, light rail, and freight rail; making it a multi-modal focused organization.</p>

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			Pre-Disaster	Post-Disaster	Support	Facilitate		
NJDOT	All	Planning and Metropolitan Planning Organizations	√	√	√	√	√	The long-range planning process identifies goals, policies, strategies, and actions to improve the movement of people and freight and support economic growth during these difficult times. There are three MPOs in New Jersey composed of locally elected officials and representatives from each geographic urban area. Each of them is a forum for continuing, coordinated transportation planning with its portion of federal funds in the TIP. NJDOT is a voting member of each of the three regional MPOs – the North Jersey Transportation Planning Authority, the South Jersey Transportation Planning Organization, and construction. The maps that are created using this information aid other agencies, including law enforcement, in finding solutions to reduce traffic incidents. The GIS data can also be used to identify geographical changes after a natural disaster, so that any anomalies or problems can be addressed.
NJDOT	All	ROW and Property Acquisitions	√	√				The Division of Right of Way and Access Management is not specifically tasked with hazard mitigation activities. However, the eminent domain/property acquisition process and the sale of surplus government property should be of interest to post-disaster impacted communities seeking redistribution of land assets for transportation infrastructure protection.

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			Pre-Disaster	Post-Disaster	Support	Facilitate		
NJDOT	Severe Winter Weather, Nor'easter	Winter Readiness	√	√	√	√		NJDOT works to make winter travel as safe as possible. NJDOT has 13,295 lane miles of interstate, U.S., and State routes under its jurisdiction that it strives to keep open and passable at all time during winter weather. The goal during a winter storm is to maintain the roads for safe travel, at safe speeds, by using anti-icing materials, and, when appropriate, removal of snow with plows.
NJDOT	All	511 Traffic Monitoring	√	√	√	√		The traffic monitoring system, 511NJ, is a free service for the public that supplies traffic information about the New Jersey Interstates, State Highways, New Jersey Turnpike, Garden State Parkway, Atlantic City Expressway, and all bridge and tunnel crossings to motorists. The system combines traffic data into up to date condition reports that are always available and accessible via text, voice, or internet service to commuters.
New Jersey Economic Development Authority	All		√	√	√		√	The NJEDA supports business growth in New Jersey and has been active in post-Superstorm Sandy recovery and rebuilding efforts. The NJEDA provides businesses with low-interest financing.

## 6. MITIGATION STRATEGY

Agency	Hazard	Program	Capability		Effect on Loss Reduction		Provides Funding	Description of Policies, Programs, Funding
			Pre-Disaster	Post-Disaster	Support	Facilitate		
New Jersey Highlands Council	Flood, Wildfire, Wind	Planning and Science	√	√	√	√	√	Established by the legislature in 2004 as part of the Highlands Water and Protection Planning Act, the Council is charged with the development and oversight of the Highlands Regional Master Plan (RMP). Highlands Council RMP programs support hazard mitigation as related to stream mitigation to avoid flood hazards and forest health hazards. RMP grant funding for forest resource and stream corridor protection and management planning includes identification of restoration, mitigation, and stewardship programming needs and mechanisms.
New Jersey Office of Homeland Security and Preparedness (OHSP)	All		√	√	√	√		In March 2006, Executive Order No. 5 created OHSP as a cabinet-level agency within state government. The Executive order defined the office's mission as the agency responsible "to administer, New Jersey's counterterrorism and preparedness efforts." Further, the executive order charged OHSP with coordinating "the emergency response efforts across all levels of government, law enforcement, emergency management, nonprofit organizations, other jurisdictions, and the private sector, to protect the people of New Jersey. OHSP is the lead agency in preparing the State's Threat and Hazard Identification and Risk Assessment (THIRA).



# 6. MITIGATION STRATEGY

Agency	Hazard	Program	Capability		Effect on Loss Reduction		Provides Funding	Description of Policies, Programs, Funding
			Pre-Disaster	Post-Disaster	Support	Facilitate		
New Jersey Turnpike Authority	Flood, Severe Storm, Nor'easter, Hurricane/Tropical Storm	Capital Program	√	√	√	√		<p>The New Jersey Turnpike Authority (Authority) is dedicated to the safe and efficient movement of people and goods over two of the busiest toll roads in the United States – the New Jersey Turnpike (NJTP) and the Garden State Parkway (GSP). The Authority's highways are a critical link in the transportation network of the Northeast Corridor. Under the current 10-year, \$7 billion capital program adopted in 2008, the Authority has expanded capacity, repaired deteriorating bridges, reconfigured entrance and exit ramps, improved maintenance yards and toll plazas, and expanded the use of technology for collecting and communicating information about roadway conditions. Under this capital program, the following projects have been advanced addressing hazard mitigation: Bridge Security Program, Forest Fire Prevention, Roadside Weather Information System (RWIS), Coastal Evacuation</p>

## 6. MITIGATION STRATEGY

Agency	Hazard	Program	Capability		Effect on Loss Reduction		Provides Funding	Description of Policies, Programs, Funding
			Pre-Disaster	Post-Disaster	Support	Facilitate		
NJ Department of Corrections	Terrorism and Civil Unrest	ESF-13 Public Safety and Security	√	√	√	√		The state and each of the 13 facilities has an updated Continuity of Operations Plan (COOP). A COOP details all the activities, plans and procedures an agency must have to ensure that essential services are provided to the State's citizens and businesses during emergencies.-ESF-13 Public Safety and Security integrates Federal public safety and security capabilities and resources to support the full range of incident management activities associated with potential or actual incidents requiring a coordinated Federal response. The ESF-13 has allowed response and recovery for Puerto Rico post Hurricane Irma.Capabilities include:-Special Operations Response Team-Canine Unit-Correctional Emergency Response Team-Enhanced Security Transportation Unit-Critical Incident Negotiation Unit-Office of Emergency Management-Hazmat Team (Chemical Ordnance - Biological Radiological Aid-Forward Area Strike Teams
NJ Sports and Expository Authority	Flood, Severe Storm, Nor'easter, Hurricane/Tropical Storm		√			√		This commission has land use authority.

# 6. MITIGATION STRATEGY

Agency	Hazard	Program	Capability		Effect on Loss Reduction		Provides Funding	Description of Policies, Programs, Funding
			Pre-Disaster	Post-Disaster	Support	Facilitate		
NJ Transit	Flood, Severe Storm, Nor'easter, Hurricane/Tropical Storm, Extreme Weather	Resilience Program	√	√	√	√		NJ TRANSIT's comprehensive Resilience Program aligns with our mission to make our transit systems and infrastructure stronger and more reliable for the people we serve every day. Extreme weather events such as 2012's Superstorm Sandy helped identify vulnerabilities in the New Jersey / New York region's transportation. The likelihood of more and frequent severe weather events underscores the need to make transportation resiliency a high priority for the area.

# 6. MITIGATION STRATEGY

Agency	Hazard	Program	Capability		Effect on Loss Reduction		Provides Funding	Description of Policies, Programs, Funding
			Pre-Disaster	Post-Disaster	Support	Facilitate		
North Jersey Transportation Authority	Flood, Severe Storm, Nor'easter, Hurricane/Tropical Storm		√			√		The agency conducts studies and serves on various interagency committees and working groups to support resiliency planning in northern New Jersey. Examples include the recently completed Post-Hurricane Sandy Transportation Resilience Study of NY, NJ, and CT
Pinelands Commission	Flooding, Wildfire	Land Use and Planning Office	√			√		Through its implementation of the Pinelands Comprehensive Management Plan (CMP), the New Jersey Pinelands Commission protects the Pinelands in a manner that maintains the region's unique ecology while permitting compatible development. The CMP contains provisions for Fire Hazard Mitigation, Wetlands protection and Permanent Land Preservation Programs that reduce risk and vulnerability to wildfires and flooding. The CMP also has more strict stormwater management regulations.
Port Authority of New York and New Jersey	Flood, Severe Storm, Nor'easter, Hurricane/Tropical Storm		√	√	√	√		The Port Authority has implemented numerous preventative measures to protect its vulnerable facilities from human caused hazards, such as transportation accidents and terrorism. There was an extensive risk assessment program for the Port Authority to identify vulnerabilities and risks to natural hazards. The Authority have established resiliency design guidelines for all improvements.

## 6. MITIGATION STRATEGY

Agency	Hazard	Program	Capability		Effect on Loss Reduction		Provides Funding	Description of Policies, Programs, Funding
			Pre-Disaster	Post-Disaster	Support	Facilitate		
Rutgers	Flood, Severe Storm, Nor'easter, Hurricane / Tropical Storm, Coastal Erosion	Jacques Cousteau National Estuarine Research Reserve's Coastal Training Program	√	√	√	√		The Coastal Training Program provides up-to-date scientific information, access to technologies and skill-building opportunities to professionals responsible for making decisions about coastal resources.
Rutgers	Natural hazards	Office of the New Jersey State Climatologist (ONJSC)	√	√	√	√		The Office of the New Jersey State Climatologist (ONJSC) is situated within the New Jersey Agricultural Experiment Station at Rutgers, The State University of New Jersey. The ONJSC mission is three-fold: (1) gather and archive New Jersey weather and climate observations, (2) conduct and foster research associated with New Jersey's weather and climate, and (3) provide critical climate services to all seeking assistance.
Rutgers	Flood, Severe Storm, Nor'easter, Hurricane / Tropical Storm	Edward J. Bloustein School of Planning and Public Policy	√	√	√	√		The Bloustein School conducts mitigation planning, data gathering, and technical studies in support of Statewide hazard mitigation. The school develops geospatial and analytical tools to support community engagement, policy reform, and State and regional planning efforts.

## 6. MITIGATION STRATEGY

Agency	Hazard	Program	Capability		Effect on Loss Reduction		Provides Funding	Description of Policies, Programs, Funding
			Pre-Disaster	Post-Disaster	Support	Facilitate		
South Jersey Transportation Planning Organization	Flood, Severe Storm, Nor'easter, Hurricane/Tropical Storm	Resiliency Program	√			√		One goal in Transportation Matters-A Plan for South Jersey, our current Regional Transportation Plan is to improve the resiliency and reliability of the transportation infrastructure, particularly along the Atlantic and Delaware Bay shorelines through funding of resiliency-type projects. SJTPO also increases general awareness of resiliency issues through our long-range plan, technical studies (GHG emissions inventory), and overall public outreach.
South Jersey Transportation Authority	Flood, Severe Storm, Nor'easter, Hurricane/Tropical Storm	Engineering Department and Operations and Facilities Management	√	√		√		SJTA coordinates with emergency evacuation exercises on the Atlantic City Expressway, and provides maintenance of State Police operations for the Expressway and the Emergency Service Patrol (ESP). SJTA has noted a desire to increase coordination with NJOEM to enhance hazard mitigation activities. SJTA has a dedicated staff of professionals that are responsible for the design and construction of capital projects and environmental mitigation on the Atlantic City Expressway and the Atlantic City International Airport.
Stevens Institute of Technology	Flood, Severe Storm, Nor'easter, Hurricane / Tropical Storm	Coastal Engineering Research Laboratory	√	√	√	√		The university conducts fundamental and applied research on the design, implementation, and monitoring of shore protection structures, systems, and beach fill projects.

Agency	Hazard	Program	Capability		Effect on Loss Reduction		Provides Funding	Description of Policies, Programs, Funding
			Pre-Disaster	Post-Disaster	Support	Facilitate		
U.S. Army Corps of Engineers (USACE)	Coastal Erosion, Flood, Severe Storm, Nor'easter, Hurricane/Tropical Storm		√	√	√	√		Silver Jackets, developed by USACE is the State-level implementation program for the National Flood Risk Management Program. The program's goals are to leverage information and resources from federal, state, and local agencies; improve public risk communication through a united effort; and create a mechanism to collaboratively solve issues and implement initiatives beneficial to local communities. This program is organized by the Philly District.
U.S. Geological Survey (USGS)	Flood, Severe Storm, Nor'easter, Hurricane/Tropical Storm		√		√	√		USGS maintains a network of gauges across New Jersey that continuously measure tidal levels. USGS provides data to the Department of Environmental Protection for drought determinations. USGS also recovers high water marks post coastal flooding.

Notes:

As defined in FEMA 386-3:

Support: Programs, plans, policies, regulations, funding, or practices that help the implementation of mitigation actions. Facilitate:

Programs, plans, policies, etc. that make implementing mitigation actions easier.

## Office of Emergency Management

The Governor of New Jersey has the overall responsibility for Emergency Management activities in the State. The Superintendent of the New Jersey State Police is the State Director of the New Jersey Office of Emergency Management (NJOEM). On behalf of the Governor, all activities and departments are coordinated, directed, and controlled from the NJOEM, Emergency Operations Center.

The State Director of Emergency Management supervises, directs, and appoints deputies and/or assistants to control the daily activities of NJOEM. The function and staffing of NJOEM is with the approval of the Attorney General.

## Recovery Bureau

The Chief of the Recovery Bureau supervises the Mitigation, Public Assistance, and Finance Units. The Mitigation Unit undertakes hazard mitigation planning and the review of mitigation projects in advance of potential disasters, and is also activated during and immediately after disasters to evaluate existing and proposed mitigation measures in the affected areas.

The Public Assistance Unit accepts and reviews applications for funds for emergency work submitted by local individuals, households, and businesses, as well as from local governments during and immediately after a disaster.

The reorganization of the Bureau added a dedicated Finance Unit to support the fiscal functions of both the Public Assistance and Mitigation Units. The Finance Unit ensures timely reimbursements and fiduciary responsibility.

Each regional coordinator is the primary liaison for NJOEM with the County Emergency Management Coordinators for seven contiguous counties in their assigned region (North, Central, and South). Responsibilities of the Regional Coordinators fall into 17 functional categories. They are required to attend county, municipal, and other agency meetings; attend and conduct New Jersey State Police (NJSP) and NJOEM training; conduct, oversee, and participate in local exercises; respond to all major incidents and disasters; provide direct Emergency Operation Plan (EOP) development assistance; and conduct compliance surveys, State Police details, program support, and other administrative functions.

Regional personnel represent the State Director of Emergency Management at all emergency and disaster situations in the State. They monitor emergency situations and ensure proper response and recovery activities. Response to an incident provides an opportunity for interaction between local and State government agencies. Response activities include State, county, and municipal Emergency Operation Center (EOC) activations, participation in actual operations, and technical assistance during the response and recovery phase. They are also responsible for providing status reports of events (through the proper channels) to the Office of the Governor and Attorney General. In the post-emergency phase, they are responsible for the incident's evaluation and critique. It is also the responsibility of the Regional Units to assist with the development, review, and compliance of all county and municipal EOPs. Regional personnel meet with and evaluate all Emergency Management Assistance (EMA)-funded jurisdictions for year-end reports, develop and review EOPs, conduct exercises, and review semi-annual and final EMA claim forms. New Jersey has currently achieved a compliance rate of 95%-approved EOPs.

#### *Mitigation Unit*

The Mitigation Unit, within the Emergency Management Section, has the mission of enhancing State, county, and municipal risk reduction through the development and implementation of mitigation strategies. Hazard mitigation, by definition, is any sustained action that prevents or reduces the loss of property or human life from recurring hazards. The Mitigation Unit accomplishes this task by implementing and administering several grant-based programs in conjunction with FEMA.

NJOEM staffing has increased, however, so has the workload. Through disaster funding, contracted staff have been added to support NJOEM Superstorm Sandy related mitigation efforts. To further ensure support, NJOEM has enlisted the services of consultants that specialize in those areas necessary for a successful mitigation program. NJOEM currently has consultants that specialize in mitigation planning and all aspects of the programmatic portion of federal mitigation programs.

To meet the challenges of servicing the last disasters, additional full-time civilian hires have been added to the Mitigation Unit. The additional contracted support and full-time hires will increase the performance and capabilities of the Mitigation Unit to better serve the State of New Jersey. With a growing staff, the Mitigation Unit continues to provide support in planning and project management.

The nation's most densely populated state is also home to a wide array of natural resources. New Jersey must carefully balance development and preservation of the use of its land, coast, and water. The State recognizes the direct benefit of carefully planning land use in coordination with growth management and has passed laws regulating land use, preservation of land and water, floodplains, growth, and emergency management to protect the land. In addition, the State also recognizes that proper planning



can reduce the potential for hazards to impact the State. Refer to Section 4 (State Profile) for more detailed information on growth and development across New Jersey.

NJOEM, in cooperation with other State agencies and FEMA, seeks to mitigate hazards and reduce repetitive losses caused by flooding through the implementation of programs such as the Hazard Mitigation Grant Program (HMGP), Flood Mitigation Assistance (FMA), and Pre-Disaster Mitigation (PDM) Programs. Each program functions in a different manner, but they all achieve the same objective to provide funding for hazard mitigation projects or reduce repetitive losses of flood prone structures. This will not only save Federal funds but lives and reduce the risk of personal injury to response personnel in a disaster situation.

Since the enactment of the Disaster Mitigation Act of 2000, every county in New Jersey has a FEMA- approved Hazard Mitigation Plan with updates (Figure 3-1 in Section 3, Coordination of Local Planning). The hazard identification, risk analyses, and vulnerability assessments provide estimates of potential property losses throughout the State. Building on these assessments, each county and participating jurisdiction identifies a prioritized list of hazard mitigation measures, with an accompanying action plan for their implementation. The individual County Hazard Mitigation Plans have thus become the foundation of New Jersey's pre- and post-disaster mitigation planning activities. Municipal annexes are also an improvement for these multi-jurisdictional plans.

By regulation, the County Mitigation Plans are to be reviewed on a regular basis and must be updated, approved, and adopted every 5 years. For this reason, the State's efforts are now directed toward maintaining a high standard and improving the effectiveness of multi-jurisdictional hazard mitigation plans. These plans are at different stages in the update and renewal process, depending on the date of approval of the initial plan.

The NJOEM Hazard Mitigation Unit has two mitigation planners who review the plans thoroughly, working closely with the counties to ensure that the plans meet all regulations and recommended best practices. The Unit also has a close relationship with FEMA Region II for direct support with recommendations prior to official submittal.

In order to provide technical assistance to counties, the State holds county/regional workshops in conjunction with FEMA Region II regarding the most recent planning guidance. The State also works with counties early in the plan development process, participates in development meetings and workshops, and provides feedback on early drafts.

The responsibilities of the mitigation planning staff are to (1) support the maintenance and improvement of counties' and local governments' mitigation strategies, (2) understand conditions relevant to mitigation and redevelopment planning for these communities, (3) represent the interests of the communities to NJOEM in program development and implementation, and (4) provide technical assistance to all counties on updating and implementing their hazard mitigation plans.

The NJOEM office has evolved from a small agency with limited planning, training, and response capabilities to its present status as an integral part of State government. The State Hazard Mitigation Officer is the representative of State government acting as the primary point of contact with FEMA, other federal agencies, and county and local units of government in the planning and implementation of pre- and post-disaster mitigation programs and activities required under the Stafford Act. The New Jersey State Hazard Mitigation Officer is Acting Sergeant First Class Bradley Waugh of NJOEM. Contact information is listed below:

Acting Sergeant First Class Bradley Waugh, New Jersey Office of Emergency Management

P.O. Box 7068, River Road, West Trenton, NJ 08628-0068

Phone: (609) 963-6900 ext. 6208 ; Fax: (609) 530-3649;

NJOEM has prioritized support for the Mitigation Unit. A Mitigation Unit manager, Civil Engineer and Regional Manager were hired to manage the increased workload and responsibilities of the NJOEM Mitigation Unit. Additional planning assets are also scheduled to be hired in the very near future.

#### *Preparedness Bureau*

The Preparedness Unit in the Preparedness Bureau is responsible for disseminating preparedness information in advance of a disaster or potential disaster. The Preparedness Unit maintains an extensive library of natural disaster preparedness and recovery information on its Family and Community Emergency Preparedness website, accessible at [www.nj.gov/njoem](http://www.nj.gov/njoem) or [www.njsp.org/njoem](http://www.njsp.org/njoem). The disaster preparedness and recovery information featured prominently on the New Jersey State Police and NJOEM website home pages is a critical part of New Jersey's efforts to protect public health and safety and to minimize loss of life and property in the event of a disaster.

The Support Services Unit in the Preparedness Bureau has staff that supports the State pre- and post-disaster. Pre-Disaster NJOEM's GIS staff has worked closely with the New Jersey Geospatial Forum (NJGF) Elevation Task Force in order to fund and acquire LiDAR elevation data which we in turn pass along to FEMA for their use in the Flood Map Modernization Program. The Unit also works with the US Army Corps of Engineers, the National Weather Service, and the United States Geologic Survey to improve public access to flood data in and around river flood gauges.

Post-Disaster NJOEM's GIS staff coordinates with FEMA and the State Office of GIS in order to best share the disaster specific GIS data sets created by Federal and State agencies.

#### *Training Unit*

New Jersey continues to have one of the strongest Citizens Emergency Response Team (CERT) programs in the nation. The NJOEM Support Services Unit and the Training Unit play an integral part in maintaining the - CERT Program.

The NJOEM Training Unit provides training to personnel from government agencies and private industry on a variety of FEMA courses in an effort to better prepare them to deal with natural, manmade, and technological emergencies. This training covers the four concepts of Emergency management: Preparedness, Mitigation, Response, and Recovery.

#### *Emergency Operations Center*

Whenever a disaster occurs, or is predicted to occur, the State Emergency Operations Center is activated and staffed with personnel from the NJOEM Mitigation Unit as well as other State Police emergency management units and various State agencies. A 24-hour/seven-days-per-week schedule for staffing is developed in advance each month, so that the EOC may be activated at a moment's notice. The State EOP addresses the State's response to any disaster or emergency. It provides the basis for coordinated emergency operations involving disaster planning, response, recovery, and mitigation. The EOP defines the relationships between NJOEM and other entities, both government and volunteer, that are serving citizens prior to, during, and after emergencies events. The Plan involves 27 federal agencies, 16 State departments, and 24 State and volunteer agencies. The NJOEM responds to the resource requests of the counties when they are overwhelmed and in need of assistance whether it is a Statewide disaster, or one on a more local (county) level.

During a post disaster period, the Mitigation Unit personnel work closely with all of the communities involved to assist with the Hazard Mitigation Grant Program in the same manner as with the pre-disaster programs.

#### *Joint Field Office*

FEMA established a Joint Field Office in support of every federally declared disaster in the State. Once a disaster is declared by the President, federal disaster recovery resources undertake efforts to build and staff a Joint Field Office (JFO) where FEMA and the State can coordinate disaster recovery within three days. From the JFO, FEMA and the State coordinate the disaster response and recovery efforts for areas affected by disasters.

Staffing at the JFO's include FEMA, NJOEM, and various State Agencies. Other possible agencies staffing and providing services at the JFO include the Small Business Administration, US Environmental Protection Agency and others.

The JFO facilitates interagency cooperation between State and federal agencies. The JFO supports NJOEM many ways to include: personnel to assist with Preliminary Damage Assessments, Public Assistance and Hazard Mitigation activities.

#### *Hazard Mitigation Administrative Plan*

In the event that an active disaster declaration has necessitated a FEMA-approved HMGP Administrative Plan, the plan is reviewed to ensure compliance with the prevailing guidance and to set forth the administrative procedures, organization, and requirements for administering the HMGP in New Jersey. The HMGP Administrative Plan details the process for prioritizing post-disaster mitigation funding of local mitigation projects.

#### 6.2.2 LAWS, REGULATIONS, POLICIES, AND PROGRAMS

In addition to evaluating the programs and policy capabilities of the State, NJOEM identifies federal and State laws and regulations that impact hazard mitigation. Tables 6-4 and 6-5 list the federal and State mitigation laws that impact the development in hazard-prone areas in New Jersey, respectively and are deemed effective. These statutes and corresponding regulations are tools that support hazard mitigation, and some of the regulations have been updated to help with compliance, enforcement, and improved protections.

**Table 6-4 Federal Mitigation Laws and Regulations that Impact Development in Hazard Prone Areas**

Statute and Corresponding Regulations	Description	Agency Oversight and Effectiveness
Disaster Mitigation Act of 2000 (DMA 2000) P.L. 106-390	DMA 2000 provides an opportunity for states, tribes, and local governments to take a new and revitalized approach to mitigation planning. DMA 2000 amended the Robert T. Stafford Disaster Relief and Emergency Assistance Act (the Act) by repealing the previous mitigation planning provisions (Section 409) and replacing them with a new set of mitigation plan requirements (Section 322). This new section emphasizes the need for state, tribal, and local entities to closely coordinate mitigation planning and implementation efforts. Up to 7% of HMGP funds available to be used for development of state, tribal, and local mitigation plans.	The NJOEM Mitigation Unit is the lead agency within New Jersey to promote mitigation planning. The law sets forth a more granular review of mitigation planning. Once approved, the applicant is eligible for applying for federal funds for mitigation of hazards. The rules provide detailed guidance on what applicants should include in a plan.
44 CFR PART 201.4	FEMA has prepared policy and procedures for FEMA's review and	The State Hazards Mitigation Plan provides actions based on risk

Statute and Corresponding Regulations	Description	Agency Oversight and Effectiveness
	approval of state and local emergency all-hazard mitigation plans.	assessments and capabilities of the state to achieve and fund mitigation activities based on those actions. Both the law and regulations have encouraged the counties to prepare plans.
Robert T. Stafford Disaster Relief and Emergency Assistance Act	The Act provides an orderly and continuing means of assistance by the federal government to state and local governments in carrying out their responsibilities to alleviate the suffering and damage that results from disasters. The provisions of the Act include (1) revising and broadening the scope of existing disaster relief programs; (2) encouraging the development of comprehensive disaster preparedness and assistance plans, programs, capabilities, and organizations by state and local governments; (3) achieving greater coordination and responsiveness of disaster preparedness and relief programs; (4) encouraging individuals, and state and local governments to protect themselves by obtaining insurance coverage to supplement or replace governmental assistance; (5) encouraging hazard mitigation measures to reduce losses from disasters, including development of land-use and construction regulations; and (6) providing federal assistance programs for both public and private losses sustained in disasters.	From a mitigation perspective of the Act, the NJOEM Mitigation Unit is the lead agency that reviews, submits, and administers federal funding to programs that mitigate hazards. These programs help find projects that are cost beneficial to help reduce damages from hazards.
Bunning-Bereuter-Blumenauer Flood Insurance Reform Act of 2004	The Flood Insurance Reform Act of 2004 amended the 1994 National Flood Insurance Reform Act of 1968 to reduce losses to properties for which repetitive flood insurance claim payments have been made. This Act established a program for mitigation of severe repetitive loss properties and gave FEMA the authority to fund mitigation activities for individual repetitive loss claims properties. The Act provides additional coverage for compliance with land-use and control measures.	The NJDEP Flood Control Division is the lead coordinator of New Jersey's NFIP efforts. NJOEM Mitigation Unit is the agency working with New Jersey communities with severe repetitive loss properties. This Statute helps New Jersey residents with affordable flood insurance and gives additional tools to the states and communities to mitigate severe repetitive loss properties

Statute and Corresponding Regulations	Description	Agency Oversight and Effectiveness
Biggert Waters National Flood Insurance Reform Act of 2012	Under the Biggert-Waters National Flood Insurance Reform Act of 2012, long-term changes to the National Flood Insurance Program have been adopted that have increased rates overall to more accurately reflect the flood risk to buildings in flood hazard areas. This has significantly influenced construction and reconstruction within flood hazard areas.	Property owners are encouraged to consider long-term insurance costs when undertaking reconstruction or elevation of damaged buildings. An investment to reconstruct the lowest floor of a building an additional foot or two higher today may translate into significant future flood insurance savings.
Presidential Policy Directive 8 (PPD-8)	PPD-8 requires that a Threat Hazard Identification and Risk Assessment (THIRA) be developed for a state to remain eligible for Homeland Security Grant Program (HSGP) and Emergency Management Program Grant (EMPG) funding.	The New Jersey Office of Homeland Security and Preparedness is the lead agency in preparing the State's THIRA. The fiscal year 2013 NJ State THIRA and Strategic Planning Report was submitted to FEMA Region II in December 2013.
Disaster Recovery Reform Act	This bill amends the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act) to modify the Predisaster Hazard Mitigation Grant Program to permit the use of technical and financial assistance to establish and carry out enforcement activities to implement codes, specifications, and standards that incorporate the latest hazard-resistant designs; direct the President to establish a National Public Infrastructure Predisaster Mitigation Fund; authorize the President's contribution to the cost of hazard mitigation measures to be used to increase resilience in any area affected by a major disaster; and direct the Federal Emergency Management Agency (FEMA) to issue a final rulemaking that defines the terms "resilient" and "resiliency."	From a mitigation perspective of the Act, the NJOEM Mitigation Unit is the lead agency that reviews, submits, and administers federal funding to programs that mitigate hazards. These programs help find projects that are cost beneficial to help reduce damages from hazards.
Homeowner's Flood Insurance Affordability Act	This law repeals and modifies certain provisions of the Biggert-Waters Flood Insurance Reform Act, which was enacted in 2012, and makes additional program changes to other aspects of the program not covered by that Act. The new law lowers the recent rate increases on some policies, prevents some future rate increases, and implements a surcharge on all policyholders. The	FEMA, Congress, the private Write Your Own insurance companies, and other stakeholders work together to implement these Congressionally mandated reforms and to work toward shared goals of helping families maintain affordable flood insurance, ensuring the financial stability of the NFIP, and reducing the risks and consequences of flooding nationwide.

Statute and Corresponding Regulations	Description	Agency Oversight and Effectiveness
	Act also repeals certain rate increases that have already gone into effect and provides for refunds to those policyholders. The Act also authorizes additional resources for the National Academy of Sciences (NAS) to complete the affordability study.	

Table 6-5 State Mitigation Laws and Regulations that Impact Development in Hazard-Prone Areas

Statute and Corresponding Regulations	Description	Agency Oversight and Effectiveness
Freshwater Wetland Protection Act (N.J.S.A. 13: B:1) Freshwater Wetland Protection Rules (N.J.A.C. 7:7A)	New Jersey enacted this law to support development and enhancement of State and local wetland protection programs. Projects must clearly demonstrate a direct link to increasing the State's ability to protect wetland resources. Grants are federally funded and administered by the NJDEP. The associated implementing regulations support the New Jersey freshwater wetlands program. The Freshwater Wetlands Protection Act was last amended in 2016 and the Freshwater Wetland Protection Rules were last amended April 16, 2018.	On April 16, 2013 in view of the significant adverse social, economic and environmental impacts associated with Superstorm Sandy, and in support of the rebuilding and economic recovery of New Jersey's coastal areas in an expeditious and resilient manner, the NJDEP adopted on an emergency basis (effective April 16, 2013), amendments, repeals and new rules to the Coastal Permit Program rules, N.J.A.C. 7:7, and Coastal Zone Management rules, N.J.A.C. 7:7E in order to make these rules more effective. These amendments, repeals, and new rules are intended to facilitate the expeditious rebuilding of more resilient coastal communities and coastal-related industries and help facilitate the recovery of the coastal ecosystem. As of July 2015 NJDEP's proposed amendments to consolidate the procedural aspects of the former Coastal Permit Program Rules and substantive provisions of the former Coastal Zone Management.



Statute and Corresponding Regulations	Description	Agency Oversight and Effectiveness
Flood Hazard Area Control Act (N.J.S.A. 58:16A-52) Flood Hazard Area Control Regulation (N.J.A.C. 7:13)	New Jersey enacted this law to delineate and mark flood hazard areas; authorize NJDEP to adopt land-use regulations for the flood hazard area; control stream encroachments; coordinate effectively the development, dissemination, and use of information on floods and flood damages that may be available; authorize the delegation of certain administrative and enforcement functions to county governing bodies; and integrate the flood control activities of the municipal, county, State, and federal governments. The intent of the regulations is to minimize potential on- and off-site damage to public or private property caused by development that, at times of flood, subject structures to flooding and increase flood heights and/or velocities both upstream and downstream. These rules are also intended to safeguard the public from the dangers and damages caused by materials being swept onto nearby or downstream lands, to protect and enhance the public's health and welfare by minimizing the degradation of water quality from point and non-point pollution sources, and to protect wildlife and fisheries by preserving and enhancing water quality and the environment associated with the floodplain and the watercourses that create them.	In response to Superstorm Sandy, NJDEP adopted emergency flood hazard area regulations on January 24, 2013, to facilitate the reconstruction, relocation, and elevation of buildings damaged by Sandy and mitigate. More recently the rules have last been amended on April 16, 2018. The Department is in the process of proposing additional amendments to the Flood Hazard Area Control Act Rules to further increase riparian zone protections, provide additional protections for the 300-foot riparian zone, improve mitigation requirements, and facilitate environmentally beneficial agriculture activities, among other changes.
Waterfront Development Statute (N.J.S.A. 12:5-1) Coastal Permit Program (N.J.A.C. 7:7)	This Law sets forth the requirements of filling or dredging of, or placement or construction of structures, pilings, or other obstructions in any tidal waterway, or in certain upland areas adjacent to tidal waterways outside the area regulated under Coastal Area Facility Review Act. These requirements are fully explained in N.J.A.C. 7:7-2.3. These implementing rules establish the procedures by which the NJDEP will review permit applications and appeals from permit decisions the Waterfront Development Law.	As noted above, on April 16, 2013, NJDEP adopted emergency amendments, repeals, and new rules to the Coastal Permit Program rules, N.J.A.C. 7:7; and CZM rules, N.J.A.C. 7:7E; and also filed a concurrent proposal to make these changes permanent. Most recently, as of July 2015 NJDEP's proposed amendments to consolidate the procedural aspects of the former Coastal Permit Program Rules and substantive provisions of the former Coastal Zone Management.

Statute and Corresponding Regulations	Description	Agency Oversight and Effectiveness
Safe Dam Act of 1981 N.J.A.C.7:24A - Dam Restoration and Inland Water Projects Loan Program Rules:	No municipality, corporation, or person shall (without the consent of the Commissioner of Environmental Protection) build any reservoir or construct any dam; or repair, alter, or improve existing dams on any river or stream in this State or between this State and any other state that will raise the waters of the river or stream more than 5 feet above its usual mean low water height. These rules are for the purpose of administering the Dam Restoration and Inland Water Projects Loan Program. The Department awards and administers loans for projects in accordance with the adopted regulations.	This program is a low-interest loan program to assist local government units, private lake associations, and private dam owners with the repair and restoration of dams, and the implementation of inland water projects. This program has successfully resulted in the repair of 95 high and significant-hazard dams. It is a revolving loan program so that as money is paid back into the program additional loan applications for future projects can be accepted. The last application deadline for this loan program was May 31, 2017.
Construction Permits (N.J.S.A. 13:1D-29 to 34)	The Law mandates that NJDEP make timely decisions on construction permit applications to ensure adequate public notice of procedures and to continue effective administration of the substantive provisions of other laws.	This Law ensures NJDEP issues permits in a timely manner so as not to delay necessary construction projects. Historical records indicate NJDEP's conformance with this law. This does not apply to freshwater wetland rules, only coastal and flood hazard regulations. As part of the effort to recover from the impacts of Superstorm Sandy this law was amended March 25, 2013 in conjunction with the amendment of R.2013d to the Flood Hazard Area Control Act.
Coastal Area Facility Review Act (CAFRA) (N.J.S.A. 13:19)	CAFRA applies to projects near coastal waters in the southern part of the State. The law divides the CAFRA area into sections or zones and regulates different types of development in each zone. Generally, the closer it is to the water, the more likely a development will be regulated. The CAFRA law regulates almost all activities involved in residential, commercial, or industrial development, including construction, relocation, and enlargement of buildings or structures; and all related work, such as excavation, grading, shore protection structures, and site preparation. This law is implemented through New Jersey's CZM Rules N.J.A.C. 7:7E-1.1 et seq	Permits issued require construction in accordance with the NFIP requirements in A and V zones. Effective July 1994 the CAFRA jurisdiction was expanded to include every single-family residential development within 150 feet of the mean high-water line, beach, or dune. The threshold for regulation over commercial development was lowered to capture smaller commercial developments, and NJDEP gained authority over any disturbance to a beach or dune area or the placement of a structure in these areas. Effective November 5, 2007, the CZM rules incorporate the new and more stringent Flood Hazard Area Control Act standards, including protection of riparian buffers along tidal water courses that can be 50, 150, and 300 feet along environmentally sensitive (Category-1) waterways.



Statute and Corresponding Regulations	Description	Agency Oversight and Effectiveness
Environmental Aid Act (N.J.S.A. 13:1H – 1 to 7) Office of Environmental Services Matching Grants Program for Local Environmental Agencies (N.J.A.C.7:5)	State aid may be granted by the department to a local environmental agency for any activity that the agency is authorized to perform by law and for the preparation of an environmental index. An environmental index shall be a report on environmental conditions within the locality and community objectives concerning open areas, parks, water supply, solid waste, wildlife protection, soil resources, air pollution, water pollution and other related issues. The department may provide technical assistance in addition to (or in lieu of) State aid to any local environmental agency for the purpose indicated in this act. The purpose of the funding dedicated under this act is to assist local environmental commissions and soil conservation districts with funding for a variety of local environmental projects including community education projects; environmental resource inventories; beach monitoring and management projects; environmental trail designs; lake rehabilitation studies; stream and water quality testing; wellhead delineation; GIS mapping projects; National Environmental Performance Partnership System indicator projects; and surveys of threatened and endangered species. The maximum annual grant is \$2,500. Applicants must match at least 50% of the total cost of the project.	Projects funded by this grant are reported on-line. Examples of mitigation projects that have been funded in the past include Waterways Beach Monitoring and Management Strategy, Dune Project, Beach Protection and Storm Drainage Plan, Beach Storm Water Drainage Analysis, Stream Corridor/Greenway Protection Plan, Shoreline Bioengineering Demonstration and Outreach Project, Stream and the Pamphlet/Education Project.
N.J.S.A. 58:16a-101	NJOEM shall notify the emergency management organization in the counties, which shall then notify the local police departments in the event of a flood situation.	NJOEM shares all data with county-level OEM offices. Weather alerts and notices are produced daily, 365 days a year. The local-level OEM entities have access to the same data sources as NJOEM. Preparations for approaching events are generally concurrent. The majority of the time, State-level notifications to local-level issues are redundant but are carried out regardless.
Forest Fire Prevention and Control Act (N.J.S.A. 13:9-44 to 44.10)	The Forest Fire Service is responsible for determining wildfire hazards; removing or overseeing removal of brush, undergrowth, or other material that contributes to wildfire hazards; maintaining or overseeing maintenance of firebreaks; setting backfires; plowing lands; closing roads; and making	The laws that apply are 13:9-2, 9-23, and 9-24. Also, Forest Fire mitigation efforts are not exempted in other environmental regulations. Certain mitigation efforts sometimes occur where there is threatened and endangered habitat, even when that habitat was caused by past prescribed burning operations.

Statute and Corresponding Regulations	Description	Agency Oversight and Effectiveness
	<p>regulations for burning brush. The Forest Fire Service has the authority to summon any male person between the ages of 18 and 50, who may be within the jurisdiction of the state, to assist in extinguishing fires. The Fire Service can require the use of property needed for extinguishing fires, issue permits, collect extinguishment costs and fines for violations, and direct all persons and apparatus engaged in extinguishing wildfires. The Service has the right of entry to inspect and ascertain compliance and extinguish wildfires, investigate fires to determine cause, close the woods to all unauthorized persons in an emergency, and arrest (without an official warrant) anyone violating the Forest Fire Laws.</p>	
<p>New Jersey Green Acres Land Acquisition Acts of 1961 and 1971, and Green Acres Land Acquisition and Recreation Opportunities Act (N.J.S.A. 13:8a 19-55 and 8B 1-9) Green Acres Program (N.J.A.C. 7:36), Blue Acres Floodplain Acquisition</p>	<p>The Legislature enacted the New Jersey Acres Land Acquisition Acts in order to achieve, in partnership with others, a system of interconnected open spaces, whose protection will preserve and enhance New Jersey's natural environment and its historic, scenic, and recreational resources for public use and enjoyment. On November 3, 1998, New Jersey voters approved a referendum that created a stable source of funding for open space, farmland, and historic preservation and recreation development, and on June 30, 1999, the Garden State Preservation Trust Act was signed into law. The law establishes, for the first time in history, a stable source of funding for preservation efforts. These rules implement the Green Acres laws, governing the award of loans or matching grants, or both, to local government units for the acquisition or development of land, and 50% matching grants to nonprofits for the acquisition or development of land, for outdoor recreation and conservation purposes. These rules establish project eligibility requirements, application requirements, funding award categories and criteria, matching grant and loan terms, and program administrative requirements. The rules also contain procedures for the disposal, or diversion to a use other than</p>	<p>These land preservation programs assist local government units and nonprofits in their efforts to increase and preserve permanent outdoor recreation areas for public use and enjoyment, and conservation areas for the protection of natural resources such as waterways, wildlife habitat, wetlands, forests, and view sheds. A secondary benefit of these laws and rules is that flood-prone properties are often purchased and not available for future development. This statute has achieved acquisitions of more than 1.2 million acres of open space and farmland for preservation in communities across the State. Green Acres provides low interest (2%) loans and grants to municipal and county governments to acquire open space and develop outdoor recreation facilities. Green Acres also provides matching grants to nonprofit organizations to acquire land for public recreation and conservation purposes. Furthermore, Green Acres administers the \$15 million in Coastal Blue Acres funds. Designated municipalities and counties can receive grants and loans from Green Acres to acquire land for storm protection and recreation purposes in New Jersey coastal areas that have been damaged by storms, are prone to storm damage, or buffer or protect other lands from storm damage.</p>

Statute and Corresponding Regulations	Description	Agency Oversight and Effectiveness
	<p>recreation and conservation, of those lands acquired or developed with Green Acres funding or otherwise encumbered with Green Acres restrictions.</p> <p>The Blue Acres Program is the part of New Jersey's Green Acres Program that purchases floodprone properties.</p> <p>Through the DEP's Superstorm Sandy Blue Acres Buyout Program, the State will spend \$300 million in federal disaster recovery funds to give homeowners the option to sell Sandy-damaged homes at pre-storm value in flood-prone areas.</p>	
<p>Wetlands Act of 1970 (N.J.S.A. 13:9A – 1 to 10)</p> <p>Coastal Zone Management Rules Program (N.J.A.C.7:7E)</p> <p>Coastal Zone Management Adopted Amendment (N.J.A.C. 7:7-16.9)</p>	<p>In 1970, the New Jersey Legislature declared that one of the most vital and productive areas of our natural world is the area between the sea and the land known as the "estuarine zone." This area protects the land from the force of the sea, moderates the weather, provides a home for water fowl and for fish and shellfish, and assists in absorbing sewage discharge by the rivers of the land. It is necessary to preserve the ecological balance of this area and prevent its further deterioration and destruction by regulating the dredging, filling, removing, or otherwise altering or polluting. Coastal Zone Management rules mandate the use and development of coastal resources, to be used primarily by the Land Use Regulation Program in the Department in reviewing permit applications under the Coastal Area Facility Review Act (CAFRA), N.J.S.A. 13:19-1 et seq. (as amended to July 19, 1993); Wetlands Act of 1970, N.J.S.A. 13:9A-1 et seq.; Waterfront Development Law, N.J.S.A. 12:5-3; Water Quality Certification (401 of the Federal Clean Water Act); and Federal Consistency Determinations (307 of the Federal Coastal Zone Management Act). The rules also provide a basis for recommendations by the Program to the Tidelands Resource Council on applications for riparian grants, leases, and licenses. The most recent amendment, effective as of September 18, 2017, creates rules that update several provisions in the Department's</p>	<p>NOAA has oversight of the funds received for the Coastal Zone Management and NJDEP administers the regulatory program. NJDEP must report grant activities (status, implementation, and completion) to NOAA twice a year.</p>

Statute and Corresponding Regulations	Description	Agency Oversight and Effectiveness
	requirements to provide public access to tidal waterways and their shores.	
Pineland Protection Act (N.J.S.A. 13:18A-30 to 49)	In 1979 the New Jersey Legislature declared the protection of the New Jersey Pinelands and established a regional planning and management commission empowered to prepare and oversee the implementation of a comprehensive management plan for the pinelands area.	Management programs and minimum standards have been established under the Pinelands Comprehensive Management Plan that are intended to provide protection of wetlands, vegetation, fish and wildlife, water quality management, and forest fire management. Flood and wildfire mitigation is a secondary benefit of the development constraints placed on environmentally sensitive areas.
Pinelands Comprehensive Management Plan (N.J.A.C.7:50)	The Comprehensive Management Plan implements the regulations and standards designed to promote orderly development of the Pinelands so as to preserve and protect the significant and unique natural, ecological, agricultural, archaeological, historical, scenic, cultural, and recreational resources of the Pinelands. The Pinelands Commission bears the ultimate responsibility for implementing and enforcing the provisions of the Pinelands Protection Act and this Plan.	Under the Pinelands Comprehensive Management Plan management programs and minimum standards have been established that are intended to provide for the protection of wetlands, vegetation, fish and wildlife, water quality management, and forest fire management. Flood and wildfire mitigation is a secondary benefit of the development constraints placed on environmentally sensitive areas.
New Jersey Pollutant Discharge Elimination System (NJPDES) Stormwater Regulation Program (NJPDES) Rules (N.J.A.C.7:14A).	These NJPDES Stormwater Rules are intended to address and reduce pollutants associated with existing stormwater runoff. These NJPDES Rules govern the issuance of permits to entities that own or operate small, separate, municipal storm sewer systems. The permit program establishes the Statewide Basic Requirements that must be implemented to reduce nonpoint source pollutant loads from these sources. The Statewide Basic Requirements include measures such as the adoption of ordinances (litter control, pet waste, wildlife feeding, proper waste disposal, etc.); the development of a municipal stormwater management plan and implementing ordinance(s); requiring certain maintenance activities (such as street sweeping and catch basin cleaning); implementing solids and floatables control; locating discharge points and stenciling catch basins; and a public education component.	<p>Guidance for the development of Municipal Mitigation Plans was developed and made available in February 2004. This has been effective in guiding the community for stormwater runoff.</p> <p>The program was developed in response to the EPA Phase II rules published in December 1999. The department issued final stormwater rules on February 2, 2004 and four NJPDES general permits authorizing stormwater discharges from Tier A and Tier B municipalities, as well as public complexes, and highway agencies that discharge stormwater from municipal separate storm sewers. There are 462 Tier A municipalities and 100 Tier B municipalities. The general permits address stormwater quality issues related to new development, redevelopment, and existing development by requiring municipalities to implement a number of Statewide Basic Requirements. All municipalities have a local stormwater coordinator and the department has case managers assigned to each municipality</p>

Statute and Corresponding Regulations	Description	Agency Oversight and Effectiveness
		<p>for compliance assistance (see N.J.A.C. 7:22 below). Long term water quality trends in rivers and streams indicate dramatic improvement over the past 30 years, likely the result of elimination or minimization of point sources, upgrades of wastewater treatment plants and natural attenuation of pollutants.</p> <p>Municipal stormwater management renewal permits have changed for Tier A and Tier B municipalities, effective as of January 1, 2018. The Tier A and Tier B Municipal Stormwater General Permits authorize the discharge of stormwater from small municipal separate storm sewers. The Tier A permit addresses stormwater quality issues related to both new and existing development. The Tier B permit focuses on new development and redevelopment projects and public education.</p>
Stormwater Management Rules (N.J.A.C.7:8)	<p>These rules set forth the required components of regional and municipal stormwater management plans and establish the stormwater management design and performance standards for new (proposed) development. The design and performance standards for new development include groundwater recharge, runoff quantity controls, runoff quality controls, and buffers around Category 1 waters.</p>	<p>New Jersey's Stormwater Management rules are implemented by the New Jersey Department of Environmental Protection through the review of permits issued by the Division of Land Use Regulation (Flood Hazard, Freshwater Wetlands, CAFRA, Waterfront Development and Coastal Wetlands). The Stormwater Management rules (Stormwater rules or rules) are also implemented by local authorities through the Municipal Land Use Law (MLUL) and the Residential Site Improvement Standards (RSIS). Per the New Jersey Department of Community Affairs, the RSIS are applicable to any residential application that goes before a local board. Through the RSIS, the Stormwater rules are activated whenever a municipality requires the control of runoff from a site that is the subject of a site or subdivision application.</p>

Statute and Corresponding Regulations	Description	Agency Oversight and Effectiveness
Sewage Infrastructure Improvement Act Grants (N.J.A.C.7:22)	New Jersey Sewage Infrastructure Improvement Act establishes comprehensive requirements for NJDEP and municipalities/authorities to address combined sewer overflows and stormwater management.	NJDEP issues permits and provides below-market interest rate loans through the Environmental Infrastructure Financing Program to municipalities for capital improvements that improve water quality. To prioritize wastewater projects under the Environmental Infrastructure Financing Program, projects are ranked to address higher State priorities or high-water quality problems or improvements. Since the enactment of the loan program, more than \$1.5 billion in state and federal funds have been awarded.
Water Pollution Control Quality Act (N.J.S.A. 58:10A-1 to 60) Water Quality Management Planning Rules (N.J.A.C.7:15)	This Act phased out the Construction Grants Program and required states to establish a State Revolving Fund Loan Program. The last year in which construction grants were made available for new projects in New Jersey was 1989. Grant awards are available currently to cover increased allowable costs for projects that previously received a construction grant. The rules serve two basic functions: (1) to establish the Department's general regulatory framework for water quality planning and (2) to supplement other Department rules pertaining to wastewater management.	This Act is implemented through a number of regulations and programs throughout NJDEP including, but not limited to Freshwater Wetlands Protection Act (NJAC 7:7A), Stormwater Management (NJAC 7:8), Water Pollution Control (NJAC 7:9), Surface Water Quality Standards (NJAC 7:9B), Safe Drinking Water Act (NJAC 7:10), Flood Hazard Control Act (NJAC 7:13), Pollutant Discharge Elimination System (NJAC 7:14A), and Water Quality Management (NJAC 7:15). Through these rules, NJDEP regulates development location and intensity of uses, protects floodplain capacity and riparian buffers, funds restoration of lakes and streams, and funds infrastructure improvements that primarily provide environmental health. Secondly, the rules allow NJDEP to provide mitigation in the form of reduced losses due to infrastructure failure. Wastewater Management Plans (WMP) are integral components of area-wide Water Quality Management Plans. WMPs are the vehicle through which the continuing planning process integrates local and regional planning into the area-wide Water Quality Management Plans.
Tidelands Act (N.J.S.A 12:3)	Tidelands, also known as "riparian lands" are lands now or formerly flowed by the tide of a natural waterway. This includes lands that were previously flowed by the tide but have been filled and are no longer flowed by the tide. These lands are owned by the people of the State of New Jersey. You must first get permission from the State to use these lands, in the form of a	The management of tidelands in New Jersey is overseen by the Tidelands Resource Council, a board of twelve Governor-appointed volunteers, along with DEP staff at the Bureau of Tidelands Management. Grants, licenses and leases are issued by the Tidelands Resource Council, which makes all ultimate decisions with regard to tidelands.

Statute and Corresponding Regulations	Description	Agency Oversight and Effectiveness
	tidelands license, lease or grant, and you must pay for this use.	
New Jersey Civilian Defense and Disaster Control Act	The purpose of this act is to provide for the health, safety and welfare of the people of the State of New Jersey and to aid in the prevention of damage to and the destruction of property during any emergency as herein defined by prescribing a course of conduct for the civilian population of this State during such emergency and by centralizing control of all civilian activities having to do with such emergency under the Governor and for that purpose to give to the Governor control over such resources of the State Government and of each and every political subdivision thereof as may be necessary to cope with any condition that shall arise out of such emergency and to invest the Governor with all other power convenient or necessary to effectuate such purpose.	Implementation is overseen by the State Department of Defense, office of civilian defense director. The director is appointed by the Governor. The Act is implemented through coordination and established lines of communication through the State Office of Emergency Management and county emergency management coordinators.
N.J.S.A. 38A:17-1	The Governor is authorized to enter into agreements with the governors of any of the states bordering on New Jersey for the protection in the event of emergency of any or all interstate bridges, tunnels, ferries and other communications facilities.	The State Office of Emergency Management (OEM) is responsible for the implementation of the Governor's directive to assist emergency response counterparts in bordering states. OEM manages inter-state assistance through delineated lines of communication and standard operating procedures.
N.J.S.A. 52:14E-11 (3-10-2003) The Fire Service Resource Emergency Deployment Act	This Act allows for the Fire Division within the Department of Community Affairs to deploy fire assets to a pre-designated location in advance of a disaster or emergency as well as move assets to a pre-designated location to avoid assets being damaged	New Jersey Community Affairs, Fire Service Division. This has been used successfully in every disaster since the Act was passed.
N.J.S.A. 52:27D-126.3 Emergency Building Inspection Act	Enacted on January 17, 2007, this Act addresses how building code officials would be compensated if called to support damage assessment outside of their jurisdiction.	The Commissioner of the Department of Community Affairs established a program to deploy State and local construction code officials to assist local construction code officials and inspectors. This program has provided flexibility and redundancy to the State and local governing bodies in the deployment of essential personnel to evaluate buildings and other structures affected by a natural or man-made disaster or emergency.



Statute and Corresponding Regulations	Description	Agency Oversight and Effectiveness
N.J.S.A. § 52:18A-196 et seq	The State Planning Act (1985) created the New Jersey State Planning Commission (SPC) and the Office of State Planning (OSP) as staff to the SPC.	New Jersey Department of State, Office for Planning Advocacy Duties of the SPC are: • To prepare and adopt a State Plan to provide a coordinated, integrated and comprehensive plan for the growth, development, renewal and conservation of the State and its regions; • To prepare a long-term Infrastructure Needs Assessment, which shall provide information on present and prospective conditions, needs and costs with regard to State, county and municipal capital facilities, including water, sewerage, transportation, solid waste, drainage, flood protection, shore protection and related capital facilities; • To develop and promote procedures to facilitate cooperation and coordination among State agencies and local governments; • To provide technical assistance to local governments; • Periodically review State and local government planning procedures and relationships; review any bill introduced in either house of the Legislature which appropriates funds for a capital project
N.J.S.A. 58:16A-66 et seq.	This Act granted the Commissioner of the Department of Environmental Protection authority to develop a flood early-warning system in consultation with the U.S. Army Corps of Engineers (USACE) and in coordination with NJOEM in the Division of State Police	NJDEP/NJOEM have led the efforts for the development of the flood early warning system NJOEM and several of the counties in the central and northern tier of the State above the coastal plain have live rain, stream, and flood gauges. In the back bays and along tidal waters in 14 coastal counties, the U.S. Geological Survey (USGS) manages the New Jersey Tide Telemetry System. All systems transmit telemetry continuously to the NWS, USGS, State Climatologist, NJDEP, NJOEM and all affected counties and many municipalities. These systems were created and installed with federal assistance through NOAA and USACE.

## 6.3 LOCAL CAPABILITIES

### 6.3.1 CAPABILITIES BY HAZARD

In addition to the program, policy, legal, and regulatory capabilities assessed, this plan also reviews New Jersey capabilities based on each type of hazard. This section provides a brief description of that assessment.

#### *Capabilities that Impact Multiple Hazards*

**Public Information Methods:** Several different types of public information methods were employed over the past few years, all targeted at educating the public about hazards and most importantly, what



individuals can do to both prepare and protect their lives and property. Brochures, magnets, full-size signage, handouts, and other items have been purchased and distributed, some in bi-lingual formats. This effort has been extremely well received and has extended to other projects such as establishing hurricane insurance programs and the distribution of emergency information through real estate brokers for summer vacationers.

*HAZUS Analysis:* For the past 5 years, NJOEM and other New Jersey agencies use Hazards U.S. (HAZUS) software to combine soil, demographic, and infrastructure data to estimate losses and vulnerabilities from natural hazards. This software also allows policy makers to target stricter development standards for targeting hazard mitigation.

#### *Storms and Flooding*

By far, the most repetitive type of disaster affecting New Jersey is flooding caused by storms. The NJOEM has established a strong working group with all 21 County OEMs to use HURREVAC software for tracking hurricanes. HURREVAC allows NJOEM and counties to work as a unified team, coordinating notification, communication, activations, public warning, and evacuation and sheltering efforts. By operating together, the State and the counties serve the public better by providing the same advisories and actions.

As part of this effort, an extensive set of e-mail groups has been established and used for all types of communications and warnings. Particularly when an approaching storm warrants monitoring, NJOEM sends out e-mails with State EOC status information and advice embedded in jpeg files to keep all emergency managers Statewide up to date with NJOEM's direction. NJOEM also uses conference calling with the National Weather Service (NWS) and County Emergency Management Offices to share specific information and needs. Resources are deployed as early as possible to prepare for storm impacts.

Public warning systems have been established in key municipalities along the Atlantic coast. Weather monitoring stations, tide telemetry gauges, river and rain gauges, and consolidated computer-based software have been acquired for the purpose of covering the entire State with local-level monitoring. New Jersey is one of the few states in the nation to have its own WeatherNet.

Data from these systems have provided the NJOEM and county and local planners with valuable hazard and vulnerability information. Funding has been granted to many small local projects based on flood potential and flood damages. This same information also helped to analyze flood inundation maps used by the NJOEM Preparedness Unit in developing Reverse Lane plans and strategies for hurricane evacuation. New Jersey now has four fully functional plans, one each for the coastal counties of Cape May, Atlantic, Ocean, and Monmouth, involving five State and Interstate highways. These plans are periodically exercised to confirm their operational readiness.

Many large-scale projects and programs are continuing, such as dune replenishment, dune fortification, bulkheading, fencing, grass plantings, and grading, which all have helped to build up New Jersey beach fronts to better protect against storm surge and wave action. Inland flood-control measures are being implemented along rivers, creeks, and culverts. Many jurisdictions have instituted regular stream and culvert cleaning and tree-trimming programs just prior to storm seasons in spring and fall. Structural elevations have been adjusted in many cases where properties can be maintained.

#### *Earthquakes*

The NJOEM has joined the New York Consortium on Earthquake Mitigation, along with New York City, New York State, New Jersey Geological Survey, Columbia and Princeton Universities, and several counties in the metro New York area. This Consortium is concentrating efforts on assessing the vulnerabilities of the metro New York area and identifying ways to better protect life and property by running model simulations. These computer exercises reveal which areas fail first, how damages result, and what economic and socioeconomic effects result, giving a comprehensive picture of total impact.

#### *Wildfires*

Wildfires are a major concern in years when drought was prevalent. Several large fires struck the Pine Barrens and other forested areas of New Jersey. Fire services have employed isolation and pre-burn techniques to limit the total acreage affected. This has had excellent results, and New Jersey forests have rebounded well. Fire coordinators continue these programs throughout the dry season.

#### *Dam Failures*

NJDEP has a group dedicated to administering a strict and regulated dam emergency planning initiative with all dam owners and operators in the State. Emergency notification and public warning systems are a required element of these plans. Inspections and fortification programs have been instituted to deal with aging dams as well as increased at-risk (downstream) populations. NJOEM reviews these plans, paying particular attention to immediate notification systems and emergency response actions.

### 6.3.2 NEW PROGRAMS AND CHANGES IN CAPABILITIES

In response to Superstorm Sandy, Governor Christie's mission has been to ensure that every possible avenue of relief is pursued to assist in the recovery and rebuilding of the State of New Jersey. As part of the State's long-term recovery strategy, the State has committed to building back better and stronger by pursuing resilient infrastructure projects and mitigation opportunities to prevent future damage and utilizing construction techniques and materials that will better withstand future weather events. This is accomplished through numerous initiatives and programs such as FEMA's Public Assistance program, FEMA's Hazard Mitigation Assistance program, and new State programs and initiatives to achieve recovery goals and mitigate against future losses.

New programs, initiatives and capabilities to New Jersey since the previous Plan update are detailed below. The report issued by the State entitled "New Jersey Five Years Post-Sandy, Stronger than the Storm" details each of these initiatives. These include the following:

#### *Reconstruction, Rehabilitation, Elevation, and Mitigation (RREM) program*

A \$1.2 billion program that is the State's flagship program for rebuilding primary homes damaged by Sandy. Thus far, about 6,200 out of a population of about 7,600 RREM grantees are back in their homes, which outpaces the progress in similar Sandy homeowner programs in New York and New York City.

#### *Blue Acres*

Has surpassed \$100 million in acquisitions of homes in tidal areas affected by Superstorm Sandy or areas that have repeatedly flooded. Voluntary buyout offers have been made to 934 homeowners in 14 municipalities. So far, Blue Acres has completed 590 property closings and demolished 453 floodprone properties. Additionally, the Program has facilitated short sale/payoff approvals from lenders for 62 homeowners who were upside down on their mortgages for a total debt forgiveness that surpasses \$4.4 million.

#### *Housing and Mortgage Finance Agency's (HMFA) Fund for Restoration of Multifamily Housing (FRM) Program*

Nearly 5,200 affordable units already have been funded. Based on FRM's established track record of successfully funding affordable housing in Sandy-impacted counties, HMFA received federal approval in June 2017 for \$60 million more in funding, which is anticipated to create an additional 255 to 350 affordable housing units in the years to come.

#### *Infrastructure Resiliency*

- The Department of Transportation's \$341 million Route 35 Reconstruction Project, featuring state-of-the-art road construction and a comprehensive storm water drainage system, was completed in 2016.
- Beach restoration and dune projects will help create an engineered, comprehensive shore protection system along the Atlantic coast, while also bolstering protections on the Delaware Bay

- As part of the rebuilding process, the State has prioritized projects that will reduce the risk of flooding from future storm events. Projects include: Sea Bright's Sea Wall, Mantoloking's and Brick's Steel Sheet Piling, Belmar's Lake Como Discharge Piping System, Brigantine's Pump Stations, Little Ferry's Tide Gate and Pump Station, Wildwood's and North Wildwood's Stormwater and Flood Control Projects, Stone Harbor's Stormwater and Storm-Surge Mitigation Project, and Union Beach's Resiliency Project.
- Billions have been invested to harden electric and gas distribution networks, creating a more flood/weather resilient energy grid.
- The HUD-funded Rebuild by Design (RBD) Hudson River and Meadowlands projects are progressing with final designs, with a goal of completing each project by HUD's 2022 deadline.

## *Task Force One*

In response to Superstorm Sandy, Task Force One deployed three Type-I Swiftwater Rescue Teams. The task force is comprised of over 250 volunteer members who come from various backgrounds such as law enforcement, fire rescue, engineering, and emergency medicine.

## *The Public Assistance Unit*

To date, the Public Assistance Unit has helped local government entities obtain approximately \$2 billion in FEMA Public Assistance funds to help repair and rebuild public facilities and infrastructure projects impacted by Superstorm Sandy. More than 1,000 local government units received funding for more than 5,000 total projects.

## *Individual Assistance*

The OEM Individual Assistance Unit helps distribute emergency Federal funds and services to people in the disaster area when losses are not covered by insurance and property has been damaged or destroyed. Types of Individual

Assistance after Sandy included:

- Sandy Transitional Shelter Assistance = 5,546 families sheltered
- Sandy Direct Housing Operations Program = 122 units at Fort Monmouth and 85 Manufactured Housing Units used to shelter displaced families

## *NJOEM Mitigation Unit*

The OEM Mitigation Unit focuses on acquisition, elevation, local infrastructure, retail fuel resiliency, and energy allocation programs funded through FEMA's grant programs: Hazard Mitigation Grant Program, Pre-Disaster Mitigation, and Flood Mitigation Assistance.

## *NJEM Grants*

Superstorm Sandy came with the realization of the State's need to leverage existing technology to meet the demands of a high-volume Federal reimbursement program. In an effort to provide better efficiency, transparency, and accountability, New Jersey joined a community of disaster prone states by implementing the standard, national web-based disaster grant management tool, which has come to be known in New Jersey as NJEM Grants and can be accessed by going to [NJEMGrants.org](http://NJEMGrants.org).

## *Department of Military and Veterans Affairs*

Organized an aggressive Army and Air plan in anticipation of the need for a military first response.

*Housing Assistance*

- Approximately \$2.4 billion in Federal housing assistance has been distributed to help Sandy impacted families and communities rebuild houses and rental units devastated by the storm.
- More than \$900 million has been disbursed to homeowners in the Reconstruction, Rehabilitation, Elevation and Mitigation (RREM) Program, meaning more than 85 percent of all the dollars expected to be disbursed in RREM have made it to homeowners.
- Of the approximately 7,500 homeowners actively participating in RREM to repair their homes, more than 5,500 have completed construction and another 700 have returned home while construction is completed. Thus, RREM has already helped approximately 6,200 homeowners return to their pre-Sandy homes.

*Department of Community Affairs*

When Superstorm Sandy hit New Jersey on

October 29, 2012, the State's housing sector faced the most catastrophic destruction in 50 years from a coastal weather event. 127 shelters were opened to accommodate more than 116,000 evacuees. More than 260,000 households sought Federal Emergency Management Agency (FEMA) assistance.

Approximately 40,500 owners occupied, and 15,600 renter-occupied homes sustained at least \$8,000 of structural damage and more than 18,000 homes had repair costs exceeding 50% of their assessed property value.

*The State's Departments of Human Services, Health and Children & Families*

have operated dozens of recovery programs and initiatives targeting post-Sandy health and social service needs through the \$227 million Social Services Block Grant (SSBG) provided by the Federal Department of Health & Human Services. To date, more than \$200 million of SSBG funding has been expended.

*The Ramp Rebuild, Replacement and Installation Program*

To assist handicapped individuals, DHS dedicated \$4 million in SSBG funding to its Division of Disability Services to create the Ramp Rebuild, Replacement and Installation Program. Through the program, modular ramps made from metal, wood, or fiberglass, were custom built to meet the person's or family's needs.

*Sandy Home Repair and Advocacy Program*

In November 2013, DHS created the Sandy Home Repair and Advocacy Program using \$10 million in SSBG funding to help seniors and individuals with disabilities whose primary homes still had damage from Superstorm Sandy. As of June 30, 2017, the program helped 1,489 individuals and families restore their home and property to a livable, safe condition.

*Mental Health Supportive Housing Program*

DHS created its Sandy Mental Health Supportive Housing Program to provide housing assistance and wraparound services to people with mental health and substance issue disorders who were displaced by Superstorm Sandy.

*The Recovery and Rebuilding Initiative*

DHS dedicated \$10 million to its vital Recovery and Rebuilding Initiative (RRI), which provided detoxification and short-term residential services for people with substance abuse disorders who lived in one of the counties severely impacted by Sandy.

*DEP Led Flood Resilience Upgrades Across the State*

Through the Department of Environmental Protection's leadership, New Jersey has seen billions invested to upgrade existing flood infrastructure and create new flood resilience projects in response to Sandy.

For example:

- Dune restoration
- Flood hazard risk reduction
- Rebuild by design projects including the Meadowlands project

*DOT Restoring and Rebuilding Traffic and Transit Networks*

Highlights of work performed by DOT's maintenance forces in the immediate aftermath of the storm include:

- Removing 4,425 truckloads of debris from State and local roads from Sea Bright to Seaside Heights.
- Cleaning 3,780 dump truck loads of sand, which was returned to depleted beaches.
- Filling three breaches between Mantoloking and Point Pleasant, including one that was 400 feet wide in Mantoloking where County Route 528 crosses over Barnegat Bay to connect with Route 35. DOT maintenance forces closed the breach on Saturday, November 3, just five days after the storm hit.
- Installing 600 feet of steel sheet piles at the Mantoloking breach to reinforce the ocean side of Route 35.

*Rebuilding a more resilient transportation network*

In total, DOT and NJ TRANSIT have already dedicated more than \$2.0 billion to traffic infrastructure repair and resilience projects.

Direct Assistance to Small Businesses and Tourism Growth: Nearly \$143 million in recovery grants and loans were approved through the Stronger NJ Business Grant and Loan Programs to more than 1,200 businesses:

- To date, the Loan Program has approved 117 small business applications, totaling more than \$86 million in funding; and
- 1,147 businesses received funding through the Grant Program, totaling nearly \$56 million in funding.

*Energy Resilience Upgrades*

To improve preparedness and response to future large-scale weather events, the N.J. Board of Public Utilities ordered 103 improvements to be undertaken by the regulated electric companies. The improvements focused on preparedness efforts, communications, restoration and response, post event and underlying infrastructure issues.

*Department of Banking and Insurance*

Strengthening the State's Labor Force Through Long Term Recovery. LWD sought and received a \$15.6 million National Emergency Grant from the U.S. Department of Labor, allowing more than 1,000 unemployed people to be hired by local governments and State agencies to perform critical Sandy

recovery assignments. Individuals hired through this grant helped in cleanup efforts, assisted in the restoration of facilities and supported a wide range of local government services.

#### *Department of Treasury*

Facilitated the procurement of disaster relief contractors/experts to help administer the State's massive, multibillion dollar recovery efforts. The Treasury oversees the *Integrity Monitoring Oversight program*, implemented immediately following the storm to prevent, detect, and remediate waste, fraud, and abuse of Sandy-related recovery and rebuilding projects. Through the program, Treasury contracted with integrity monitors to oversee Sandy recovery and rebuilding contracts of \$2 million or greater.

### 6.3.3 LOCAL CAPABILITIES

*44 CFR 201.4(c)(3)(ii): [The State mitigation strategy shall include] '...a general description and analysis of the effectiveness of local mitigation policies, programs and capabilities.'*

### 6.3.4 CAPABILITY ASSESSMENT OVERVIEW

New Jersey continues to improve hazard mitigation capabilities and analyze the effectiveness of local mitigation policies, programs and capabilities. The following subsections present local capabilities that include hazard mitigation planning, execution of hazard mitigation projects, municipal outreach, agency liaison, management of local mitigation plan information, and mitigation policies. In addition, as discussed in Section 3 (Coordination of Local Planning), local capabilities are also demonstrated through participation in incentive programs to support the reduction of flood vulnerability such as the NFIP and CRS programs.

NJOEM has made funding for local and regional mitigation planning a top priority and has worked closely with counties to obtain their funding. As a result, the State has obtained funding to assist all counties through a variety of Federal Hazard Mitigation Assistance grants and has obligated funds for countywide, multi-jurisdictional plans as a way to leverage the funding to efficiently support local planning.

Since 2011, all 21 counties have actively participated in the development of initial hazard mitigation plans as well as multiple updates through a series of FEMA grants. Refer to Section 3 (Coordination of Local Planning) Figure 3-1 which illustrates the status of New Jersey HMPs. Table 3-1 shows the status of statewide mitigation plans and plan adoption dates. The number of updates currently underway or counties who have requested FEMA funding to update their plan during the next State HMP planning cycle demonstrates that local jurisdictions acknowledge the benefits of developing and adopting local HMPs.

New Jersey is composed of 21 counties covering 565 municipalities and follows a "home rule" philosophy that each municipality is responsible for local enforcement of building codes, floodplain management, emergency management, and zoning of local ordinances. To ensure a minimum set of standards, New Jersey has passed laws and regulations mandating that each municipality adopt local ordinances with the same basic criteria so that jurisdictions may add additional requirements but cannot have fewer requirements than the State. Because each municipality has a core set of policies, programs, and capabilities at its disposal, jurisdictions are prepared with more effective mitigation efforts against hazards, regardless of their relative size, population, or wealth.

While local mitigation policies, programs, and capabilities will be discussed in detail in local and multi-jurisdictional hazard mitigation plans that are now being prepared and updated, New Jersey mandates compliance with the Municipal Land Use Law, Uniform Construction Codes, Floodplain Management, and Growth Management, and strongly encourages land and water preservation through incentive programs. These mandates translate into local ordinances, policies, or programs that regulate and enforce zoning for building and open space within the municipalities. Table 6-6 through 6-11 highlights



the State laws that drive the State's policies to support local jurisdictions' abilities to impact hazard mitigation. Additional information may be found in Section 3 (Coordination of Local Planning).

**Table 6-6 New Jersey Policies that Impact Local Hazard Mitigation Efforts – Land Use Planning Policy**

Land Use Planning Policy	
Description	State of New Jersey Municipal Land Use Law L.1975, c. 291, s. 1, eff. Aug. 1, 1976, is the legislative foundation for the land use process, including decisions by Planning Boards and Zoning Boards of Adjustment, in the State of New Jersey. It defines the powers and responsibilities of boards and is essential to their functions and decisions. It also provides the required components of a municipal Master Plan.
Applicability	Every municipal agency shall adopt and may amend reasonable rules and regulations, not inconsistent with this act or with any applicable ordinance, for the administration of its functions, powers, and duties.
Effectiveness	These plans help jurisdictions review their land use plans and policies with public participation. While, the Municipal Land Use Law requires that each municipality prepare a comprehensive plan and update that plan every 6 years, comprehensive plan update cycles are inconsistent, and communities may be operating under plans that are outdated and ineffective at addressing current conditions. Further, local comprehensive planning is often forced to reconcile competing interests, such as the need to redevelop Brownfield sites that may be located in hazard-prone areas. While local capabilities continue to increase to reduce the impacts of hazards, progress is still possible regarding integration of local HMP risk assessment results and mitigation goals and strategies into comprehensive and land use planning.

**Table 6-7 New Jersey Policies that Impact Local Hazard Mitigation Efforts – Floodplain Management Policies**

Floodplain Management Policy	
Description	New Jersey State Law Flood Hazard Area Control Act (NJSA 58:16A-52). The National Flood Insurance Act of 1968 is a federal program (NFIP) enabling property owners in participating communities to purchase insurance as protection against flood losses in exchange for State and community floodplain management regulations that reduce future flood damages. As further incentive for communities to surpass the NFIP basic requirements, the Community Rating System (CRS) recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements.
Applicability	The Act and regulations attempts to minimize damage to life and property from flooding caused by development within fluvial and tidal flood hazard areas, to preserve the quality of surface waters, and to protect the wildlife and vegetation that exist within and depend upon such areas for sustenance and habitat. While it does not require local adoption, as it is enforced by the NJDEP, the floodplain ordinances of each municipality need to be reviewed to be in compliance with this new regulation. (See also Building Codes Policy) NFIP: Municipality participation is voluntary; however, members of the NFIP must have the required aspects of the NFIP codified within their zoning, floodplain, and land development ordinances and CRS additional aspects if the municipality is a member of CRS

Effectiveness	<p>NFIP: There are 546 municipalities that participate in the NFIP in the State of New Jersey. A total of 94 of the 566 municipalities participate in the CRS program. Refer to Table 5.6-1 for details on participating CRS communities in New Jersey. The average savings per policy holder is about \$87.00 per year or a total community savings of about \$9,384,397 per year. Local municipalities are showing an increased interest in CRS. In early 2014, Rutgers University Jacques Cousteau National Estuarine Research Reserve hosted a seminar for communities interested in becoming involved in CRS and a second seminar on the CRS application process. Currently a number of communities are in the process of joining CRS, and many are actively working on improving their CRS class, prompted in part by rising flood insurance premiums.</p>
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Table 6-8 New Jersey Policies that Impact Local Hazard Mitigation Efforts – and Building Codes Policies

Building Codes Policy	
Description	<p>New Jersey Municipal Land Use Law (MLUL) requires all jurisdictions to have current land use master plans (reexamined every 6 years), zoning, and other land development ordinances. The UCC adopts up-to-date building codes as its Building Subcode and One- and Two-Family Subcode. These Subcodes contain requirements that address construction in both A and V flood zones. Also, all new construction is required to comply with the UCC for flood zone construction. In the shore communities, older at-grade structures have been routinely razed and replaced with new and often larger structures, all now conforming to the NFIP's requirements for A-zone and V-zone construction. Thus, through the building boom of the 1990s and into the new millennium, there have been thousands of structures modified to FEMA's more stringent requirements or newly constructed to the up-to-date Building Subcodes of the Uniform Construction Code, especially with respect to homes built on piling at or above the base flood elevation for that zone. This in itself is a form of mitigation. However, there are thousands of older homes still at grade that remain vulnerable to the ravages of coastal storms and hurricanes. The 2018 I-codes are the most up to date, and should be referenced in terms of policy.</p>
Applicability	<p>New Jersey State Law requires that all municipalities adopt ordinances that follow the 2018 I-codes. In January 2013, the State established by emergency rule the best available data from FEMA's latest flood maps, plus one foot of freeboard, as the general rebuilding standard to adapt to changing flood hazard risks and corresponding federal flood insurance rates. Most recently, on April 16, 2018 the Flood Hazard Area Control Act Rules establish stringent standards for development in and adjacent to the regulated waters of New Jersey to protect people and property from the negative impacts of flooding and to maintain stable and healthy riparian ecosystems.</p>
Effectiveness	<p>Building codes mandate best practices and technology, much of which is designed to reduce or prevent damage from occurring when structures are under stress. As evidenced during recent storm events (e.g. Hurricane Irene and Superstorm Sandy), structures built to code and sufficiently elevated suffer far less damage during hazard events. During flood events, non-mitigated pre-FIRM properties suffer the greatest losses. The State is conducting ongoing efforts to educate local building code officials.</p>



Table 6-9 New Jersey Policies that Impact Local Hazard Mitigation Efforts – Growth Policies

Growth Management Policy	
Description	Land preservation and recreation comprise one of the cornerstones of New Jersey's smart growth policy. The New Jersey Statewide Comprehensive Outdoor Recreation Plan provides Statewide policy direction to the State, local governments, and conservation organizations in the preservation of open space and the provision of public recreation opportunities. The State Plan was prepared and adopted by the State Planning Commission according to the requirements of the State Planning Act of 1985 as amended (NJSA 52:18A-196 et seq.) to serve as an instrument of State policy to guide State agencies and local government in the exercise of governmental powers regarding planning, infrastructure investment and other public actions and initiatives that affect and support economic growth and development in the State.
Applicability	Green Acres Program, Open Space Tax Program, and Development and Redevelopment Plan. The State Planning Act has enhanced the traditionally limited role of county land-use planning and control. Also provides tools for municipalities when preparing their master land use plans and better opportunity for a comprehensive approach to planning so not to harm or be in conflict with neighboring Municipalities' plans. The State may use the plan updates to link future development with State-led mitigation strategies. For instance, master plan revisions can be conditioned on certain State land use rules, such as CAFRA, to ensure future development occurs while maximizing the protection of open space to reduce the impact of flooding in a community.
Effectiveness	This statute has achieved acquisitions of more than 1.2 million acres of open space and farmland for preservation in communities across the State. NJDEP Green Acres/Blue Acres funding has supported numerous property acquisitions in flood prone areas within the State.

Table 6-10 New Jersey Policies that Impact Local Hazard Mitigation Efforts – Shoreline Management Policies

Shoreline Management Policy	
Description	Coastal Area Facility Review Act (CAFRA) (NJSA 13:19). The CAFRA Law regulates almost all development along the coast for activities including construction, relocation, and enlargement of buildings or structures; and all related work, such as excavation, grading, shore protection structures, and site preparation.
Applicability	CAFRA applies to projects near coastal waters in the southern part of the State. The law divides the CAFRA area into pieces or zones and regulates different types of development in each zone. Generally, the closer a structure is to the water, the more likely it is that development will be regulated. The CAFRA law regulates almost all development activities involved in residential, commercial, or industrial sectors, including construction, relocation, and enlargement of buildings or structures; and all related work, such as excavation, grading, shore protection structures, and site preparation.
Effectiveness	This Law helps local communities strengthen local shoreline ordinances to provide for sufficient shoreline buffers, setbacks, and appropriate design to avoid or limit development on unstable shoreline slopes and infrequently flooded areas. However, many communities have not passed these types of ordinances because of intense political pressure to build along their coastal boundaries. This law is implemented through New Jersey's Coastal Zone Management Rules N.J.A.C. 7:7E-1.1 et seq. Since they were finalized in September 1980, these rules have regulated larger developments (25 residential units or more, 300 commercial parking spaces or more) in coastal high-hazard areas, erosion hazard areas, flood hazard areas and permits issued required construction in accordance with the NFIP requirements in A and V zones. Effective July 1994, the CAFRA jurisdiction was expanded to include every single-family residential development within 150 feet of the mean high-water line, beach, or dune. The threshold for regulation over commercial development was lowered to capture smaller commercial developments and the NJDEP gained authority over any disturbance to a beach or dune area or the placement of a structure in these areas. Effective November 5, 2007, the Coastal Zone Management rules incorporate the new and more stringent Flood Hazard Area Control Act rules standards, including protection of riparian buffers along tidal water courses that can be 50, 150, and 300 feet along environmentally sensitive (Category1) waterways. Since 2014 riparian buffers were moved to the Stormwater Management Rules (NJAC 7:8).

**Table 6-11 New Jersey Policies that Impact Local Hazard Mitigation Efforts – Critical Area Protection Policy**

<b>Critical Area Protection Policy</b>	
Description	Green Acres Program; Blue Acres Program; Historical Preservation Program; Farmland Preservation; Wetlands Act of 1970 (N.J.S.A. 13:9A); Soil and Erosion and Sediment Control Act (N.J.S.A. 4:24); Highlands Water Protection and Planning Act (N.J.S.A. 13:20-1)
Applicability	These programs provide funding for the State, municipalities, and counties to purchase land for open-space preservation and recreation. The Wetlands Act of 1970 (N.J.S.A. 13:9A) provide rules and regulations governing development in wetland areas of New Jersey. New Jersey has 15 soil conservation districts, following county boundaries that implement the New Jersey Soil Erosion and Sediment Control Act (N.J.S.A. 4:24), which governs certain aspects of new development. The Highlands Act calls for a prohibition on development on steep slopes defined in the Act.
Effectiveness	\$3.3 billion public investment in open-space preservation and recreation by the State since 1961. As noted above, NJDEP Green Acres/Blue Acres funding has supported property acquisitions in flood prone areas within the State.

As discussed in Section 3 (Coordination of Local Planning), as part of the 2019 Plan update process, the local HMPs were reviewed and where available local legal and regulatory capability information was extracted and compiled into a matrix. The matrix is included in Appendix J. The purpose of this exercise was to perform a baseline assessment on how local capabilities are captured in local HMPs, standardize a risk template, and to integrate the data into the 2019 Plan update. If the information was not available in the local HMP, entries are blank for that local jurisdiction in Appendix J. In other words, blank entries should not be interpreted that the capabilities do not exist; they were just not readily available in the local HMP. For example, there are jurisdictions across the State that have Flood Damage Prevention Ordinances by virtue of the fact they are participants in the NFIP, however, if not indicated in the local HMP it is not reflected in Appendix J.

The evaluation of local mitigation capabilities using the local HMPs proved challenging due to inconsistent planning methods, information tracking and reporting processes. In general, the local plans did not offer a detailed description of local capabilities that was conducive to data collection at the State level. The local plan review indicated that most approved plans in the State have noted only high-level summary information on local legal and regulatory capability, and do not indicate information on local floodplain administrators. This review exercise has provided an opportunity to provide constructive feedback to the State regarding the standardization of formats in all local plans.

Through their continued local outreach, NJOEM will provide recommendations and technical assistance on how to more accurately and completely assess and report local capabilities in local HMPs (see Table 6-14 for NJOEM's new mitigation action). Efforts to update and enhance the Local Capability Assessment section of the State Plan will continue on a yearly basis as defined in Section 7 (Plan Maintenance).

From county to the municipal entities, the ability to maintain and implement local hazard mitigation programs is mixed. This may be attributed, at least in part, to the fact that New Jersey is a "home rule" state with 565 municipalities, so overall county control of mitigation planning, and planning in general, is sometimes problematic; and that all local governments are operating with limited resources and mounting pressures to limit spending and "do more with less".

Coordination of overall emergency management planning is more efficient and streamlined. In the development of local, multi-jurisdictional HMPs, where municipal activity is critical to building larger multi-jurisdictional plans, disparities in available resources become evident and support for obtaining best-available data and information can be problematic because of the many municipalities and their limited resources that are integral to the planning processes.

As participants in the NFIP, each municipality has a Floodplain Administrator (FPA) as identified in their local floodplain ordinance. The FPA's role is fundamental to the effective management of floodplain resources and flood mitigation. However, during local HMP review, it is apparent that local floodplain management and administration can be a challenge on a number of fronts. Occasionally the local FPA is not aware of their designation and the responsibilities associated with that position. This can be attributed to a number of factors that include a general lack of attention to or understanding of their local code, frequent internal staffing changes, and the use of outside contractor services (e.g. engineering, code enforcement) that can change with time. A more common challenge is that floodplain management is almost always an auxiliary function, with improper consideration of the level of effort that may be required to fulfill those duties. Further, local FPAs often cite a lack of proper training, technical support, and even political support to meet their NFIP responsibilities. These challenges are not atypical for municipalities, as all local government services are constrained by limited resources. NJOEM/NJDEP also ran a program funded through a FEMA HMA grant to certify local floodplain administrators.

As cited above, a challenge for many jurisdictions is that one person often serves in multiple roles and capacities. It is noted that many jurisdictions do not have certified planners on staff; therefore, land use and comprehensive planning needs are contracted out. While local capabilities continue to increase to reduce the impacts of hazards, progress is still possible regarding integration of mitigation goals and strategies into comprehensive planning.

With regard to the local implementation of mitigation projects and initiatives, a commonly cited challenge is a general lack of administrative, technical and fiscal resources. While various funding sources are available to support local public and private mitigation activity, the technical and administrative challenges to both secure (e.g. grant application and Benefit-Cost Analysis) and administer such funding often exceeds local capabilities. Local match requirement on grant funding has historically challenged the initiation and implementation of both planning and project activities reliant on grant funding. Fiscal/political challenges, such as a loss of tax rateables whether real or perceived, may further challenge mitigation or promote unwise development.

While local capabilities continue to increase to reduce the impacts of hazards, progress is still possible regarding integration of local HMP risk assessment results and mitigation goals and strategies into comprehensive and land use planning. NJOEM has identified a new mitigation action to 'promote the integration of findings and actions of local mitigation plans into other local planning mechanisms.' In addition, hazard mitigation assessment and risk assessment are not currently included in municipal Master Plans. However, there is a movement to include a voluntary Element in a modification to the MLUL. New Jersey mandates compliance with the Municipal Land Use Law, Uniform Construction Codes, Floodplain Management, and Growth Management, and strongly encourages land and water preservation through incentive programs. These mandates translate into local ordinances, policies, or programs that regulate and enforce zoning for building and open space within the municipalities.

While the risk of coastal flooding from a hurricane has long been recognized, the period leading up to Superstorm Sandy generally did little to promote a broad-based expansion of risk-based land use planning, code enforcement and mitigation capability building within coastal communities. Further, socio-economic pressures, including robust tourism industry and the desire to live near the ocean, have continued to challenge local land use planning, enforcement and mitigation efforts. However, clear changes are apparent in the wake of Superstorm Sandy, as local mitigation capabilities continue to expand supported both by State and Private-Non-Profit (PNP) efforts. As discussed within the State Capabilities section, the State has continued and expanded their mitigation education outreach and technical training efforts, including seminars and workshops on mitigation planning, public and private assistance, available grant programs, certification financial support and benefit-cost-analysis. Local PNPs including the New Jersey Association for Floodplain Management (NJAFM), the Jacques Cousteau National Estuarine Reserve –

Rutgers University, and Monmouth College offer training, seminars and certification in floodplain management, the National Flood Insurance Program, the Certified Floodplain Manager (CFM) Program for local officials and NFIP's Community Rating System.

Clearly, continued efforts to build local mitigation capabilities in all areas (e.g. planning and regulatory, technical and administrative, and fiscal) are vital to our State's long-term management of natural hazard risk. As Federal pre- and post-disaster funding will likely never meet overall needs, communities must be encouraged and equipped to promote local mitigation efforts with available local resources. State and regional level planning guidance and support, along with continued and enhanced education and outreach, will serve as the foundation of effective and sustained local risk reduction.

## 6.4 MITIGATION

### 6.4.1 MITIGATION PROJECT OVERVIEW

To further facilitate hazard mitigation planning efforts, NJOEM works in cooperation with other governmental agencies and relevant industry groups to provide direction and technical assistance in the development of local and multi-jurisdictional plans and projects. With assistance from NJOEM, a number of New Jersey local jurisdictions have been successful in obtaining funds for mitigation projects. As these success stories continue, more jurisdictions will recognize the potential for mitigating hazards in their communities. Local municipalities have been and continue to work closely with NJOEM to identify and successfully secure FEMA Hazard Mitigation Assistance funding.

The listings below represent the increased interest expressed by local jurisdictions in mitigation projects. Table 6-12 lists the mitigation grant awards (plans and projects) to New Jersey communities currently open by county. The percent complete, as well as, federal obligated dollars are reported.

**Table 6-12 Currently Open HMGP Funded Projects by County (NJOEM, July 2018)**

Grant	County	Project Title	Project Type	Eligible Amt	Federal Obligated
1867	Atlantic	Absecon Creek Waterfront Shore Protection	Drainage	\$ 581,700	\$ 436,275
1873	Atlantic	Turner Ave and Absecon Blvd	Drainage	\$ 456,900	\$ 342,675
1897	Atlantic	Stormwater & Floodwater at Fisherman's Park	Drainage	\$ 5,330,903	\$ 3,998,177
1867	Atlantic	New Jersey Ave & Highland Blvd Drainage	Drainage	\$ 891,350	\$ 668,513
4086	Atlantic	Elevation of electrical components Dorsett Ave Bridge	Elev Other	\$ 18,329	\$ 16,496
4086	Atlantic	Portable Connection	Other	\$ 77,000	\$ -
4264	Atlantic	Margate City Elevations	Elev Building	\$ 3,835,102	\$ 2,876,327

Grant	County	Project Title	Project Type	Eligible Amt	Federal Obligated
4231	Atlantic	Longport Borough - Wind Retrofit of Fire Station Windows and Doors	Wind Retrofit	\$ 52,045	\$ 22,500
2016-FMA	Atlantic	Ventnor FY 2016 FMA Home Elevation Project	Elev Building	\$ 1,419,902	\$ 1,238,162
2016-FMA	Atlantic	City of Atlantic City	Elev Building	\$ 1,909,076	\$ 1,758,930
4086	Bergen	Bergen County Utilities Authority (BCUA) Multiple Mitigation Measures	Other	\$ 400,000	\$ 250,000
4086	Bergen	Bergen County Department of Public Works Flood Control - Backflow Preventers	Drainage	\$ 4,127,611	\$ 3,494,092
4264	Bergen	Update of the Bergen County HM Plan - 2020	Planning	\$ 333,333	\$ 250,000
2015-FMA	Burlington	Township of Medford FMA 2015 Elevation 26 New Freedom Road	Elev Building	\$ 480,600	\$ 480,600
2015-PDM	Burlington	Burlington County Mitigation Plan Update	Planning	\$ 200,000	\$ 150,000
4086	Burlington	Stormwater Pump Upgrades	Drainage	\$ 1,455,000	\$ 270,919
4086	Burlington	Delran Township - Residential Acquisition Project	Acq Demo Building	\$ 201,500	\$ 181,350
4086	Cape May	Cape May County Hazard Mitigation Plan Update	Planning	\$ 250,000	\$ 187,500
4086	Cape May	Cape May County - Ocean Drive CR-619 Flood Mitigation Project	Elev Other	\$ 2,680,081	\$ 1,993,905
1873	Cape May	Hope Corson Rd Drainage Project	Drainage	\$ 575,000	\$ 431,250
4264	Cape May	Elevations in Ocean City, Sea Isle City, Avalon & Stone Harbor	Elev Building	\$ 5,113,467	\$ -

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Grant	County	Project Title	Project Type	Eligible Amt	Federal Obligated
1954	Cape May	City of Ocean City - North Pump Station [1st Street to 8th Street]	Drainage	\$ 8,838,807	\$ 4,984,384
4086	Cape May	Installation of Floodgates at Cape Regional Center	Floodproofing	\$ 21,000	\$ -
1867	Cumberland	NJ State Police Bivalve Station Shore Protection Improvements	Drainage	\$ 53,400	\$ 40,050
2016-FMA	Cumberland	City of Brigantine, Atlantic County	Elev Building	\$ -	\$ -
4086	Essex	Belleville Township Main Street Flood Control	Drainage	\$ 142,528	\$ 128,250
2016-PDM	Essex	Essex County Local Multijurisdictional Multihazard Mitigation Plan Update	Planning	\$ 300,000	\$ 225,000
4086	Gloucester	Southern Delaware 4 County Multi-Jurisdictional Hazard Mitigation Plan Update	Planning	\$ 800,000	\$ 600,000
4231	Gloucester	Gloucester County - Levee Pump Station Improvements (Phased I Application Package)	Drainage	\$ 150,000	\$ 112,500
2016-PDM	Hudson	Hudson County Local Multijurisdictional Multihazard Mitigation Plan Update	Planning	\$ 250,000	\$ 187,500
4086	Hunterdon	Hunterdon County Multi-Jurisdictional Hazard Mitigation Plan	Planning	\$ 200,000	\$ 150,000
4086	Mercer	Mitigation Plan-post disaster update	Planning	\$ 125,000	\$ 93,750
2010-LPDM	Mercer	City of Trenton - Assunpink Greenway Demolition Project	Acq Demo Building	\$ 400,000	\$ 300,000

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Grant	County	Project Title	Project Type	Eligible Amt	Federal Obligated
4086	Middlesex	Middlesex County Multi-Jurisdictional Hazard Mitigation Plan Update	Planning	\$ 250,000	\$ 187,500
4086	Middlesex	Installation of Stormwater Pumps	Drainage	\$ 400,000	\$ 360,000
4086	Monmouth	Long Branch Flood Control Project	Floodproofing	\$ 258,640	\$ 212,030
2010-SRL	Monmouth	Sea Bright	Elev Building	\$ 241,040	\$ 216,936
4086	Monmouth	Highlands Borough - Flap Valves	Floodproofing	\$ 50,000	\$ 36,000
4086	Monmouth	Storm Sewer Outfall Rehabilitation Project	Drainage	\$ 395,100	\$ 355,590
4086	Monmouth	Port Monmouth Drainage II	Drainage	\$ 251,767	\$ 153,000
4086	Monmouth	Pump and Generator Elevation/Upgrades	Elev Other	\$ 650,000	\$ 585,000
4264	Monmouth	Monmouth County - Local Multijurisdictional Multihazard Mitigation Plan Update	Planning	\$ 333,333	\$ 250,000
2015-FMA	Monmouth	Elevation of Private Structures	Elev Building	\$ 2,219,480	\$ 1,664,610
2011-PDM	Monmouth	PDMC 2011 - Township of Neptune NJ Outfall Valve and Bulkhead Project	Drainage	\$ 1,114,039	\$ 835,529
4086	Monmouth	Shorelands Park Drainage Improvement	Drainage	\$ 1,106,000	\$ 270,000
2016-FMA	Monmouth	Flood Mitigation Assistance Grant FY 2016	Planning	\$ 30,000	\$ -
2014-PDM	Morris	Township of Denville Flood Mitigation Plan	Planning	\$ 27,200	\$ 20,400
2015-FMA	Morris	FMA 2015: Elevation of 26 Private Riverine Structures	Elev Building	\$ 5,066,779	\$ 4,568,863



## 6. MITIGATION STRATEGY

Grant	County	Project Title	Project Type	Eligible Amt	Federal Obligated
		in Pequannock Township			
2016-FMA	Morris	FMA 2016 - Pequannock Township: Elevation of 22 Private Riverine Structures	Elev Building	\$ 5,001,492	\$ 4,322,362
4086	Ocean	Installation of Ten (10) Tide Flex Valves	Drainage	\$ 56,150	\$ 50,535
4086	Ocean	Emergency Portable Generator & Portable Wastewater Bypass Pump	Drainage	\$ 163,671	\$ 157,304
4086	Ocean	Tide Flex Valves	Drainage	\$ 86,600	\$ 77,940
4086	Ocean	Elevation of electrical panels and control at 80th St Water Plant	Elev Other	\$ 50,000	\$ 45,000
4086	Ocean	Pump Station No. 3 Upgrades	Elev Other	\$ 510,844	\$ 469,759
4086	Ocean	Mill Creek Road Shoreline Stabilization	Floodproofing	\$ 786,700	\$ 407,610
4086	Ocean	Floodproofing of the Raw Water Pump Station located on the Metedaconk River	Floodproofing	\$ 200,179	\$ 166,976
2015-PDM	Ocean	Ocean County Plan Update	Planning	\$ 200,000	\$ 150,000
4086	Ocean	Beth Medrash Govoha Localized Flood Control System	Floodproofing	\$ 300,630	\$ 270,000
4086	Ocean	Surf City #6 & #7 Well Elevation	Elev Other	\$ 400,400	\$ 345,000
4086	Ocean	Good Luck Point Acquisition and Demolition Project	Acq Demo Building	\$ 5,529,861	\$ 4,189,062
4086	Ocean	Installation of a River-Front Wave Energy Dissipation Structure & Bulkhead	Drainage	\$ 95,000	\$ 85,500



Grant	County	Project Title	Project Type	Eligible Amt	Federal Obligated
4086	Ocean	Bayfront Wave Energy Dissipation Structure	Drainage	\$ 1,300,000	\$ 1,170,000
4264	Ocean	Township of Stafford Structural Elevation Project	Elev Building	\$ 1,278,367	\$ 958,775
2016-FMA	Ocean	Structure Elevation/Township of Berkeley, New Jersey	Elev Building	\$ 558,175	\$ 558,175
4264	Ocean	Long Beach Township Home Elevation Project	Elev Building	\$ 3,835,101	\$ 2,876,326
2010-SRL	Passaic	Little Falls Township	Elev Other	\$ 6,636,800	\$ -
2013-FMA	Passaic	Wayne Township FMA Acq. & Demo.	Acq Demo Building	\$ 31,476,300	\$ 31,476,300
2015-FMA	Passaic	Wayne Acq/Demo FMA 2015	Acq Demo Building	\$ 14,363,900	\$ 14,363,900
2015-FMA	Passaic	2015 FMA Little Falls Acquisition Project	Acq Demo Building	\$ 11,651,155	\$ 10,276,609
2016-FMA	Passaic	Wayne 2016 FMA RL Acq/Demo	Acq Demo Building	\$ 3,021,800	\$ 2,462,619
2016-FMA	Passaic	Wayne 2016 SRL Category 2 App - Acq/Demo	Acq Demo Building	\$ 3,442,100	\$ -
1897	Somerset	Alert AM Radio System Project	ANS	\$ 57,351	\$ 43,013
4086	Somerset	Green Brook Twp.: Acquisition of 2 Floodprone Properties - Revised for One (1) Property	Acq Demo Building	\$ 606,900	\$ 500,000
4086	Somerset	Manville: Acquisition of 4 Private Homes	Acq Demo Building	\$ 1,032,880	\$ 929,592
4048	Somerset	Borough of Millstone: 2 Relocations and 4 Elevations	Elev Building	\$ 790,840	\$ 588,000
2015-FMA	Somerset	Flood Hazard Annex	Planning	\$ 33,001	\$ 24,751

## 6. MITIGATION STRATEGY

Grant	County	Project Title	Project Type	Eligible Amt	Federal Obligated
2015-PDM	Somerset	Somerset County Plan Update	Planning	\$ 200,000	\$ 150,000
2016-FMA	Somerset	FMA 2016 - Manville: Acquisition of 4 Private Homes	Acq Demo Building	\$ 1,188,900	\$ 1,070,010
2016-FMA	Somerset	FMA 2016 - Green Brook Township: Acquisition \ Demolition of 2 SRL & 1 RL Properties	Acq Demo Building	\$ 1,038,596	\$ -
4033	Statewide	7% Planning	Planning	\$ 145,340	\$ 108,919
4086	Statewide	New Jersey State Hazard Mitigation Plan Update 2019	Planning	\$ 750,000	\$ 643,750
4231	Statewide	NJOEM - "Mitigated Properties ESRI GIS Database"	Planning	\$ 50,000	\$ 50,000
4086	Statewide	New Jersey State Mitigation Plan Addendum - Building Outline Collection within Special Flood Hazard Areas	Planning	\$ 265,880	\$ 265,880
4086	Sussex	Sussex County Multi-Jurisdictional Hazard Mitigation Plan	Planning	\$ 200,000	\$ 150,000
4086	Sussex	Drainage Improvements to Little Paint Way	Drainage	\$ 125,000	\$ -
4086	Union	Union County Multi-Jurisdictional Hazard Mitigation Plan Update	Planning	\$ 250,000	\$ 187,500
4086	Union	Trinitas Regional Medical Center Generator/Power System/Pumping Station	Elev Other	\$ 966,667	\$ 870,000
4086	Union	Retrofit/Upgrade Wastewater Pumping Station	Floodproofing	\$ 964,000	\$ 867,600
4086	Warren	Warren County Multi-Jurisdictional Hazard Mitigation Plan	Planning	\$ 200,000	\$ 150,000

Grant	County	Project Title	Project Type	Eligible Amt	Federal Obligated
2015-FMA	Warren	Warren-Hunterdon Acquisition Project	Acq Demo Building	\$ 5,409,401	\$ 5,409,401

While the actual local hazard mitigation plan actions statewide were not compiled, for the purposes of the 2019 Plan Update the common existing hazard mitigation actions and strategies of the current County hazard mitigation plans are below. The list below summarizes the common hazard mitigation measures in the local hazard mitigation plans by general action/strategy.

- Retrofit vulnerable critical facilities and infrastructure
- Flood control measures
- Emergency Power/Generator
- Communication projects
- Stream clearing
- Stormwater improvements/maintenance/inspections
- Public outreach/education/awareness
- Encourage higher regulatory standards
- Promote/participate in CRS
- Public awareness
- Improved floodplain management
- Improve data collection related to hazard data and critical facility inventories
- Address RL and SRL properties
- Reduce losses to all buildings/infrastructure

It is evident that all mitigation types are addressed by the Counties: local plans and regulations; structure and infrastructure projects; natural systems protection and education and awareness programs. As noted in Section 7 (Plan Maintenance), to better document mitigation project effectiveness, NJOEM now has an on-line tracking tool called ***NJEM.grants*** to track all mitigation project progress through the grant application, project execution and close-out phases.

#### 6.4.2 MITIGATION ACTIONS

As required by FEMA, the SHMT completed a comprehensive evaluation of the mitigation strategies and actions from the previous plans and reported on the status of each. In addition, State agencies were provided the opportunity to include new strategies or actions in the State HMP update. New actions were prioritized to ensure they are cost-effective, environmentally sound, and technically feasible using the methodology outlined below.

*44 CFR 201.4(c)(3)(iii): An identification, evaluation and prioritization of cost-effective, environmentally sound, and technically feasible mitigation actions...*

Over the course of several months, the SHMT, and all State agencies and stakeholders with previous mitigation actions were asked to provide a status update using the guidance below. For this plan update 69 new actions have been identified. Many of these mitigation actions are with first time participants of the State HMP process (Table 6-13). However, there are numerous continuing actions that remain a part of the State's mitigation strategy.

If an action is considered continuous/in-progress, a status update was provided by the responsible agency as summarized in Table 6-14 below. If an action has been completed and currently in operation with funded staff, an operation budget, and established goals, it is now noted as a capability or current

responsibility and presented in Table 6-15. Once action has been withdrawn because it is duplicative (Table 6-16).

The number associated with the action as assigned in the 2011 Plan was maintained for continuity. Future updates will continue to report of the success of these mitigation action programs.

Explanations of progress descriptions are listed below:

- New Action – New Mitigation Action Identified for this plan update
- Ongoing/In-Progress – Identify if this action is to be carried forward in the 2014 Plan. If so, consider modifying/expanding the action to promote implementation.
- Completed Action/Ongoing Capability – Ongoing programs with funded staff, an operating budget, and established goals shall be documented as a State capability.
- Withdrawn -It may appropriate to decide that a project/initiative is impractical, unfeasible, or undesirable. However, provide an explanation. Only one is included in this plan update because it's efforts are duplicative.



Table 6-13 New Mitigation Actions for the 2019 Plan

New Mitigation Actions for the 2019 Plan									
Responsible Agency	Mitigation Action/Initiative	Goal	Priority	Projected Timeline	Projected Resources	Hazards Addressed	Rationale for Action and Priority	How Action Contributes to Mitigation Strategy	Plan Update Status
Delaware Valley Regional Planning Commission	Provide planning assistance services to integrate FEMA hazard mitigation plans (HMPS) into county and municipal master plans.	5	High	5 years	FEMA HMA	Flood; Hurricane and Tropical Storm; Nor'easters; Severe Weather and Severe Winter Weather.	As identified in DVRPC's Connections 2045 Plan for Greater Philadelphia, plan integration of climate change and HMPS with comprehensive plans helps prepare communities to mitigate the risk and vulnerabilities of flooding, storm surge and sea level rise.	Integrates HMPs with other planning initiatives	New Action
Delaware Valley Regional Planning Commission	Evaluate critical transportation and community assets that are vulnerable to climate change within the New Jersey portion of the DVRPC region.	2	High	2 years	FEMA HMA	Flood; Hurricane and Tropical Storm; Nor'easters; Severe Weather and Severe Winter Weather.	As identified in DVRPC's Connections 2045 Plan for Greater Philadelphia, the region's transportation infrastructure needs to evaluate when considering the impacts of climate change. This is first step in identifying future resiliency actions.	Helps understand the risk and vulnerability of the region's transportation infrastructure from increases in the flooding and storm surge.	New Action
Delaware Valley Regional Planning Commission, NJDOT	Enhance and Expand the Interactive Detour Route Mapping (IDRuM) to include all of New Jersey and where data is available, model flooding and coastal surge inundation areas for roadway segments, ramps, and bridges that have the greatest risk for potential inundation during a high-water event.	3,6	Med	5 years	NJDOT, FEMA HMA	Flood; Hurricane and Tropical Storm; Nor'easters; Severe Weather and Severe Winter Weather.	As exposure to IDRuM grew, the New Jersey Department of Transportation (NJDOT) decided to partner with DVRPC to expand IDRuM into the State of New Jersey. Currently, NJDOT's detour route maps for Burlington and Camden Counties have been incorporated into the application, with counties to follow. The ultimate goal is to integrate NJDOT's detour route maps for all New Jersey counties, with IDRuM being utilized statewide. IDRuM is available both in an online and offline version.	Supports continuity of operations post disaster.	New Action
New Jersey Sports and Exposition Authority	Coordinate and execute an agreement with leaseholders to use the MetLife Sports Complex as a shelter during a hazardous event or disaster.	1,2,6	High	Within 2 years	None Currently Available	Flood; Hurricane and Tropical Storm; Nor'easters; Severe Weather and Severe Winter Weather.	Having an agreement that defines the terms of use and access to convert the arena into and emergency shelter during a hazard event will help facilitate rapid recovery and the protection of life and property.	Helps protect life and property by ensuring a place of last resort/shelter during a hazard event.	New Action
New Jersey Sports and Exposition Authority	Host a Conference/Symposiums specific to resiliency and hazard mitigation planning for the region to enhance stakeholder education and training.	3	High	Within 2 years	None Currently Available	Flood; Hurricane and Tropical Storm; Nor'easters; Severe Weather, Severe Winter Weather and	Gathers subject matter experts to present on the region's resiliency progress and challenges.	Enhances stakeholder education and training and increases public preparedness and awareness.	New Action



New Mitigation Actions for the 2019 Plan									
Responsible Agency	Mitigation Action/Initiative	Goal	Priority	Projected Timeline	Projected Resources	Hazards Addressed	Rationale for Action and Priority	How Action Contributes to Mitigation Strategy	Plan Update Status
						Economic Collapse.			
New Jersey Sports and Exposition Authority	Update and enhance NJSEA's GIS databases to assist in identifying critical infrastructure and facilities within the Meadowlands District to assist with outreach, recovery and mitigation planning within the Meadowlands District.	3	High	Within 5 years	None Currently Available	All Hazards	NJSEA has established an existing GIS database for emergency response including data on hazardous materials stored in warehouse facilities, fire hydrant locations, incident reports, floor plans, turn-around space for firefighting equipment, and current & historical aerial imagery. Proposed updates would enhance any identified gaps in the data or needs of first responders.	Improves hazard information databases and maps and increases accessibility to those resources.	New Action
New Jersey Turnpike Authority	<p>Roadway and Bridge Elevations: Elevation of portions of existing roadway and bridges along the NJTP and/or GSP to reduce risk of storm surge and flood risk. The following locations along the Authority's Right of Way have the greatest risk for potential flooding during a high-water event.</p> <ul style="list-style-type: none"> <li>• Portions of the NJTP roadway segments located from Woodbridge Township north to the Town of Secaucus, including the Eastern and Western Spurs.</li> <li>• Southernmost section of NJTP at the Delaware River.</li> <li>• GSP roadway in Cape May County and southern portion of Atlantic County.</li> <li>• Portions of the GSP roadway and bridge segments that cross over and near the Mullica River in Bass River Township and the City of Port Republic.</li> <li>• Portions of the GSP roadway and bridge segments that cross over and near the Raritan River in the Borough of Sayreville, Township of Woodbridge, and Township of Old Bridge.</li> </ul>	1,2,6	High	To be determined	None Currently Available	Flood; Hurricane and Tropical Storm; Nor'easters; Severe Weather, Severe Winter Weather and Economic Collapse.	The Authority recently completed a Detailed Inundation Mapping Study that modeled coastal surge inundation areas along the Authority's Right of Way. At each inundation level, the study identified roadway segments, ramps, and bridges that have the greatest risk for potential inundation during a high-water event.	The elevation and/or floodproofing of roadways and bridges from potential inundation during a high-water event advances the Authority's mission of providing safe roadways by protecting life, property and ensuring the continuity of operations of government, non-government, commerce, private sector, and infrastructure. The continuity of operations pre-, during, and post-hazard events is particularly important for the Authority's roadway and bridges, as they serve as coastal evacuation routes. Lastly, providing a safe toll road system that is in a state of good repair helps ensure the success of the New Jersey economy	New Action



New Mitigation Actions for the 2019 Plan									
Responsible Agency	Mitigation Action/Initiative	Goal	Priority	Projected Timeline	Projected Resources	Hazards Addressed	Rationale for Action and Priority	How Action Contributes to Mitigation Strategy	Plan Update Status
New Jersey Turnpike Authority	<p>Toll Plaza Elevations: Elevation and/or floodproofing of portions of existing toll plazas along the NJTP and/or GSP to reduce risk of storm surge and flood risk. The following locations along the New Jersey Turnpike Authority's Right of Way have the greatest risk for potential flooding during a high-water event.</p> <p><u>NJTP Toll Plaza Locations:</u></p> <ul style="list-style-type: none"> <li>• NJTP Interchange 13A Toll Plaza</li> <li>• NJTP Interchange 14 Toll Plaza</li> <li>• NJTP Interchange 15E Toll Plaza</li> <li>• NJTP Interchange 15W Toll Plaza</li> <li>• NJTP Interchange 16/18E Toll Plaza</li> <li>• NJTP Interchange 16W Toll Plaza</li> <li>• NJTP Interchange 18W Toll Plaza</li> </ul> <p><u>GSP Toll Plaza Locations:</u></p> <ul style="list-style-type: none"> <li>• GSP Somers Point Toll Plaza</li> <li>• GSP Great Egg Toll Plaza</li> <li>• GSP Wildwood Toll Plaza</li> </ul>	1,2,6	High	To be determined	None Currently Available	Flood; Hurricane and Tropical Storm; Nor'easters; Severe Weather and Severe Winter Weather.	The Authority recently completed a Detailed Inundation Mapping Study that modeled coastal surge inundation areas along the Authority's Right of Way. The study identified Areas of Strategic Concern, including toll plazas that have the greatest risk for potential inundation during a high-water event.	The elevation and/or floodproofing of toll plazas from potential inundation during a high-water event advances the Authority's mission of providing safe roadways by protecting life, property and ensuring the continuity of operations of government, non-government, commerce, private sector, and infrastructure. The continuity of operations pre-, during, and post-hazard events is particularly important for the Authority's roadway and bridges, as they serve as coastal evacuation routes.	New Action
New Jersey Turnpike Authority	<p>New Jersey Turnpike Maintenance Yard Elevations: Elevation and/or floodproofing of portions of existing maintenance yards along the NJTP and/or GSP to reduce risk of storm surge and flood risk. The following locations along the New Jersey Turnpike Authority's Right of Way have the greatest risk for potential flooding during a high-water event.</p> <p><u>NJTP Maintenance Yards:</u></p> <ul style="list-style-type: none"> <li>• NJTP Maintenance Yard District PD1- Swainton</li> <li>• NJTP Maintenance Yard District TD6 - Elizabeth</li> <li>• NJTP Maintenance Yard District TD8 - Secaucus</li> <li>• NJTP Maintenance Yard District TD9 - Jersey City</li> <li>• NJTP Maintenance Yard District TD10 - East Rutherford</li> </ul>	1,2,6	High	To be determined	None Currently Available	Flood; Hurricane and Tropical Storm; Nor'easters; Severe Weather and Severe Winter Weather.	The Authority recently completed a Detailed Inundation Mapping Study that modeled coastal surge inundation areas along the Authority's Right of Way. The study identified Areas of Strategic Concern, including maintenance yards that have the greatest risk for potential inundation during a high-water event.	The elevation and/or floodproofing of maintenance yards above high-water events enables continuous maintenance operations and increases the Authority's capability to respond pre-, during, and post-disaster to weather-related hazards.	New Action





New Mitigation Actions for the 2019 Plan									
Responsible Agency	Mitigation Action/Initiative	Goal	Priority	Projected Timeline	Projected Resources	Hazards Addressed	Rationale for Action and Priority	How Action Contributes to Mitigation Strategy	Plan Update Status
New Jersey Turnpike Authority	<p>Elevation of Service Areas: Elevation and/or floodproofing of portions of Service Areas along the NJTP and/or GSP to reduce risk of storm surge and flood risk. The following locations along the New Jersey Turnpike Authority's Right of Way have the greatest risk for potential flooding during a high-water event.</p> <p><u>Service Areas:</u></p> <ul style="list-style-type: none"> <li>• NJTP Vince Lombardi Service Area 13</li> <li>• NJTP Alexander Hamilton Service Area 12S</li> <li>• NJTP Thomas Edison Service Area 10S</li> <li>• NJTP Grover Cleveland Service Area 10N (Recently Reconstructed)</li> <li>• GSP Oceanview Service Area</li> </ul>	1,2,6	High	To be determined	None Currently Available	Flood; Hurricane and Tropical Storm; Nor'easters; Severe Weather and Severe Winter Weather.	The Authority recently completed a Detailed Inundation Mapping Study that modeled coastal surge inundation areas along the Authority's Right of Way. The study identified Areas of Strategic Concern, including Service Areas that have the greatest risk for potential inundation during a high-water event.	The elevation and/or floodproofing of Service Areas from potential inundation during a high-water event advances the Authority's mission of providing safe roadways and protects life, property and ensures the continuity of operations of government, non-government, commerce, private sector, and infrastructure.	New Action
New Jersey Turnpike Authority	Target Hardening of infrastructure within the Authority's Right of Way against potential terrorist attacks.	1,2,6	High	To be determined	None Currently Available	Terrorism	The Authority recently completed an Authority-wide security vulnerability assessment and improvement program that includes targeted hardening of critical facilities, installation of cameras, and installation/upgrade of fencing.	Target hardening of the Authority's infrastructure against Terrorist attack, protects life, property, and ensures the continuity of operations of government, non-government, commerce, private sector, and infrastructure.	New Action
New Jersey Turnpike Authority	Develop a Resiliency Action Plan for the New Jersey Turnpike (NJTP) and the Garden State Parkway (GSP).	4	High	Within 2 years	None Currently Available	Flood; Hurricane and Tropical Storm; Nor'easters; Severe Weather and Severe Winter Weather.	Critical first step in identifying appropriate sites and operations for mitigation priorities for the New Jersey Turnpike Authority (Authority).	The Resiliency Action Plan develops and maintains an understanding of risks from hazards. It also establishes an action plan to increase capabilities to mitigate against future losses and vulnerability.	New Action
New Jersey Turnpike Authority, New Jersey State Police	<p>State Police Station Improvements: In coordination with the New Jersey State Police, elevate and/or floodproof portions of the New Jersey State Police facilities at risk for potential flooding during a high-water event.</p> <p><u>New Jersey State Police Stations</u></p> <ul style="list-style-type: none"> <li>• New Jersey State Police Newark Station (under construction)</li> <li>• New Jersey State Police Bass River Station</li> </ul>	1,2,6	High	To be determined	None Currently Available	Flood; Hurricane and Tropical Storm; Nor'easters; Severe Weather and Severe Winter Weather.	The Authority recently completed a Detailed Inundation Mapping Study that modeled coastal surge inundation areas along the Authority's Right of Way. The study identified Areas of Strategic Concern, including New Jersey State Police Stations that have the greatest risk for potential inundation during a high-water event.	The elevation and/or floodproofing of State Police Stations from potential inundation during a high-water event advances ensures the continuity of operations of State Police facilities and assists State Police to respond pre-, during, and post-hazard events.	New Action





New Mitigation Actions for the 2019 Plan									
Responsible Agency	Mitigation Action/Initiative	Goal	Priority	Projected Timeline	Projected Resources	Hazards Addressed	Rationale for Action and Priority	How Action Contributes to Mitigation Strategy	Plan Update Status
NJ Department of Banking and Insurance	Participate in tabletop exercises with State and Industry partners through the current Infrastructure Advisory Committee meetings.	6	Medium	6 months	Existing State resources	All Hazards	This system will help first responders and adjusters access damage and aid in rapid disaster recovery.	This action will increase resiliency by facilitating rapid disaster recovery	New Action
NJ Department of Banking and Insurance, NJOHSP, State Police	In coordination with NJOHSP, OEM and State Police, develop and maintain a system of credentialing insurance adjusters to manage access to disaster areas possible through the existing RDDDB system.	6	High	1 year	Existing State resources	All Hazards	This database will help first responders have priority in accessing disaster areas, while allowing adjusters to have secondary access once first responders have executed their duties.	This action will increase resiliency by facilitating rapid disaster recovery	New Action
NJ Department of Corrections	Purchase and install new mobile trailers or structures that can withstand high winds during hazardous events.	1,2,6	Med	5 years	FEMA HMA	Flood, Flash Flood, Hurricane, Tropical Storm, Nor'easter	Enhances the resiliency of mobile structures that provide essential services for the department.	Protects life and property. Will help State maintain operations	New Action
NJ Department of Corrections	Purchase and install dual hook up (natural gas and diesel) generators and generator transfer switches at State Correction Facilities.	1,2,6	High	2 years	FEMA HMA	Hurricane, Tropical Storm, Nor'easter; Flood, Flash Flood, Ice Jam; Tornado, Wind Storm; Winter Storm; Utility Interruption	Enhances continuity of operations, protects life, and property of critical facilities during a power failure.	Protects life and property. Will help State maintain operations	New Action
NJ Department of Corrections	Conduct a facilities-wide resiliency study to evaluate the risk and vulnerability of the State's Correctional Facilities to natural and human-based hazards.	4	High	2 years	FEMA HMA	Flood, Flash Flood, Hurricane, Tropical Storm, Nor'easter	The Resiliency Action Plan develops and maintains an understanding of risks from hazards. It also establishes an action plan to increase capabilities to mitigate against future losses and vulnerability	It establishes an action plan to increase capabilities to mitigate against future losses and vulnerability	New Action
NJ Department of Corrections	Purchase mobile air conditioning and heater units to provide temporary heat and air to facilities that may experience unsafe temperatures during emergency situations.	1,6	Med	5 years	FEMA HMA	Hurricane, Tropical Storm, Nor'easter; Flood, Flash Flood, Ice Jam; Tornado, Wind Storm; Winter Storm; Utility Interruption	Protects inmates and staff from life threatening conditions as a result in damage to HVAC systems during Severe weather conditions	Protects life and property. Will help State maintain operations	New Action
NJ Department of Corrections	Purchase and install additional equipment to assist in detecting and decontaminating hazardous substances.	6	Med	5 years	FEMA HMA	Terrorism; Civil unrest; Hazardous Substances	The Department of Corrections has a dedicated team of over 60 law enforcement officers in their HazMat/C.O.B.R. A (Chemical Ordinance Biological Radiological Aid) team	Protects life and property. Will help State maintain operations	New Action



New Mitigation Actions for the 2019 Plan									
Responsible Agency	Mitigation Action/Initiative	Goal	Priority	Projected Timeline	Projected Resources	Hazards Addressed	Rationale for Action and Priority	How Action Contributes to Mitigation Strategy	Plan Update Status
NJ Department of Corrections	Purchase and install new system-wide alert for the department of corrections, similar to Reverse 911.	6	Med	5 years	FEMA HMA	All	The Department is seeking to enhance and expand its warning and emergency communication system.	Enhances warning and response time to hazards and capability to protect life.	New Action
NJ Department of Corrections	Purchase and install counter-acting drone intrusion infrastructure and/ or devices for State Correctional Facilities.	1,2	Low	5 years	Homeland Security or FEMA HMA	Terrorism	Prevents drones from surveilling, bringing contraband in facilities, or acting as a destructive weapon causing loss to property and life.	Protects life and property. Will help State maintain operations	New Action
NJ TRANSIT	Conduct an Extreme Weather Vulnerability and Risk Assessment of NJ TRANSIT's infrastructure and facilities. The assessment would further NJ TRANSIT's understanding of current climate hazards and identify strategies to address vulnerabilities, including but not limited to defining sensitive locations and sacrificial components.	4	High	Within 2 years	None Currently Available	Flood; Hurricane and Tropical Storm; Nor'easters; Severe Weather and Severe Winter Weather.	First step in identifying appropriate sites and operations for mitigation priorities for NJ TRANSIT.	The Extreme Weather Vulnerability and Risk Assessment develops and maintains an understanding of risks from extreme weather events. It also establishes strategies to increase capabilities to mitigate against future losses and vulnerabilities.	New Action
NJ TRANSIT	Elevate NJ TRANSIT's infrastructure and facilities to NJ Transit's defined Design Flood Elevation (D.F.E.), which is 2.5 feet above Base Flood Elevation (B.F.E.).	1,2,6	High	5 years	None Currently Available	Flood; Hurricane and Tropical Storm; Nor'easters; Severe Weather and Severe Winter Weather.	Protection of transportation infrastructure ensures continuity of operations for vital transit services within the State.	The floodproofing of NJ TRANSIT's infrastructure from potential inundation during a high-water event advances the mission of providing safe and reliable travel for the whole community.	New Action
NJ TRANSIT	Wet or dry floodproof NJ TRANSIT's infrastructure and facilities that provide system critical support; and, which cannot be elevated due to physical site constraints or current operational system requirements.	1,2,6	High	5 years	None Currently Available	Flood; Hurricane and Tropical Storm; Nor'easters; Severe Weather and Severe Winter Weather.	Protection of transportation infrastructure ensures continuity of operations for vital transit services within the State.	The floodproofing of NJ TRANSIT's infrastructure from potential inundation during a high-water event advances the mission of providing safe and reliable travel for the whole community.	New Action
NJ TRANSIT	Identify and implement additional resiliency actions to wet or dry floodproof and protect NJ TRANSIT's assets that are located along the Hudson River.	4	High	5 years	None Currently Available	Flood; Hurricane and Tropical Storm; Nor'easters; Severe Weather and Severe Winter Weather.	Protection of transportation infrastructure ensures continuity of operations for vital transit services within the State.	The floodproofing of NJ TRANSIT's infrastructure from potential inundation during a high-water event advances the mission of providing safe and reliable travel for the whole community.	New Action
NJ TRANSIT	Determine the availability of innovative technologies such as sealants and coatings for application to protect NJ TRANSIT's infrastructure, including but not limited to rail switches.	1,2,6	High	5 years	None Currently Available	Flood; Hurricane and Tropical Storm; Nor'easters; Severe Weather	Such sealants and coatings are a new and innovative approach to make infrastructure more resilient to flooding. Specifically, there are few alternatives to protecting rail switches from flooding impacts since they cannot be elevated.	The floodproofing of NJ TRANSIT's infrastructure from brackish water during a high-water event ensures the continuity of operations post-hazard events.	New Action



New Mitigation Actions for the 2019 Plan									
Responsible Agency	Mitigation Action/Initiative	Goal	Priority	Projected Timeline	Projected Resources	Hazards Addressed	Rationale for Action and Priority	How Action Contributes to Mitigation Strategy	Plan Update Status
						and Severe Winter Weather.			
NJ TRANSIT	Make additional improvements to facilitate the continuity of operations. These may include the Lifeline Critical Infrastructure Sectors before, during, and after an extreme weather event. Sectors include: transportation systems, energy, communications, and water/wastewater.	1,2	High	5 years	None Currently Available	Flood; Hurricane and Tropical Storm; Nor'easters; Severe Weather and Severe Winter Weather.	Supports rapid recovery and continuity of operations.	Ensures protection of life and property and the continuity of operations post-hazard events.	New Action
NJDEP	Install generators at state aquaculture/fishery facilities to ensure the continuous operation of critical equipment for the survival of fish used to stock New Jersey waterways.	2,6	High	5 years	FEMA Grant Funding; CDBG-DR	Fishing Failure	Prevents loss of fish used to ensure New Jersey waterways are stocked	Advances the goal of mitigating losses from the identified fishing failure hazard.	New Action
NJDEP - Water Resource Management	Conduct hydraulic modeling and a feasibility study to understand water resources and infrastructure improvements across New Jersey.	4,5	High	5 years	FEMA Grant Funding; CDBG-DR	All Hazards	Supports understanding of water infrastructure and impacts to drought and flooding-related hazards.	Supports understanding of risks from drought and flooding in relation to New Jersey's water resource management	New Action
NJDEP - Water Resource Management	Conduct a study to investigate and refine estimates for total water loss and leakage that occurs throughout New Jersey's water resources.	4,5	High	5 years	FEMA Grant Funding; CDBG-DR	drought and flood-related hazards	Supports understanding of water loss and impacts to drought and flooding-related hazards.	Supports understanding of risks from drought and flooding in relation to New Jersey's water resource management	New Action
NJDEP - Water Resource Management	Replacement or improvement of reservoirs deemed to be deficient.	1, 2	High	5 years	FEMA Grant Funding; CDBG-DR	All Hazards	To reduce risk and vulnerability to water infrastructure	Prevents potential flooding to life and property from deficient reservoirs.	New Action
NJDEP - Bureau of Dam Safety and Flood Control	Develop a tracking system/database for floodplain managers to upload information on substantially damaged properties, flood permits, elevation certificates, and other information.	2,5	High	5 years	FEMA Grant Funding; CDBG-DR	Flood-Related Hazards	Better data management to track flood-related data critical for the CRS program.	Supports continuity of operations for debris management and facilities rapid disaster recovery	New Action
NJDEP - Bureau of Dam Safety and Flood Control	Work with USACE and Stockton University to update shoreline mitigation tables.	5	Medium	5 years	Existing State Resources	Dam and Levee Failure	Partnerships with the U.S. Army Corps of Engineers and Stockton University allow the State to leverage funding to better understand coastal vulnerability.	Improves hazard information databases and maps and increase accessibility to those resources	New Action
NJDEP - Bureau of Dam Safety and Flood Control	Support or adopt rules to limit or restrict public funding for elevation of structures in the V zone.	1, 2	Medium	5 years	Existing State Resources	Flood-related Hazards		Strengthen State and local planning, building codes, ordinances, and enforcement	New Action
NJDEP - Bureau of Dam Safety and Flood Control	Inventory of Emergency Actions Plans for Dams outside and inside of New Jersey that have the potential to impact New Jersey.	4	High	5 years	FEMA Grant Funding; CDBG-DR	Dam and Levee Failure	Increases awareness and enhances the impact analysis for dam failure for all dams that could impact New Jersey	Improves hazard information databases and maps and increase accessibility to those resources	New Action



New Mitigation Actions for the 2019 Plan									
Responsible Agency	Mitigation Action/Initiative	Goal	Priority	Projected Timeline	Projected Resources	Hazards Addressed	Rationale for Action and Priority	How Action Contributes to Mitigation Strategy	Plan Update Status
NJDEP - Bureau of Dam Safety and Flood Control	Establish database to digitize dam locations and updates to inundation boundary maps	4	Medium	5 years	FEMA Grant Funding; CDBG-DR	Dam and Levee Failure	Allows for a better assessment of risk for dam failures.	Improves hazard information databases and maps and increase accessibility to those resources	New Action
NJDEP - Emergency Management	Create and maintain a spatial damage assessment and inventory of damage to park systems and infrastructure from hazard events.	4	High	5 years	FEMA Grant Funding; CDBG-DR	All Hazards	Creates a central spatial database of damage assessments for park systems, whereas the current system is composed of individually submitted spreadsheets.	Improves hazard information databases and maps and increase accessibility to those resources	New Action
NJDEP - Emergency Management	Assessment of NJDEP facilities for the need of resiliency improvements, such as installation of new generators.	2,6	High	5 years	Existing State Resources	All Hazards	Inventory of potential resiliency improvements to facilities that can be incorporated into future mitigation actions.	Supports continuity of operations and protection of property for critical infrastructure for emergency operations	New Action
NJDEP - Emergency Management/Forest Fire Service	Obtain a communications system upgrade for Forest Fire response. Current system relies on old VHF technology.	5,6	High	5 years	FEMA Grant Funding; CDBG-DR	All Hazards	Enhances communication for fire response	Improve warning and emergency communications systems	New Action
NJDEP - Historic Preservation Office	Create an outreach program to improve disaster preparedness education for cultural resources	3	Medium	5 years	FEMA Grant Funding; CDBG-DR	All Hazards	Many cultural resource sites were not considered or prepared during previous flood-related hazards.	Increases the awareness of mitigation planning for cultural resources within the State	New Action
NJDEP - Historic Preservation Office	Coordinate and integrate emergency preparedness and historic preservation plans for cultural institutions including libraries, museums, art institutes, etc.	4,5	High	5 years	Existing State Resources	All Hazards	Ensures historic preservation planning and regulations are a consideration in emergency and hazard mitigation planning	Integrates mitigation planning with other State and regional planning initiatives	New Action
NJDEP - Land Use Management	Embed staff at Joint Field Office (JFO) to facilitate the permitting process	5	High	5 years	Existing State Resources	All Hazards	Allows more efficient coordination between NJDEP Staff and the JFO to help facilitate rapid recovery and projects	Encourage the formation of partnerships to leverage and share mitigation resources	New Action
NJDEP - Land Use Management / Emergency Management	Establish universal programmatic agreements for public assistance Project Worksheets	5	High	5 years	Existing State Resources	All Hazards	Agreement will bolster communication with NJDEP departments; facilitate closeout and next steps after joint field office leaves; and, to facilitate the capability to waive certain NJDEP requirements to expedite recovery after a disaster.	Encourage the formation of partnerships to leverage and share mitigation resources	New Action
NJDEP - Radiation Protection Element	Enhance radiation monitoring for power plants	4	High	5 years	FEMA Grant Funding; CDBG-DR	All Hazards	Improves monitoring of radiation from power plants to protect life, property, and the environment.	Improves hazard information databases and maps and increase accessibility to those resources	New Action
NJDEP - Radiation Protection Element	Strengthen social media campaign to raise awareness of resources and capabilities provided by NJDEP Radiation Protection Element and to increase public education on risk.	3	High	5 years	Existing State Resources	Nuclear Hazards	Raises awareness of the capabilities offered by NJDEP Radiation Protection Element and increases public education on the risk of nuclear hazards.	Increase the awareness of Nuclear hazards	New Action





New Mitigation Actions for the 2019 Plan									
Responsible Agency	Mitigation Action/Initiative	Goal	Priority	Projected Timeline	Projected Resources	Hazards Addressed	Rationale for Action and Priority	How Action Contributes to Mitigation Strategy	Plan Update Status
NJDEP - Science Advisory Board/C&E	Create a spatial inventory of storm drains and outfalls to integrate with flood data.	4	Medium	5 years	FEMA Grant Funding; CDBG-DR	Flood-Related Hazards	Inventory of storm drains and outfalls is a data gap in the state that will help model the impacts of flooding	Improves hazard information databases and maps and increase accessibility to those resources	New Action
NJDEP - Science Advisory Board/C&E	Conduct data collection or refine current data to better understand risk and vulnerability to hazards. There are current data gaps in the following areas: sediment loads, low tides, multi-spectral imagery, post-impact assessments, and day time census information.	4	Medium	5 years	FEMA Grant Funding; CDBG-DR	All Hazards	Data collection of sediment loads, low tides, multi-spectral imagery, post-impact assessments, and day time census information helps refine risk and vulnerability models of hazards.	Improves hazard information databases and maps and increase accessibility to those resources	New Action
NJDEP - Science Advisory Board/C&E	Conduct a comprehensive inventory of private well locations and ground water depth at private wells.	4	High	5 years	FEMA Grant Funding; CDBG-DR	Flooding and Drought Related Hazards	Private well locations are only tracked during the event of a real estate transaction. A comprehensive database of wells and groundwater depth will aid in the understanding of risk and vulnerability to flooding and drought related hazards.	Improves hazard information databases and maps and increase accessibility to those resources	New Action
NJDEP- DSHW	Conduct an inventory of contaminated/dirty debris piles throughout the state that have occurred post disaster	1, 2,4	High	5 years	FEMA Grant Funding; CDBG-DR	All Hazards	To better understand risk and vulnerability to contaminated sites from debris.	Allows officials to assess threat levels to public health and environmental impacts and take actions to reduce potential losses from hazmat contamination during a hazard.	New Action
NJDEP- DSHW	Amend rules to require a 90-day minimum to Temporary Debris Management Areas approvals that are activated	1, 2,6	High	5 years	Existing State Resources	All Hazards	Allows for a continuous operation of debris management at temporary sites to facilitate clean-up	Supports continuity of operations for debris management and facilities rapid disaster recovery	New Action
NJDEP- DSHW	Conduct outreach for each county to increase awareness and/or adopt their own Debris Management Plan.	3	High	5 years	Existing State Resources	All Hazards	To better understand and manage debris management at the local levels for hazards	Supports continuity of operations for debris management and facilities rapid disaster recovery	New Action
NJDEP- DSHW	Conduct an assessment of public and private debris management facilities to study vulnerability to flooding and identify resiliency measures needed to prevent flooding and other cascading failures during a hazard.	1, 2	High	5 years	FEMA Grant Funding; CDBG-DR	All Hazards	To better understand and manage debris management at all levels for hazards	Supports continuity of operations for debris management and facilities rapid disaster recovery	New Action
NJDEP- DSHW	Generators and “quick connect” points for portable generators for dedicated Waste Management Sites that receive waste post disaster.	2,6	High	5 years	FEMA Grant Funding; CDBG-DR	All Hazards	Ensures waste management sites can continue to receive waste during disaster recovery	Supports continuity of operations for debris management and facilities rapid disaster recovery	New Action
NJDEP- DSHW, NJDOT	Coordinate with NJDOT to establish an interagency tracking mechanism to understand impacted transportation networks that prevent the transfer and cleanup of debris during and post hazard event.	5	High	5 years	Existing State Resources	All Hazards	To better manage debris removal during- and post-hazard	Supports continuity of operations for debris management and facilities rapid disaster recovery	New Action



New Mitigation Actions for the 2019 Plan									
Responsible Agency	Mitigation Action/Initiative	Goal	Priority	Projected Timeline	Projected Resources	Hazards Addressed	Rationale for Action and Priority	How Action Contributes to Mitigation Strategy	Plan Update Status
NJDEP- Emergency Management/DSHW	Establish contracts for the emergency storage of debris with a Hazmat component in each county to facilitate debris management prior to a hazard event.	5,6	High	5 years	Existing State Resources	All Hazards	Creates agreements and partnerships to identify sites for the storage of debris with a hazmat component to facilitate rapid disaster recovery planning.	Encourage the formation of partnerships to leverage and share mitigation resources	New Action
NJDEP- Green Acres	Create an inventory of properties targeted for large buyouts in coordination with DCA to reduce risk from hazard events	1,2,5	High	5 years	FEMA Grant Funding; CDBG-DR	All Hazards	Purchase of large tracts of land vulnerable to flooding-related hazards prevents impacts to life and property.	Encourages cost-effective and environmentally-sound land use that reduces losses from flood-related hazards.	New Action
NJOEM	Establish improved awareness, understanding, and application of all relevant insurance data sources, status, and values as it may apply throughout the State (public and private) for greater resilience and mitigation opportunities in the future.	3,4	Medium	Ongoing	Internal NJOEM resources	Flood	Increases awareness of FEMA's NFIP policies.	Increases public awareness and develops and maintains an understanding of risks from hazards.	New Action
South Jersey Transportation Authority	Improvements to the primary electric and natural gas service to the NJ State Police station located at the Farley Service Plaza on the Atlantic City Expressway.	6	High	5 Years	FEMA HMA	Flood; Hurricane and Tropical Storm; Nor'easters; Severe Weather and Severe Winter Weather.	The current primary electric feed (the only electric feed) to the only State Police station on the Expressway is currently serviced by an aerial wire that passes through a heavily wooded area. This project would convert that feed to underground, which would protect against loss of power associated with future weather events. Natural Gas service would provide a more reliable back up power generation for the station as well.	Helps support the continuity of operations pre-, during, and post-hazard events for the State Police.	New Action
South Jersey Transportation Authority	Raise the last 4.5 miles of the Atlantic City Expressway The Expressway Is the only evacuation route for Absecon Island, which includes Atlantic City, Brigantine, Ventnor and Margate. During Hurricane Sandy, the last 4.5 miles of the Expressway flooded for the first time in its 50+ year history. This project would raise the elevation of the road surface 30 inches, which should guard against a similar occurrence in the future.	1,2,6	High	To be determined	FEMA HMA	Flood; Hurricane and Tropical Storm; Nor'easters; Severe Weather, Severe Winter Weather and Economic Collapse.	The elevation and/or floodproofing of roadways from potential inundation during a high-water event advances the Authority's mission of providing safe roadways by protecting life, property and ensuring the continuity of operations of government, non-government, commerce, private sector, and infrastructure.	The continuity of operations pre-, during, and post-hazard events is particularly important for the Authority's roadway, as it serves as a coastal evacuation route. Lastly, providing a safe toll road system that is in a state of good repair helps ensure the success of the New Jersey economy.	New Action
South Jersey Transportation Authority	Raise portions of the Atlantic City Expressway Connector roadway. Portions of the Connector, which connects the end of the Atlantic City Expressway proper to the Brigantine Bridge, were under water during Hurricane Sandy. The Connector runs north/south along the back-bay area of Atlantic City and connects to the tunnel.	1,2,6	High	5 Years	FEMA HMA	Flood; Hurricane and Tropical Storm; Nor'easters; Severe Weather, Severe Winter Weather and	The elevation and/or floodproofing of roadways from potential inundation during a high-water event advances the Authority's mission of providing safe roadways by protecting life, property and ensuring the continuity of operations of government,	The continuity of operations pre-, during, and post-hazard events is particularly important for the Authority's roadway, as it serves as a coastal evacuation route. Lastly, providing a safe toll road system that is in a state of good	New Action



New Mitigation Actions for the 2019 Plan									
Responsible Agency	Mitigation Action/Initiative	Goal	Priority	Projected Timeline	Projected Resources	Hazards Addressed	Rationale for Action and Priority	How Action Contributes to Mitigation Strategy	Plan Update Status
	The at-grade road in certain area would be elevated and connects to the tunnel. The at-grade road in certain area would be elevated by 24 inches to prevent a similar occurrence from happening in the future.					Economic Collapse.	non-government, commerce, private sector, and infrastructure.	repair helps ensure the success of the New Jersey economy.	
South Jersey Transportation Authority	Scour protection for the Atlantic City Expressway Connector bulkhead	1,2	Low	5 Years	FEMA HMA	Flood; Hurricane and Tropical Storm; Nor'easters; Severe Weather and Severe Winter Weather.	The connector runs north/south along the back-bay portion of Atlantic City. During Hurricane Sandy, portions of the bulkhead experienced erosion and scour associated with the storm surge. Reinforcement to existing bulkheads as well as other mitigation measures will be established to prevent this from happening in the future.	Advances the Authority's mission of providing safe roadways by protecting life, property and ensuring the continuity of operations of government, non-government, commerce, private sector, and infrastructure.	New Action
South Jersey Transportation Authority	Pleasantville Toll Plaza sanitary sewer system elevation.	2,6	Medium	5 Years	FEMA HMA	Flood; Hurricane and Tropical Storm; Nor'easters; Severe Weather and Severe Winter Weather.	During Hurricane Sandy the sanitary sewer system flooded and caused significant damage to the pumps and associated equipment causing the system to be shut down for an extended period of time. This project will elevate critical portions of the system to guard against a similar occurrence in the future.	This project will elevate critical portions of the system. Elevation and/or floodproofing of toll plazas from potential inundation during a high-water event advances the Authority's mission of providing safe roadways and protects life, property and ensures the continuity of operations of government, non-government, commerce, private sector, and infrastructure.	New Action
South Jersey Transportation Authority	Enhance signage and Intelligent Traffic Systems (ITS) detection systems on the Atlantic City Expressway. This project will add and incorporate ITS devices into the Expressway's current ITS system that will be designed to monitor flood-prone areas during weather events. Types of devices are variable message signs, CCTV cameras, weather stations, traffic monitoring equipment, etc. The Expressway already has a fiber optic backbone that these additional devices can be connected to as well as existing head-end equipment at our 24/7 communications/ dispatch center, where the data will be viewed and analyzed.	1,5	Medium	5 Years	FEMA HMA	Flood; Hurricane and Tropical Storm; Nor'easters; Severe Weather and Severe Winter Weather.	Having a heightened ability for early and consistent detection and monitoring will allow for better response and reduced delays during critical times of evacuation and disaster response.	Helps support the continuity of operations pre-, during, and post-hazard events for the State Police.	New Action
South Jersey Transportation Authority	Purchase and Install dual (natural gas and diesel) hook-ups for emergency generators at critical sites and facilities that support SJTPA operations.	1,5	Medium	5 Years	FEMA HMA	Flood; Hurricane and Tropical Storm;	Having a heightened ability for early and consistent detection and monitoring will allow for better response and reduced	Helps support the continuity of operations pre-, during, and post-hazard events for the State Police.	New Action



New Mitigation Actions for the 2019 Plan									
Responsible Agency	Mitigation Action/Initiative	Goal	Priority	Projected Timeline	Projected Resources	Hazards Addressed	Rationale for Action and Priority	How Action Contributes to Mitigation Strategy	Plan Update Status
						Nor'easters; Severe Weather and Severe Winter Weather.	delays during critical times of evacuation and disaster response.		
South Jersey Transportation Authority	Elevate above-ground storage tanks to be 2 feet above the base flood elevation.	1,5	Medium	5 Years	FEMA HMA	Flood; Hurricane and Tropical Storm; Nor'easters; Severe Weather and Severe Winter Weather.	Reduces losses from hazardous substance hazards caused by flood waters and supports continuity of operations.	Protects property and helps support the continuity of operations pre-, during, and post-hazard events for the SJTPA	New Action
South Jersey Transportation Planning Organization (SJTPO)	Develop a Regional Resiliency Planning Study for the transportation infrastructure in Atlantic, Cape May, Cumberland, and Salem Counties in southern New Jersey.	4	High	Within 5 years	FEMA HMA	Flood; Hurricane and Tropical Storm; Nor'easters; Severe Weather and Severe Winter Weather.	Critical first step in identifying appropriate sites and operations for mitigation priorities for the regional transportation infrastructure.	The Regional Resiliency Planning Study develops and maintains an understanding of risks from hazards. It also recommends strategies to increase capabilities to mitigate against future losses and vulnerability.	New Action
South Jersey Transportation Planning Organization (SJTPO)	Host a Roundtable specific to resiliency and hazard mitigation planning for the region to enhance stakeholder education and training.	3	High	Within 2 years	FEMA HMA	Flood; Hurricane and Tropical Storm; Nor'easters; Severe Weather and Severe Winter Weather.	Gathers subject matter experts to present on the region's resiliency progress and challenges.	Enhances stakeholder education and training and increases public preparedness and awareness.	New Action
South Jersey Transportation Planning Organization (SJTPO)	Review existing local and regional plans pertaining to hazard mitigation and resiliency and integrate principles with Regional Transportation Plan Update.	3	High	Within 2 years	FEMA HMA	Flood; Hurricane and Tropical Storm; Nor'easters; Severe Weather and Severe Winter Weather.	As this is a new area for the SJTPO, this will help inform staff on existing hazard mitigation initiatives and plans in place.	Enhances SJTPO Central Staff knowledge and awareness of existing hazard mitigation and resiliency initiatives.	New Action
PANYNJ	George Washington Bridge: Natural Hazards: PANYNJ's "Restoring the George" plan provides for numerous upgrades to the GW Bridge which generally will make the bridge more able to withstand storm events and other natural hazards. However, most hazard mitigation measures currently planned for the GW Bridge specifically address man-made hazards. (see below). We will continue to develop plans and	1,2,4,6	High	2017 - 2026	FEMA grant funding, PANYNJ internal funding	Natural Hazards: Earthquake; geologic hazards; severe winter weather; Nor'easters; tropical storms; hurricanes; and other severe weather.	Natural Hazards: Proper infrastructure maintenance is necessary to maintain bridge integrity in the face of adverse environmental conditions such as: extreme heat, water/saltwater, wind, snow/ice, and freeze/thaw cycles.	Natural Hazards: The George Washington Bridge is the busiest bridge in the world . In 2017, the bridge handled 51.7 million vehicular and hundreds of thousands of bicycle and pedestrian trips, underscoring the importance of this regional link across the Hudson River. Mitigation actions will improve	New Action





New Mitigation Actions for the 2019 Plan									
Responsible Agency	Mitigation Action/Initiative	Goal	Priority	Projected Timeline	Projected Resources	Hazards Addressed	Rationale for Action and Priority	How Action Contributes to Mitigation Strategy	Plan Update Status
	policies to mitigate other hazards that may affect the George Washington Bridge.							operational bridge safety and the structure's ability to withstand adverse environmental conditions.	
PANYNJ	George Washington Bridge: Man-Made Hazards: The Port Authority has incorporated numerous security enhancements to the George Washington Bridge over the past 17 years. As bridge components are replaced/upgraded, security elements are incorporated into the design.	1,2,6	High	2017 - 2026	FEMA grant funding, PANYNJ internal funding	Man-Made Hazards: Acts of Terrorism	Man-Made Hazards: To ensure survivability of the structure in the event of a man-made terrorism hazard and ensure resiliency.	Man-Made Hazards: Ensures resilience for bi-state vehicular travel.	New Action
PANYNJ	Greenville Yards: Natural Hazards: Repair shipping infrastructure damaged by Superstorm Sandy - including the replacement of seven barge mooring cells - and improve the resiliency/durability of flood-prone assets. We will also continue to develop plans and policies to mitigate other hazards that may be identified at Greenville Yards.	1,2,6	High	2017 - 2021	FEMA grant funding, PANYNJ internal funding	Natural Hazards: Flooding due to coastal erosion, sea level rise, hurricanes, tropical storms, Nor'easters and other severe weather; geologic hazards; earthquake.	Natural Hazards: As a port facility, Greenville Yards is susceptible to flooding due to coastal storms and sea level rise. Particularly vulnerable are waterfront assets including, but not limited to: barge mooring cells, transfer bridges, piers, pilings, and railroad infrastructure such as embankments, signals, and switches. Seven barge mooring cells are slated for replacement under PANYNJ's most recent capital plan.	Natural Hazards: Greenville Yards is the western terminus of PANYNJ's Carfloat system, a critical cross-harbor shipping link which allows railcars to be transported between East-of-Hudson and West-of-Hudson markets. Infrastructure resiliency improvements will reduce storm damage and minimize facility down-time post-disaster.	New Action
PANYNJ	Greenville Yards: Man-Made Hazards: The Port Authority has incorporated numerous security enhancements to Greenville Yards since it became operational.	1,2,6	High	2017 - 2021	FEMA grant funding, PANYNJ internal funding	Man-Made Hazards: Acts of Terrorism	Man-Made Hazards: To ensure survivability of supporting infrastructure in the event of a man-made terrorism hazard and ensure resiliency.	Man-Made Hazards: Ensures resilience for bi-state shipping and cargo movement.	New Action
PANYNJ	Holland Tunnel: Natural Hazards: Repair and improve tunnel electrical, mechanical and plumbing infrastructure damaged by Superstorm Sandy-related saltwater intrusion. Mitigate water leakage, particularly in ventilation ducts and pump rooms. Protect facility, especially tunnel portals, from sea level rise and coastal flooding threats. Improve onsite stormwater management practices. We will also continue to develop plans and policies to mitigate other hazards that may be identified for the Holland Tunnel.	1,2,6	High	2017 - 2026	FEMA grant funding, PANYNJ internal funding	Natural Hazards: Flooding due to coastal inundation, sea level rise, hurricanes, tropical storms, Nor'easters and other severe weather; power failure; geologic hazards; earthquake.	Natural Hazards: Plumbing, electrical, and mechanical improvements to the Holland Tunnel will reduce system vulnerability to corrosion and future flooding. Further fortification of tunnel entrances and ventilation buildings will reduce the likelihood of saltwater intrusion and facility closures. Stormwater management improvements will mitigate risk of site flooding and combined-sewer overflows.	Natural Hazards: The Holland Tunnel is a critical component of the Region's transportation infrastructure, and in addition to providing access to about 100,000 vehicles a day, it also serves as a major evacuation route for the area and a key point of entry and exit for emergency personnel. These measures would ensure that this vital transportation link for the NY-NJ metropolitan area can better withstand the threats posed by natural and man-made hazards.	New Action



New Mitigation Actions for the 2019 Plan									
Responsible Agency	Mitigation Action/Initiative	Goal	Priority	Projected Timeline	Projected Resources	Hazards Addressed	Rationale for Action and Priority	How Action Contributes to Mitigation Strategy	Plan Update Status
PANYNJ	Holland Tunnel: Man-Made Hazards: The Port Authority has incorporated numerous security enhancements to the Holland Tunnel over the past 17 years. As tunnel infrastructure is replaced/upgraded, security elements are incorporated into the design.	1,2,6	High	2018 - 2026	FEMA grant funding, PANYNJ internal funding	Man-Made Hazards: Acts of Terrorism	Man-Made Hazards: To ensure survivability of the structure in the event of a man-made terrorism hazard and ensure resiliency.	Man-Made Hazards: Ensures resilience for bi-state vehicular travel.	New Action
PANYNJ	Lincoln Tunnel: Natural Hazards: Repair and improve tunnel electrical, mechanical and plumbing infrastructure damaged by Superstorm Sandy-related saltwater intrusion. Protect facility, especially tunnel ventilation buildings, from sea level rise and coastal flooding threats. Improve onsite stormwater management practices. We will also continue to develop plans and policies to mitigate other hazards that may be identified for the Lincoln Tunnel.	2,6	High	2017 - 2021	FEMA grant funding, PANYNJ internal funding	Natural Hazards: Flooding due to coastal erosion, sea level rise, hurricanes, tropical storms, Nor'easters and other severe weather; high winds; severe winter weather; power failure; geologic hazards; earthquake.	Natural Hazards: Plumbing, electrical, and mechanical improvements to the Lincoln Tunnel will reduce system vulnerability to corrosion and future flooding. Further fortification of tunnel entrances and ventilation buildings will reduce the likelihood of saltwater intrusion and facility closures. Stormwater management improvements will mitigate risk of site flooding.	Natural Hazards: The Lincoln Tunnel is a critical component of the Region's transportation infrastructure, and in addition to providing access to about 120,000 vehicles a day, it also serves as a major evacuation route for the area and a key point of entry and exit for emergency personnel. These measures would ensure that this vital transportation link for the NY-NJ metropolitan area could restore service as soon as possible in a safe manner.	New Action
PANYNJ	Lincoln Tunnel: Man-Made Hazards: The Port Authority has incorporated numerous security enhancements to the Lincoln Tunnel over the past 17 years. As tunnel infrastructure is replaced/upgraded, security elements are incorporated into the design.	1,2,6	High	2018 - 2021	FEMA grant funding, PANYNJ internal funding	Man-Made Hazards: Acts of Terrorism	Man-Made Hazards: To ensure survivability of the structure in the event of a man-made terrorism hazard and ensure resiliency.	Man-Made Hazards: Ensures resilience for bi-state vehicular travel.	New Action
PANYNJ	Newark Liberty International Airport: Natural Hazards: Installation of flood mitigation infrastructure including: improvements to the Bridge N5 underpass, tide gate pumping equipment upgrades, and elevation of the airport's combined heating and refrigeration plant (CHRP). The airport's future Terminal 1 reconstruction plan will also adhere to PANYNJ's Climate Resiliency Guidelines. We will also continue to develop plans and policies to mitigate other hazards that may affect Newark Liberty International Airport.	2,6	High	2017 - 2021	FEMA grant funding, PANYNJ internal funding	Natural Hazards: Flooding due to coastal erosion, sea level rise, hurricanes, tropical storms, Nor'easters and other severe weather; geologic hazards; earthquake.	Natural Hazards: In order to operate safely and efficiently, airfields must remain free from pooling or ponding water. Proposed hazard mitigation plans for Newark Liberty International Airport therefore help ensure that the facility can operate safely and continuously.	Natural Hazards: The Newark Liberty International Airport is a critical component of the Region's transportation infrastructure, accounting for over 400,000 aviation operations a year and moving over 33 million passengers through the NY/NJ metropolitan area. Service disruptions at Newark-Liberty can have a ripple effect on major airfields worldwide. Maintaining a safe airfield at this facility and its supporting operation is thus	New Action



New Mitigation Actions for the 2019 Plan									
Responsible Agency	Mitigation Action/Initiative	Goal	Priority	Projected Timeline	Projected Resources	Hazards Addressed	Rationale for Action and Priority	How Action Contributes to Mitigation Strategy	Plan Update Status
								critical to the Region's ability to respond to normal and emergency transportation needs and the integrity of the global aviation network.	
PANYNJ	Newark Liberty International Airport: Man-Made Hazards: The Port Authority has incorporated numerous security enhancements to Newark Liberty International Airport over the past 17 years. Security design criteria is incorporated into the new Terminal 1 Redevelopment Project. Mitigating strategies are built into the redesigned structure.	1,2,6	High	2018 - 2021	FEMA grant funding, PANYNJ internal funding	Man-Made Hazards: Acts of Terrorism	Man-Made Hazards: To ensure survivability of airport infrastructure in the event of a man-made terrorism hazard and ensure resiliency.	Man-Made Hazards: Ensures resilience of one of the busiest airports in the world.	New Action
PANYNJ	Outerbridge Crossing: Man-Made Hazards: The Port Authority has incorporated numerous security enhancements to the Outerbridge Crossing over the past 17 years. As bridge components are replaced/upgraded, security elements will be incorporated into the design.	1,2,6	High			Man-Made Hazards: Acts of Terrorism	Man-Made Hazards: To ensure survivability of the structure in the event of a man-made terrorism hazard and ensure resiliency.	Man-Made Hazards: Ensures resilience for bi-state vehicular travel as well as a navigable waterway for shipping.	New Action
PANYNJ	PATH: Natural Hazards: PANYNJ's PATH Train system is undergoing extensive improvements over the next eight years. Pending hazard mitigation projects include flood protection enhancements at most PATH stations and key mechanical sites, improved stormwater management, rainwater storage systems, repairs to and relocation of critical electrical substations, installation of flood barriers at equipment storage sites and in tunnels, and Superstorm Sandy-related repairs to electrical, mechanical and ventilation equipment. We will also continue to develop plans and policies to mitigate other hazards that may affect the PATH system.	1,2,6	High	2017 - 2026	FTA grant funding, PANYNJ internal funding	Natural Hazards: Flooding due to coastal erosion, sea level rise, hurricanes, tropical storms, Nor'easters and other severe weather; power failure; severe winter weather; geologic hazards; earthquake.	Natural Hazards: Much of the PATH Train system lies on or beneath land that is highly susceptible to coastal flooding. Proposed resiliency measures will protect valuable assets that are difficult to repair or replace quickly. Therefore, PANYNJ aims to reduce the risk that PATH will be non-operational for an extended period of time post-disaster.	Natural Hazards: PANYNJ's PATH Train provides an important commuter rail link between New York City and Northern New Jersey. It transports roughly 225,000 people per day via its 13 stations in New York and New Jersey. The ability of the PATH system to withstand disasters and resume operations quickly is necessary for passenger safety and regional economic productivity.	New Action
PANYNJ	PATH: Man-Made Hazards: The Port Authority has incorporated numerous security enhancements throughout the PATH System over the past 17 years. As systems, components, and infrastructure are replaced/upgraded, security elements will be incorporated into the design.	1,2,6	High	2018 - 2026	FTA grant funding, PANYNJ internal funding	Man-Made Hazards: Acts of Terrorism	Man-Made Hazards: To ensure survivability of the PATH system in the event of a man-made terrorism hazard and ensure resiliency.	Man-Made Hazards: Ensures resilience for bi-state transportation.	New Action



# STATE OF NEW JERSEY 2019 ALL-HAZARD MITIGATION PLAN

New Mitigation Actions for the 2019 Plan									
Responsible Agency	Mitigation Action/Initiative	Goal	Priority	Projected Timeline	Projected Resources	Hazards Addressed	Rationale for Action and Priority	How Action Contributes to Mitigation Strategy	Plan Update Status
PANYNJ	Port Jersey Port Authority Marine Terminal: Natural Hazards: Upgrades to electrical and flood protection infrastructure at sites such as the east substation. We will also continue to develop plans and policies to mitigate other hazards that may affect the Port Jersey Port Authority Marine Terminal.	1,2,6	High		FEMA grant funding, PANYNJ internal funding	Natural Hazards: Flooding due to sea level rise, hurricanes, tropical storms, Nor'easters and other severe weather; power failure; severe winter weather; geologic hazards; earthquake; coastal erosion.	Natural Hazards: As a port facility, Port Jersey is susceptible to flooding due to coastal storms and sea level rise. Particularly vulnerable are waterfront assets including but not limited to piers, pilings, gantries/cranes, containers, rail, utility/mechanical infrastructure, and buildings.	Natural Hazards: Port Jersey is an important link in the New York City waste management system, handling transfers of waste from barges to railcars bound for outlying landfills. Continuous operation of this facility is therefore important for public health and sanitation.	New Action
PANYNJ	Port Jersey Port Authority Marine Terminal: Man-Made Hazards: The Port Authority has incorporated numerous security enhancements to Port Jersey since it was acquired by the Agency in 2008. The Port Authority will work with tenants to incorporate security design for redeveloped infrastructure.	1,2,6	High		FEMA grant funding, PANYNJ internal funding	Man-Made Hazards: Acts of Terrorism	Man-Made Hazards: To ensure survivability of terminal infrastructure in the event of a man-made terrorism hazard and ensure resiliency	Man-Made Hazards: Ensures resilience for bi-state shipping and cargo movement as well as cruise operations.	New Action
PANYNJ	Port Newark and Elizabeth-Port Authority Marine Terminal: Natural Hazards: The Port Authority will continue to undertake efforts to mitigate coastal hazards at Port Newark. Projects include: repair and/or relocation of key Port facilities such as Building 260, the resident engineer's office, and Building 111 electrical/mechanical equipment, all of which was damaged by Superstorm Sandy. We will also continue to develop plans and policies to mitigate other hazards that may affect Port Newark.	1,2,6	High	2017 - 2021	FEMA grant funding, PANYNJ internal funding	Natural Hazards: Flooding due to coastal erosion, sea level rise, hurricanes, tropical storms, Nor'easters and other severe weather; power failure; geologic hazards; earthquake.	Natural Hazards: As a port facility, Port Newark is susceptible to flooding due to coastal storms and sea level rise conveyed via Newark Bay and the Arthur Kill. Particularly vulnerable are waterfront assets including but not limited to piers, pilings, gantries/cranes, containers, rail, utility/mechanical infrastructure, and buildings.	Natural Hazards: Port Newark is the largest container port in the Eastern United States and is a primary entry-point for goods entering the Northeastern U.S. Proposed resiliency enhancements will help ensure continuity of Port operations during and after a disaster.	New Action
PANYNJ	Port Newark and Elizabeth-Port Authority Marine Terminal: Man-Made Hazards: The Port Authority has incorporated numerous security enhancements to New Jersey Marine Terminals over the last 17 years. The Port Authority works with tenants to incorporate security design for redeveloped infrastructure.	1,2,6	High	2018 - 2021	FEMA grant funding, PANYNJ internal funding	Man-Made Hazards: Acts of Terrorism	Man-Made Hazards: To ensure survivability of terminal infrastructure in the event of a man-made terrorism hazard and ensure resiliency.	Man-Made Hazards: Ensures resilience for bi-state shipping and cargo movements.	New Action
PANYNJ	Teterboro Airport: Natural Hazards: Upgrades to airport flood	1,2,6	High	2016 - 2021	FEMA grant funding,	Natural Hazards: Flooding due to	Natural Hazards: Due to its location, Teterboro Airport is vulnerable to	Natural Hazards: The Teterboro Airport is an important	New Action



New Mitigation Actions for the 2019 Plan									
Responsible Agency	Mitigation Action/Initiative	Goal	Priority	Projected Timeline	Projected Resources	Hazards Addressed	Rationale for Action and Priority	How Action Contributes to Mitigation Strategy	Plan Update Status
	mitigation infrastructure, including rehabilitation of stormwater drainage system. Electrical infrastructure will also be upgraded, particularly to improve airfield lighting, in response to Superstorm Sandy flooding. We will also continue to develop plans and policies to mitigate other hazards that may affect Teterboro Airport.				PANYNJ internal funding	coastal erosion, sea level rise, hurricanes, tropical storms, Nor'easters and other severe weather; power failure; severe winter weather; geologic hazards; earthquake.	stormwater and coastal flooding. During Superstorm Sandy, the airport experienced serious flooding over much of its infrastructure. Flooding, pooling or ponding water on an active airfield presents a serious safety hazard and may necessitate airport closures or flight cancellations.	component of the Region's transportation infrastructure, particularly as it concerns private air traffic into the NY/NY metropolitan area. Mitigation measures can lessen the effects of flooding and will allow the airport to continue to function during an emergency and support the area's normal and emergency transportation needs.	
PANYNJ	Teterboro Airport: Man-Made Hazards: The Port Authority has incorporated numerous security enhancements to Teterboro Airport over the past 17 years. The Port Authority will work with tenants and fixed based operators to incorporate security design for redeveloped infrastructure.	1,2,6	High	2017 - 2021	FEMA grant funding, PANYNJ internal funding	Man-Made Hazards: Acts of Terrorism	Man-Made Hazards: To ensure survivability of airport infrastructure in the event of a man-made terrorism hazard and ensure resiliency.	Man-Made Hazards: Ensure resilience of a major general aviation facility supporting the NY/NJ region.	New Action





Table 6-14 Continuing/In-Progress Mitigation Actions Carried Forward from the Previous Plan

Continuing/In-Progress Mitigation Actions Carried Forward from the Previous Plan									
Responsible Agency	Mitigation Action/Initiative	Goal	Priority	Projected Timeline	Projected Resources	Hazards Addressed	Rationale for Action and Priority	How Action Contributes to Mitigation Strategy	Plan Update Status
NJ DCA	2008 Action 442 Prioritize earthquake risk by conducting more detailed risk assessments of the State-owned critical facilities	1, 2, 4	Medium	Continuing	To be determined	Earthquakes	Serves as first step in a long-term plan to reduce risks to the most critical State facilities.	Results in protecting both life and property.	Ongoing/In-Progress. Funding and personnel for this action have not been identified as this action is classified as medium to low priority
NJ State League of Municipalities (LOM)	2010 PSA 237 Continue NJDEP Green Acres, Blue Acres acquisition of repetitive loss and Severe repetitive loss structures.	1	Medium	Included as a Continuing Mitigation Program as Noted Above	New and existing State appropriations	Flood	Requested in local mitigation planning efforts to eliminate repetitive loss structures.	Augments Federal funding to ensure that more structures will no longer be flooded thereby reducing repetitive loss claims.	Ongoing/In-Progress. The LOM supports NJOEM and NJDEP acquisition projects at the annual LOM conference
NJ Treasury	2010 PSA 231 Inventory state owned or leased structures and identify repetitive loss properties.	2	High	Continuing Capability / Responsibility	Existing State Assets and Federal grants	All Hazards	Identifying repetitive loss areas and properties helps communities develop a strategy to reduce future hazard losses.	Retrofitting, elevating or removing repetitive loss properties from known hazard areas protect property and lives as well as preserve personal, and federal financial resources.	Ongoing/In-Progress
NJ Treasury	Amend LBAM database to identify what critical facilities are vulnerable to potential hazards.	2	High	5 years	Existing State Assets and Federal grants	All Hazards	Identifying repetitive loss areas and properties helps communities develop a strategy to reduce future hazard losses.	Retrofitting, elevating or removing repetitive loss properties from known hazard areas protect property and lives as well as preserve personal, and federal financial resources.	Ongoing/In-Progress
NJ Treasury	2009 Action 344 Develop and maintain local government mitigation planning assistance/coordination web page.	2	Highest	6 months (2011)	Existing State resources	All Hazards	Provide up to date reference for the development and updating of local hazard mitigation plans.	This local information will be utilized in the updating of the State Hazard Mitigation Plan.	Ongoing/In-Progress
NJDCA, NJDEP	2008 Action 141 Integrate NFIP standards and FireWise into the uniform construction codes utilized by the State.	1, 2	High	2 years (2013)	Existing State funds	Flood	Incorporate NFIP requirements into the New Jersey Uniform Construction Code to reduce flood losses.	Reduction of flood losses will reduce flood insurance claims.	Ongoing/In-Progress This action continues to be coordinated among the two state agencies. Disaster



Continuing/In-Progress Mitigation Actions Carried Forward from the Previous Plan									
Responsible Agency	Mitigation Action/Initiative	Goal	Priority	Projected Timeline	Projected Resources	Hazards Addressed	Rationale for Action and Priority	How Action Contributes to Mitigation Strategy	Plan Update Status
									responsibilities have caused delays
NJDEP	Elevation Program – This program continues to provide grants to help homeowners elevate their homes to provide increased flood protection.	2, 5	High	5 years	FEMA Grant Funding; CDBG-DR	Flood	Enhance home protection during flood events	Reduce damage to homes	Ongoing/In-Progress.
NJDEP	2011 Action 240 Encourage greater municipal CRS participation through county and municipal educational programs.	2	Medium	3 years (2014)	Existing NJDEP resources	Flood	Greater CRS participation will promote general flood hazard awareness, increase flood insurance coverage and reduce flood policy costs and decreases flood losses	Increase the awareness of flood hazards.	Ongoing/In-Progress. As an example, NJDEP is currently working with Monmouth County GIS on a program that can assist municipalities receive additional CRS points.
NJDEP	2011 Action 241 Encourage regional authorities, with established land use regulatory authority to participate in the NFIP CRS program	2	Medium	3 years (2014)	Existing NJDEP resources	Flood	Greater CRS participation will promote general flood hazard awareness, increase flood insurance coverage and reduce flood policy costs.	Increase flood hazard awareness and provide greater flood insurance coverage at lower costs.	Ongoing/In-Progress. NJDEP continues to promote NFIP and CRS participation throughout the State
NJDEP	Buyout Program - Approximately 1,000 homes impacted by Superstorm Sandy will be targeted by the buyout program, in addition to another 300 repetitively flood-damaged homes located in the Passaic River Basin.	1, 2	High	Continuing	FEMA Grant Funding; CDBG-DR; and other State funds	Flood	Provide funding for the acquisition of homes in Sandy-impacted areas subject to repetitive flooding.	Properties purchased through the program will be removed and the remaining land reverted back to its natural state resulting in the mitigation of flooding for neighboring communities.	Ongoing/In-Progress. Using federal disaster relief resources, NJDEP began implementing a buyout program to acquire properties from willing sellers in repetitive loss areas.
NJDEP	Improve water supply resiliency by increasing interconnections amongst water supply systems throughout the State	1	High	5 years	FEMA Grant Funding and existing State Funding Options, potentially including EPA/SRF funds	All Hazards	Existing water systems need to establish interconnections and alternate water supplies to sustain residential water service.	Provides resiliency and long-term water supply.	Ongoing/In-Progress.
NJDEP - Forest Fire Service	2008 Action 471 Develop and implement a State database/GIS to track and archive past wildfire occurrences.	4	Medium	Within 2 years (2013)	PDM Grant	Wildfire	Map of all areas of the State with the ranking of the threat from wildland fuels will assist in local and regional planning	Provides basis for Pinelands Commission and other defensible space regulations and enforcement.	Ongoing/In-Progress. This action is currently being worked on with NJ forestry services staff, forestry services



Continuing/In-Progress Mitigation Actions Carried Forward from the Previous Plan									
Responsible Agency	Mitigation Action/Initiative	Goal	Priority	Projected Timeline	Projected Resources	Hazards Addressed	Rationale for Action and Priority	How Action Contributes to Mitigation Strategy	Plan Update Status
									GIS personnel and New Jersey forest fire service staff to develop these maps. Additionally, the US Forest Service has provided some data to develop hazardous fuels mapping.
NJDEP - NJGWS	2008 PSA 351 Enhance public education and outreach efforts to increase awareness of earthquake hazards and risk in New Jersey.	3	Low to Medium	Included as a Continuing Mitigation Program as Noted Above	Existing State staff and funds	All Hazards	Protects life and property	Advances goals of protecting life and property.	Ongoing/In-Progress. This action will assist with public education and outreach upon completion
NJDEP - NJGWS	2008 PSA 441 Overlay an inventory of State-owned critical facilities with the level of seismic hazard at each location, using the USGS national seismic hazard maps and the New Jersey Geological Survey maps of seismic soil classes.	4	Medium	Included as a Continuing Mitigation Program as Noted Above	To be determined	All Hazards	Serves as first step in a long-term plan to reduce risks to the most critical State facilities.	Results in protecting both life and property.	Ongoing/In-Progress. Updated data provided for 2014 plan. Completion of other counties dependent on FEMA funding.
NJDEP - NJGWS	2008 Action 443 Complete HAZUS loss estimation runs for the mostly likely damaging earthquakes for New Jersey	4	Medium	Estimated at two years with FEMA grant	Existing NJGS staff and financial resources.	Earthquakes	Part of a larger process to identify most at-risk areas, as basis to determine where State mitigation resources can best be used henceforth.	Results in protecting both life and property.	Ongoing/In-Progress. Updated data provided for 2014 plan. Completion of other counties dependent on FEMA funding.
NJDEP - NJGWS	2008 PSA 321 Incorporate existing HAZUS/NYCEM earthquake studies into the SHMP and indicate completion schedule for other counties	3	Highest	Included as a Continuing Mitigation Program as Noted Above	FEMA grant funding needed	All Hazards	HAZUS and NYCEM data will be invaluable in the development of mitigation planning, for both the State and local communities by providing a comprehensive database for mitigation planning.	Assists in developing state and local mitigation plans with current information.	Ongoing/In-Progress. Updated data provided for 2014 plan. Completion of other counties dependent on subsequent FEMA funding.
NJDEP & NJDCA	2008 Action 141 Integrate NFIP standards and FireWise into the uniform construction codes utilized by the State.	1, 2	High	2 years (2013)	Existing State funds	Flood	Incorporate NFIP requirements into the New Jersey Uniform Construction Code to reduce flood losses.	Reduction of flood losses will reduce flood insurance claims.	Ongoing/In-Progress. This action continues to be coordinated among the two state agencies. Disaster





Continuing/In-Progress Mitigation Actions Carried Forward from the Previous Plan									
Responsible Agency	Mitigation Action/Initiative	Goal	Priority	Projected Timeline	Projected Resources	Hazards Addressed	Rationale for Action and Priority	How Action Contributes to Mitigation Strategy	Plan Update Status
									responsibilities have caused delays
NJDEP & NJOSHSP	Update information technology and mapping systems	1, 2	High	10 years	FEMA Grant Funding, other federal funds and existing State funding options	All Hazards	Mapping and measuring tools will help analyze future hazards.	Facilitates a better understanding of natural systems.	Ongoing/In-Progress.
NJDEP, NJOEM, & Local Governments	Encourage resolution of flooding issues on NFIP identified Repetitive and Severe Repetitive properties	2	High	Continuing	DEP Green Acres funding, FEMA Grant Funds, Local dedicated Open Space funds, Private contributions	Flood	Increases the level of protection from flooding throughout the state to a large segment of vulnerable population.	Advances the goal of Several mitigation programs.	Ongoing/In-Progress. This action will continue to be addressed during in-house annual mitigation plan updates and during three-year FEMA required update
NJDEP, NJOEM, & NJEDA	Improve retail fuel stations' ability to provide fuel in the event of power disruptions through the Liquid Fuel Resilience Program, which provides funding for onsite generators and "quick connect" points for portable generators.	1, 2	High	5 years	FEMA Grant Funding	All Hazards	Builds resilience in fuel supply and distribution.	Provides liquid fuel supply continuity during future hazards. Refer to Appendix E for additional details (2013 New Jersey State Hazard Mitigation Plan Amendment).	Ongoing/In-Progress.
NJDEP, NJOEM, NJOHSP, NJBPU, and others	Implement an Energy Allocation Initiative that provides government units with financing for alternative energy projects to reduce demand on the power grid during an event and while the State recovers from any grid disruption	1, 2, 6	High	5 years	FEMA Grant Funding	All Hazards	Provide energy resiliency to municipalities, counties and other government units to pursue creative and cost-effective alternatives to enhance statewide energy resilience.	Provides energy resiliency. Refer to Appendix E for additional details (2013 New Jersey State Hazard Mitigation Plan Amendment).	Ongoing/In-Progress.
NJDOT	Constructing seismic retrofits on bridges to improve resiliency against earthquake damage	1, 2, 6	High	Ongoing	FHWA ER Program and/or FEMA 404	Earthquake	Critical bridge/route for evacuation purposes.	Reduces future earthquake road and bridge damage.	Ongoing/In-Progress.
NJDOT	Hardening of traffic controllers*	1, 2, 6	High	Ongoing	FHWA ER Program and/or FEMA 404	All Hazards	Critical bridge/route for evacuation purposes.	Reduces future traffic controller and signal damage.	Ongoing/In-Progress.
NJDOT	Hardening of draw bridges*	1, 2, 6	High	Ongoing	FHWA ER Program and/or FEMA 404	All Hazards	Critical bridge/route for evacuation purposes.	Reduces future moveable bridge damage.	Ongoing/In-Progress.



Continuing/In-Progress Mitigation Actions Carried Forward from the Previous Plan									
Responsible Agency	Mitigation Action/Initiative	Goal	Priority	Projected Timeline	Projected Resources	Hazards Addressed	Rationale for Action and Priority	How Action Contributes to Mitigation Strategy	Plan Update Status
NJDOT	Upgrading highway drainage systems*	1, 2, 6	High	Ongoing	FHWA ER Program and/or FEMA 404	Flood	Critical bridge/route for evacuation purposes.	Reduces flood damage.	Ongoing/In-Progress.
NJDOT	Installing and hardening pumps stations*	1, 2, 6	High	Ongoing	FHWA ER Program and/or FEMA 404	Flood	Critical bridge/route for evacuation purposes.	Reduces flood damage.	Ongoing/In-Progress.
NJDOT	Installing deep pavement boxes throughout critical evacuation routes*	1, 2, 6	High	Ongoing	FHWA ER Program and/or FEMA 404	All Hazards	Critical bridge/route for evacuation purposes.	Reduces future road and bridge damage.	Ongoing/In-Progress.
NJDOT	Geospatial mapping of navigable waterways	4, 5, 6	High	Ongoing	FHWA ER Program and/or FEMA 404	All Hazards	Understand State assets to better prepare for future hazards.	Improves allocation of resources to maintain navigable waterways.	Ongoing/In-Progress.
NJDOT	Anti-scouring measures to improve bridge and road longevity	1, 2, 6	High	Ongoing	FHWA ER Program and/or FEMA 404	Flood	Critical bridge/route for evacuation purposes.	Reduces future road and bridge damage.	Ongoing/In-Progress.
NJOEM	To develop a mitigation after-action template and use this tool to capture lessons learned and success stories post-disaster.	4, 5, 6	High	Within 18 months of a disaster declaration	Internal NJOEM resources	All	After-action reports are an integral part of the emergency preparedness planning continuum and support effective crisis response and mitigation.	Lessons learned can be used to proactively develop and enhance State and county mitigation plans and procedures that will support resiliency.	Ongoing
NJOEM	2011 Action 346 Encourage greater active county involvement in plan updates and local project development through establishing "Plan Update" training courses to assist counties in fulfilling the plan maintenance sections of their plans.	3	Medium	3 years (2014)	Existing NJOEM Resources	All Hazards	Brings about a greater degree of coordination between state, county and local emergency managers in plan maintenance.	Advances the goal full awareness of all hazards on all levels.	Ongoing
NJOEM	2008 Action 411 Continuingly update the State Hazard Mitigation Plan to ensure that it includes the most current technical information, serves as a reference and guidance document for local and regional planners, and reflects current State policies, practices and priorities.	4	High	Continuing	Existing staff, support from MCT and SHMT. Potential for additional funding through FEMA grant programs.	All Hazards	Federal requirement. In order to maximize the utility of the plan, it must be constantly updated to include most recent information.	Basis for most of the State's decisions about mitigation actions and strategies.	Ongoing
NJOEM	2008 Action 493 Identify and describe existing plans addressing hazard mitigation issues for review and integration into the SHMP.	4	Medium	Continuing	Existing State resources	All Hazards	Develop plans for their effective use and integration with other agencies' for use of existing resources to reduce losses.	Enhances local capabilities to utilize public and private resources.	Ongoing



Continuing/In-Progress Mitigation Actions Carried Forward from the Previous Plan									
Responsible Agency	Mitigation Action/Initiative	Goal	Priority	Projected Timeline	Projected Resources	Hazards Addressed	Rationale for Action and Priority	How Action Contributes to Mitigation Strategy	Plan Update Status
NJOEM	2008 Action 521 Ensures that mitigation planning continues to evolve in the State	5	Medium	Continuing	NJOEM, FEMA, NJ counties and local jurisdictions.	All Hazards	Ensures that mitigation planning continues to evolve in the State, and that efforts of State, federal government and local jurisdictions are aligned.	Ensures a regional and statewide mitigation planning effort. Planning participation at the local level is expanding beyond municipalities to other institutions and independent subdivisions of State government.	Ongoing
NJOEM	2011 Action 132 Encouraging College/university participation in the mitigation planning process.	5	Medium	Continuing	Various, including NJOEM, FEMA, local and national partners.	All Hazards	Increases technical quality of HMP and abilities of State, local and regional planners	Ensures that technical aspects of the plan and mitigation activities are based on best available technology and data.	Ongoing
NJOEM	2011 Action 362 Encourage plan participation by non-participating local governments.	2	Medium to High	To be determined based on funding.	To be determined, probably NJOEM and regional or local entities.	All Hazards	Step in process of securing grant funds to mitigate risks to these sites.	Contributes to goals of protecting property and life.	Ongoing
NJOEM	Conduct yearly workshops related to FEMA hazard mitigation grant programs (This action is part of the Repetitive Loss Strategy – Section 8)	4	High	2014	Existing NJOEM resources and NJSP Public Information Office.	All Hazards	Increased access to the NJ AHP will help spread the concept of hazard mitigation.	Advances all of the goals of the plan by increasing preparedness and knowledge of municipal and county officials, citizens and law and policymakers.	Ongoing
NJOEM	Promote acquisition and elevation of repetitive loss structures through community partnerships and outreach. (This action is part of the Repetitive Loss Strategy – Section 8)	All	High	Continuing	Existing state assets and federal grants	All	Making local officials aware of FMA increases participation.	FMA contributes to the mitigations strategy to reduce future flood losses.	Ongoing
NJOEM	Provide updated SRL and RL lists to communities in advance of grant application windows. Included FEMA-calculated avoided damages for SRL properties and any state-calculated avoided damages for RL properties (This action is part of the Repetitive Loss Strategy – Section 8)	1, 2, 4, 5	High	Continuing	Federal grants and existing state resources	Flood	Eliminating repetitive loss structures. Contacting local community partners including but not limited to emergency management directors, floodplain managers, local officials, floodplain administrators regularly to provide updated technical information and advice of	Structures will no longer be flooded thereby reducing RL claims. Contact local community partners including but not limited to emergency management directors, floodplain managers, local officials, floodplain administrators regularly to provide updated technical information and advice of	Ongoing



Continuing/In-Progress Mitigation Actions Carried Forward from the Previous Plan									
Responsible Agency	Mitigation Action/Initiative	Goal	Priority	Projected Timeline	Projected Resources	Hazards Addressed	Rationale for Action and Priority	How Action Contributes to Mitigation Strategy	Plan Update Status
							opportunities/funding to acquire or elevate properties.	opportunities/funding to acquire or elevate properties.	
NJOEM	Local Projects Program: This program continues to enable county and local governments across all 21 counties to pursue regional and local resiliency projects. These funds can be used to advance drainage, flood control, energy resiliency and other hazard mitigation projects.	1, 2, 4, 5	High	Continuing	Existing state resources	Flood	Identifying candidates with the strongest potential to meet benefit cost requirements allows communities to focus mitigation alternatives and applications on SRL and RL properties	Retrofitting, elevating, or removing RL properties from known hazard areas protect property and lives as well as preserve personal, state, and federal financial resources	Ongoing
NJOEM	Planning Grant Program – This program continues to provide eligible counties with grants to develop hazard mitigation plans.	All	High	5 years	FEMA Grant Funding	All Hazards	Support local government entities in mitigation actions	Funds local mitigation projects	Ongoing
NJOEM	2008 Action 154 Ensure Incident Command System use, qualifications, and standards during all incident response and event planning.	3	Highest	6 months (2011)	Existing State resources	All Hazards	Provide up to date reference for the development and updating of local hazard mitigation plans.	This local information will be utilized in the updating of the State Hazard Mitigation Plan.	Ongoing
NJOEM	2008 PSA 232 Develop and implement a detailed severe repetitive loss mitigation strategy	2	High	Continuing Capability / Responsibility	Existing State resources, in context of State Mitigation Plan update (which used FEMA grant funds)	Flood	First step in the State implementing a clear, long-term program of mitigating properties that constitute the most significant losses to the National Flood Insurance Program.	Protects property. See Appendix F of 2008 version of State plan – Severe Repetitive Loss Mitigation Strategy.	Ongoing
NJOEM	2008 PSA 235 Conduct community outreach, workshops and training to increase NFIP participation.	2	High	Continuing Capability / Responsibility	Existing State Resources	Flood	Encourages participation in the program so that losses will be covered and allows eligibility in the FMA program.	Allows for people to receive flood insurance claims and maintains eligibility in the FMA program of which flood insurance is a requirement.	Ongoing
NJOEM	2008 PSA 271 Update and maintain continuity of government to enable the State government to provide critical services during an interruption of business.	2	High	Continuing Capability / Responsibility	Existing resources	All Hazards	Critical services are still necessary during an interruption of business.	The existence and exercise of these plans will assure that State Government services will continue to be provided regardless of the hazards faced.	Ongoing
NJOEM	2008 PSA 311 Educate the public through NJOEM and NJFS outreach programs and hazard mitigation workshops.	3	High	Continuing Capability / Responsibility	Existing State resources	All Hazards	To increase participation in hazard mitigation programs for the prevention of potential loss of life and damage to structures.	Encourages the development of Pre Disaster Mitigation plans and participation in mitigation grant programs.	Ongoing



Continuing/In-Progress Mitigation Actions Carried Forward from the Previous Plan									
Responsible Agency	Mitigation Action/Initiative	Goal	Priority	Projected Timeline	Projected Resources	Hazards Addressed	Rationale for Action and Priority	How Action Contributes to Mitigation Strategy	Plan Update Status
NJOEM	2008 PSA 312 Participate in the Emergency Preparedness Conference with workshops.	3	High	Continuing Capability / Responsibility	Existing State resources	All Hazards	The Emergency Preparedness Conference is an important venue to promote and increase participation in hazard mitigation programs and reaches a wide variety of people and interests.	Encourages the development of Pre Disaster Mitigation plans and participation in mitigation grant programs.	Ongoing
NJOEM	2008 PSA 323 Develop a hazard event GIS database to help State and local emergency managers with hazard mitigation and other planning initiatives.	3	High	Continuing Capability / Responsibility	Existing resources	All Hazards	The current NJOEM GIS database to capture and organize the volume of information generated by research and actual disaster events needs to be expanded.	Improving knowledge of hazards and hazard events will improve mitigation and other planning designs to reduce the impact of hazard events on local and state economies.	Ongoing
NJOEM	2008 PSA 431 Continuingly update repetitive loss and severe repetitive loss lists from the NFIP.	4	High	Continuing Capability / Responsibility	Existing staff	All Hazards	Essential to continuing the State's effort to reduce flood losses. Enables NJOEM to appropriately prioritize its actions to mitigate repetitive loss and severe repetitive loss properties, in accordance with FEMA requirements (and potentially qualifies the State and local jurisdictions for the 90-10 federal-local match under the SRL program.	The State mitigation strategy has a focus on reducing losses to property by implementing appropriate flood mitigation activities. Keeping these lists up to date allows the State to prioritize assistance and funds.	Ongoing
NJOEM	2008 PSA 432 Continue working with local and regional jurisdictions to encourage their cooperation in making repetitive property mitigation a high priority, and to offer technical support in carrying out the requirements of FEMA mitigation programs.	4	High	Continuing Capability / Responsibility	Existing staff, with support from FEMA Region II.	Flood	Basic requirement to initiate and sustain momentum	Initiates a long-term process to protect property from effects of repetitive flooding.	Ongoing
NJOEM	2008 PSA 513 Continuingly update and enhance the State plan. Begin by incorporating recommended FEMA revisions. Institute stronger plan maintenance procedures, such as having agencies responsible for mitigation actions provide annual	5	High	Continuing Capability / Responsibility	NJOEM, FEMA	All Hazards	Required to ensure that the plan is a current document, and remains useful to the State, as well as to local and regional planners.	The plan is the basis for prioritizing all actions.	Ongoing





Continuing/In-Progress Mitigation Actions Carried Forward from the Previous Plan									
Responsible Agency	Mitigation Action/Initiative	Goal	Priority	Projected Timeline	Projected Resources	Hazards Addressed	Rationale for Action and Priority	How Action Contributes to Mitigation Strategy	Plan Update Status
	progress reports to the SHMO. Ongoing								
NJOEM	Promote the integration of findings and actions of local mitigation plans into other local planning mechanisms.	5	Medium	3 years	Federal and State Resources	All Hazards	Coordination of efforts	Supports resiliency	Ongoing
NJOEM	2011 Action 133 Encourage resolution of flooding issues on NFIP identified Repetitive and Severe Repetitive properties	1	High	Continuing	DEP Green Acres funding, FEMA Grant Funds, Local dedicated Open Space funds, Private contributions	Flood	Increases the level of protection from flooding throughout the state to a large segment of vulnerable population.	Advances the goal of several mitigation programs.	Ongoing
NJOEM / Treasury	2008 Action 215 Survey State agencies for their most critical State-owned facilities and use as the basis for prioritizing vulnerability assessments and mitigation grant funds.	2	Medium	To be determined (2014).	Existing NJOEM and State agency staff resources.	All Hazards	Critical first step in identifying appropriate sites and operations for mitigation priorities.	Protects life, property and continuity of operations.	Ongoing/In-Progress. No progress due to disaster responsibilities of both state agencies. Refer to new NJOEM/OHSP action in Table 6-14.
NJOEM and Local/regional authorities	2009 Action 252 Undertake detailed vulnerability assessments and develop mitigation options for State-owned critical facilities in V and VE zones.	2	Medium to High	To be determined based on funding.	To be determined, probably NJOEM and regional or local entities.	Flood	Step in process of securing grant funds to mitigate risks to these sites.	Contributes to goals of protecting property and life.	Ongoing/In-Progress. This action will continue to be addressed during in-house annual mitigation plan updates and during three-year FEMA required update
NJOEM and Local/regional authorities	2009 Action 253 Initiate mitigation projects to reduce risks to State-owned critical facilities located in V and VE zones	2	Medium to High	To be determined based on funding.	FEMA grant programs, with State	Flood	Protects critical facilities.	Contributes to goals of protecting property and life.	Ongoing/In-Progress. This action will continue to be addressed during in-house annual mitigation plan updates and during three-year FEMA required update
NJOEM Public Information Office	2011 Action 522 Publicize mitigation success stories by requiring project applicants to report on how the	5	Medium	Continuing	Existing NJOEM Resources and NJOEM Public	All Hazards	Increase level of awareness of natural hazards and a greater awareness of the relation	Advances the goal of achieving 100% mitigation	Ongoing/In-Progress. Minimal progress due to disaster



Continuing/In-Progress Mitigation Actions Carried Forward from the Previous Plan									
Responsible Agency	Mitigation Action/Initiative	Goal	Priority	Projected Timeline	Projected Resources	Hazards Addressed	Rationale for Action and Priority	How Action Contributes to Mitigation Strategy	Plan Update Status
	mitigation action affected the hazard issue.				Information Office		between planning and project that relieve or prevent hazard results.	planning coverage and better mitigation projects	responsibilities and limited staffing
NJOEM State agencies, Local/regional authorities - Emergency Management Agencies	2010 Action 221 Inventory non-state owned critical assets that are vulnerable to natural hazards.	2	High	Continuing	Existing resources	All-Natural Hazards	Establishes comprehensive GIS-based repository for data on critical non-State-owned facilities.	Database will allow identification of non-State owned critical facilities so that they may be targeted for future mitigation projects.	Ongoing/In-Progress. This action will continue to be addressed during in-house annual mitigation plan updates and during three-year FEMA required update
NJOEM, NJDEP	2009 PSA 235 Conduct community outreach, workshops and training to increase NFIP participation. (This action is part of the Repetitive Loss strategy – Section 8)	1, 2, 4, 5	High	Continuing Capability / Responsibility	Existing State Resources	Flood	Encourages participation in the program so that losses will be covered and allows eligibility in the FMA program.	Allows for people to receive flood insurance claims and maintains eligibility in the FMA program of which flood insurance is a requirement.	Ongoing/In-Progress. Numerous CAVs, CACs, and workshops have taken place. Refer to Table 8-11 in Section 8.
NJOEM, NJDEP, Local Governments	Encourage resolution of flooding issues on NFIP identified Repetitive and Severe Repetitive properties	2	High	Continuing	DEP Green Acres funding, FEMA Grant Funds, Local dedicated Open Space funds, Private contributions	Flood	Increases the level of protection from flooding throughout the state to a large segment of vulnerable population.	Advances the goal of several mitigation programs.	Ongoing/In-Progress. This action will continue to be addressed during in-house annual mitigation plan updates and during three-year FEMA required update
NJOEM, NJDEP, New Jersey Treasury	Inventory flood damage structures	2	High	Continuing	Existing state assets and federal grants	Flood	Identifying repetitive loss areas and properties helps communities develop a strategy to reduce future hazard losses	Retrofitting, elevating or removing RL properties from known hazard areas protect property and lives as well as preserve personal, state, and federal financial resources	Ongoing/In-Progress.
NJOEM, NJEDA, NJDEP, and others	Improve retail fuel stations' ability to provide fuel in the event of power disruptions through the Liquid Fuel Resilience Program, which provides funding for onsite generators and "quick connect" points for portable generators.	1, 2	High	5 years	FEMA Grant Funding	All Hazards	Builds resilience in fuel supply and distribution.	Provides liquid fuel supply continuity during future hazards. Refer to Appendix E for additional details (2013 New Jersey State Hazard Mitigation Plan Amendment).	Ongoing/In-Progress.



Continuing/In-Progress Mitigation Actions Carried Forward from the Previous Plan									
Responsible Agency	Mitigation Action/Initiative	Goal	Priority	Projected Timeline	Projected Resources	Hazards Addressed	Rationale for Action and Priority	How Action Contributes to Mitigation Strategy	Plan Update Status
NJOEM/OHSP	Work with State agencies to update the critical facility spatial inventory developed for the 2014 Plan update with best available data and identify which are State-owned critical facilities, and which are non-State-owned critical facilities.	1, 2, 4, 5	High	3 years	Internal NJOEM and OHSP resources	All	This new attribute will further allow State agencies to identify mitigation priorities and actions for their facilities.	Protects life, protects property, increases understanding of risks, and supports continuity of operations.	Ongoing/In-Progress.
NJOIT/GIS and OMB	2008 Action 211 2009 Action 211 2010 Action 211 Generate State-owned critical facilities information and establish GIS-based repository for data on critical State facilities.	2	High	3 years (2014)	Existing State resources	All Hazards	Establishes comprehensive GIS-based repository for data on critical State facilities.	Data base will allow identification of critical state facilities so that they may be targeted for future mitigation projects.	Ongoing/In-Progress. The 2014 SHMP has compiled an inventory which will continue to be updated and enhanced. Refer to new NJOEM/OHSP action in Table 6-14.
Office of the NJ State Climatologist (ONJSC) at Rutgers	Maintain and potentially expand New Jersey Weather and Climate Network (NJWxNet) operations	3	High	Ongoing	FEMA; NJOEM; NJOHSP; NJDEP; others	Severe Weather	Provides real-time weather monitoring to keep officials apprised of ongoing and changing conditions. Potential expansion to additional locations.	Well-informed individuals who are cognizant of weather conditions can make decisions associated with life and property.	Ongoing/In-Progress.
ONJSC Rutgers	Maintain and continually update the weather/climate hazards portal and dashboard	3	High	Development (2years). Operation and maintenance (ongoing).	FEMA; NJOEM; NJOHSP; others	Severe Weather	The portal continually provides a multitude of baseline information from the ONJSC and numerous other sources. The dashboard provides data and information customized for a specific significant event.	Essential for planning, preparation, response, and recovery associated with weather and weather-related events.	Ongoing/In-Progress.
ONJSC Rutgers	Maintain and continually update the climate data and information warehouse and software library.	3	High	Development (3years). Operation and maintenance (ongoing).	FEMA; NJOEM; NJOHSP; others	Severe Weather	Source of weather/climate-related products that may be customized for State, county, or community assessments of hazards and risks	Permits public entities of any size to generate weather/climate products for use in event reports, mitigation proposals, and various planning documents.	Ongoing/In-Progress.
Rutgers University - Bloustein School	Develop geospatial and analytical tools to support community engagement, policy reform, and State and regional planning efforts.	3	High	June 2013 - May 2014	Joint effort between Rutgers SEBS, CRSSA, and the Bloustein School	All Hazards	To make local officials and emergency management coordinators aware of possible hazards and potential actions that may help to reduce hazards and vulnerabilities within their community	Geospatial and analytical tool development will help to inform community members throughout New Jersey, as well as help to guide possible additions to State, county, and local mitigation plans.	Ongoing/In-Progress





Continuing/In-Progress Mitigation Actions Carried Forward from the Previous Plan									
Responsible Agency	Mitigation Action/Initiative	Goal	Priority	Projected Timeline	Projected Resources	Hazards Addressed	Rationale for Action and Priority	How Action Contributes to Mitigation Strategy	Plan Update Status
Rutgers University - Bloustein School	Perform mobile LiDAR and digital imagery acquisition along an estimated 2,500 miles of residential and urban roads in ABFE Zones A and V.	3	Medium	Long-Term	Joint effort between Rutgers CAIT and the Bloustein School	Flood	Provide accurate visual models of current ground elevations of buildings and infrastructure located in ABFE Zones A and V.	Development of 3D visualizations will help analyze geospatial risk data.	Ongoing/In-Progress.
Rutgers University - Bloustein School	Create a geospatial dataset for each of the 21 counties that include the IA, PA, and NFIP payouts for each major storm event where data is available, aggregated at the Census Block level	5	High	5 months	Rutgers Bloustein School	All Hazards	Data useful to local planners and emergency management personnel when preparing updates to their Hazard Mitigation and Disaster Recovery Plans, as well as identifying areas that should be evaluated for possible property buyouts and relocation of families and businesses.	Data could help guide County planners and Emergency management personnel when preparing updates to Hazard Mitigation and Disaster Recovery Plans.	Ongoing/In-Progress.
State Agencies	2008 Action 241: Undertake cost-effective wind retrofits and upgrades of the most critical state facilities	2	Medium	Continuing – based upon funding	Federal, State or local resources	All Hazards	Protects key State resources. Part of possible eventual enhanced State plan status.	Protects lives, property and essential State functions.	Ongoing/In-Progress. Wind projects are currently seeking funding.
Stockton College - CRC	Purchase a Laser Scanner to enhance coastal surveying	3	Medium	Depends on Funding	FEMA HMGP	All Hazards	Enhance and complement existing and new methods of surveying to collect high-resolution elevation data.	Deploying a mobile laser scanner will enhance the CRC's efforts by reducing field data collection time for the New Jersey Beach Profile Network (NJBPN), while increasing the resolution of data within the State of New Jersey's coastal zone.	Ongoing/In-Progress.

Table 6-15 Completed Actions that have become on-going Capabilities



Completed Actions that have become on-going Capabilities									
Responsible Agency	Mitigation Action/Initiative	Goal	Priority	Projected Timeline	Projected Resources	Hazards Addressed	Rationale for Action and Priority	How Action Contributes to Mitigation Strategy	Plan Update Status
NJ DCA	2009 PSA 161 Implement seismic retrofits critical facilities, which are especially vulnerable seismically and located in high hazard areas.	1	Medium	Continuing Capability / Responsibility	FEMA grant funds, grants from other federal or State agencies TBD.	Earthquake	Potential for deaths and casualties in certain combinations of building types and occupancies means that some critical facilities should be protected from seismic hazards.	Protects life and property. Will help State maintain operations in the event of an earthquake.	Completed Action/Ongoing Capability
NJ DCA*	2008 PSA 239 Ensure enforcement of the seismic design provisions in the International Building Code for all new buildings and infrastructure in New Jersey.	2	Medium	Continuing Capability / Responsibility	Existing local and State resources	All Hazards	Long-term continued enforcement is best form of mitigation for most hazards.	Best possible long-term mitigation against damages from earthquakes, especially for new construction	Completed Action/Ongoing Capability
NJ Treasury	2008 Action 211 Generate State-owned critical facilities information and establish GIS-based repository for data on critical State facilities.	1	High	3 years - 2014	Existing State Resource	All Hazards	Establishes comprehensive GIS-based repository for data on critical State-owned facilities.	Data base will allow identification of critical state facilities so that they may be targeted for future mitigation projects.	Completed Action/Ongoing Capability
NJ Treasury	2009 PSA 214 Provide training seminars in identifying potential hazards to State bureaus responsible for rental/leasing of properties for State offices.	2	Medium	Continuing Capability / Responsibility	Existing resources	All Hazards	Training will augment existing initiatives of Treasury and the State's insurance carriers by expanding the number of hazards addressed and will use all existing hazard profiling information.	Identification of potential hazards will identify vulnerabilities and avoid losses to State facilities through mitigation or relocation. Securing facility contents will protect them from damage and also minimize flood insurance claims.	Completed Action/Ongoing Capability
NJ Treasury	2009 PSA 213 Expand State facilities risk management program.	2	High	Continuing Capability / Responsibility	Existing resources	Flood	Maintain flood protection and fire protection	Increases safety of personnel and reduces losses due to fire/flood.	Completed Action/Ongoing Capability
NJ Treasury	2009 Action 215 Survey all State agencies for updates to their most critical State-owned facilities and use as the basis for prioritizing vulnerability assessments and mitigation grant funds.	1	Medium	5 years	Existing NJOEM and State agency staff resources.	All Hazards	Critical first step in identifying appropriate sites and operations for mitigation priorities.	Protects life, property and continuity of operations.	Completed Action/Ongoing Capability
NJDCA	2010 PSA 131 Encourage participation in existing programs – FMA, PDM, HMGP.	1	High	Continuing Capability / Responsibility	Existing local, State and Federal grant funds.	All Hazards	Considerable number of households are in floodplains and are potentially at risk to hazards and repetitive losses. Opportunities exist to	Increasing municipal involvement in and public support for improving the structural integrity of vulnerable homes will	Completed Action/Ongoing Capability



Completed Actions that have become on-going Capabilities									
Responsible Agency	Mitigation Action/Initiative	Goal	Priority	Projected Timeline	Projected Resources	Hazards Addressed	Rationale for Action and Priority	How Action Contributes to Mitigation Strategy	Plan Update Status
							coordinate with “smart growth” and “safe growth” planning initiatives.	improve the safety of households, which would otherwise be at risk.	
NJDCA Office of Smart Growth	2009 PSA 325 Develop state hazard profiles for manmade and technological hazards.	3	High	Continuing Capability / Responsibility	Mitigation grants	Cyber Attack, Terrorism	Existing profiles primarily discuss state and local vulnerability to natural hazards.	Improving knowledge of manmade hazards and technological hazard events will improve mitigation and other planning designs to reduce the impact of hazard events on local and state economies.	Completed Action/Ongoing Capability
NJDCA Office of Smart Growth	2011 Action 491 Ensure coordination with the State Planning Commission	4	High	Continuing Capability / Responsibility	Existing State Resources	All Hazards	To ensure that growth plans do not conflict with hazard mitigation and response planning.	To enhance the State’s coordination abilities.	Completed Action/Ongoing Capability
NJDCA Office of Smart Growth	2009 PSA 325 Develop state hazard profiles for manmade and technological hazards.	3	High	Continuing Capability / Responsibility	Mitigation grants	Cyber Attack, Terrorism	Existing profiles primarily discuss state and local vulnerability to natural hazards.	Improving knowledge of manmade hazards and technological hazard events will improve mitigation and other planning designs to reduce the impact of hazard events on local and state economies.	Completed Action/Ongoing Capability
NJDCA Office of Smart Growth	2011 Action 491 Ensure coordination with the State Planning Commission	4	High	Continuing Capability / Responsibility	Existing State Resources	All Hazards	To ensure that growth plans do not conflict with hazard mitigation and response planning.	To enhance the State’s coordination abilities.	Completed Action/Ongoing Capability
NJDEP	2010 – PSA 121 Encourage enforcement of Flood Plain Management as it relates to new and existing construction.	1	High	Continuing Capability / Responsibility	Existing State Resources and Federal grant funds (FEMA CAP-SSSE)	Flood	To guide communities in a more effective control and use of floodplains.	Improve disaster resistance of structures within the floodplain. Coordinate with the NFIP participating communities through the Community Assistance Program to ensure that they are adopting, properly using and enforcing the Local Flood Damage Prevention ordinances.	Completed Action/Ongoing Capability



Completed Actions that have become on-going Capabilities									
Responsible Agency	Mitigation Action/Initiative	Goal	Priority	Projected Timeline	Projected Resources	Hazards Addressed	Rationale for Action and Priority	How Action Contributes to Mitigation Strategy	Plan Update Status
NJDEP	2009 PSA 231 Inventory damaged structures.	2	High	Continuing Capability / Responsibility	Existing State Assets and Federal grants	All Hazards	Identifying repetitive loss areas and properties helps communities develop a strategy to reduce future hazard losses.	Retrofitting, elevating or removing repetitive loss properties from known hazard areas protect property and lives as well as preserve personal, state and federal financial resources.	Completed Action/Ongoing Capability
NJDEP	2008 PSA 236 Regulate development to reduce flood losses in vulnerable fluvial and coastal areas.	2	High	Continuing Capability / Responsibility	Existing resources	Flood	Necessary to reduce flood insurance losses in flood prone areas.	Promulgates regulations governing development in flood hazard areas, which reduce flood losses and ensures a safer community.	Completed Action/Ongoing Capability
NJDEP	2008 PSA 237 Continue NJDEP Green Acres, Blue Acres acquisition of repetitive loss and Severe repetitive loss structures.	2	Medium	Continuing Capability / Responsibility	New and existing State appropriations	Flood	Requested in local mitigation planning efforts to eliminate repetitive loss structures.	Augments Federal funding to ensure that more structures will no longer be flooded thereby reducing repetitive loss claims.	Completed Action/Ongoing Capability
NJDEP - Bureau of Dam Safety and Flood Control	2008 PSA 238 Continue State funding for federal flood control projects through annual state appropriations under the HR-6 Flood Control project budget.	2	High	Continuing Capability / Responsibility	Existing State resources	Flood	Implemented recommendations and methods would reduce flooding and protect vulnerable public and private properties, infrastructure, utilities and municipal services	Partnerships with the U.S. Army Corps of Engineers and local governments allow the State to leverage our funding to implement flood mitigation projects that provide larger scale protection.	Completed Action/Ongoing Capability
NJDEP - Bureau of Dam Safety and Flood Control	2008 PSA 223 Continue the non-lapsing Shore Protection Fund for shore protection projects, stabilization, restoration or maintenance of the shore, including monitoring studies and land acquisition.	2	High	Continuing Capability / Responsibility	Existing resources	Flood, Coastal Erosion, Hurricanes and Tropical Storms	Implemented recommendations and methods would reduce flooding from storm surge and protect vulnerable evacuation routes on barrier islands.	Partnerships with the U.S. Army Corps of Engineers and local governments allow the State to leverage our funding to implement mitigation projects with larger scale protection. The fund supports coastal engineering research, the Beach Monitoring	Completed Action/Ongoing Capability



Completed Actions that have become on-going Capabilities									
Responsible Agency	Mitigation Action/Initiative	Goal	Priority	Projected Timeline	Projected Resources	Hazards Addressed	Rationale for Action and Priority	How Action Contributes to Mitigation Strategy	Plan Update Status
								Network and dune-system assessments.	
NJDEP - Forest Fire Service	2008 PSA 261 Continue mechanical thinning and prescribed fire use to reduce hazardous wildland fuel accumulations Statewide, particularly in high-risk areas.	2	High	Continuing Capability / Responsibility	NJFS, federal programs	Wildfire	Historically vulnerable areas require continual mitigation efforts to manage risk. Many vulnerable areas are subject to increasing development pressures, meaning that risk is gradually increasing, although the probability of fire may remain stable because of mitigation efforts.	Improving the health of the forests will make less fuel available for wildland fire and protect forest resources. Protects property and life.	Completed Action/Ongoing Capability
NJDEP - Forest Fire Service	2009 PSA 311 Educate the public through NJOEM and NJFS outreach programs and hazard mitigation workshops.	3	High	Continuing Capability / Responsibility	Existing State resources	Wildfire	To increase participation in hazard mitigation programs for the prevention of potential loss of life and damage to structures.	Encourages the development of Pre-Disaster Mitigation plans and participation in mitigation grant programs.	Completed Action/Ongoing Capability
NJDEP - Forest Fire Service	2009 PSA 312 Participate in the Emergency Preparedness Conference with workshops.	3	High	Continuing Capability / Responsibility	Existing State resources	Wildfire	The Emergency Preparedness Conference is an important venue to promote and increase participation in hazard mitigation programs and reaches a wide variety of people and interests.	Encourages the development of Pre-Disaster Mitigation plans and participation in mitigation grant programs.	Completed Action/Ongoing Capability
NJDEP - Forest Fire Service	2010 PSA 323 Develop a hazard event GIS database to help State and local emergency managers with hazard mitigation and other planning initiatives.	3	High	Continuing Capability / Responsibility	Existing resources	Wildfire	The current NJOEM GIS database to capture and organize the volume of information generated by research and actual disaster events needs to be expanded.	Improving knowledge of hazards and hazard events will improve mitigation and other planning designs to reduce the impact of hazard events on local and state economies.	Completed Action/Ongoing Capability
NJDEP - Forest Fire Service	2008 PSA 262 Encourage community acceptance and inclusion of FireWise concepts in municipal and regional planning	2	Medium	Continuing Capability / Responsibility	Fosters defensible space and community development standards to improve survivability of residences during wildfire incidents	Wildfire	Allows continuity of mitigation efforts between communities and other open lands.	Improving the health of the forests will make less fuel available for wildland fire and protect forest resources.	Completed Action/Ongoing Capability





Completed Actions that have become on-going Capabilities									
Responsible Agency	Mitigation Action/Initiative	Goal	Priority	Projected Timeline	Projected Resources	Hazards Addressed	Rationale for Action and Priority	How Action Contributes to Mitigation Strategy	Plan Update Status
NJDEP - Forest Fire Service	2008 PSA 263 Develop and implement effective silviculture strategies that improve the health of forests and reduce the amount of fuels available for wildland fires from dead and dying trees.	2	Medium	Continuing Capability / Responsibility	Existing resources and National Fire Plan grants	Wildfire	A portion of the state's forests has trees killed or defoliated by forest insects or disease.	Improving the health of the forests will make less fuel available for wildland fire and protect forest resources.	Completed Action/Ongoing Capability
NJDEP - Forest Fire Service	2008 PSA 264 Limit the number of wildfires to fewer than 2,000 annually and the acreage burned to less than ½ of 1% of the state forest.	2	Medium	Continuing Capability / Responsibility	Existing resources	Wildfire	Minimizes wildfire ignitions and limits acreages burned by breaking up large areas of hazardous fuels.	Provides access for suppression and enforcement as well as contingency lines for prescribed burning and wildfire control. Improve public acceptance of efforts	Completed Action/Ongoing Capability
NJDEP - Forest Fire Service	2009 PSA 345 Ensure that each municipality and county develop a wildfire preparedness plan for incorporation into their local and county emergency management plans.	3	Medium	Continuing Capability / Responsibility	FEMA Fire Management Assistance Grant Program; National Fire Plan grants and NJDEP Community Wildfire Hazard Mitigation Grants, others.	Wildfire	Provides resources for preparing mitigation plans and implementation of measures to mitigate wildfire hazards	Helps to address goals of protecting life and property.	Completed Action/Ongoing Capability
NJDEP - Forest Fire Service	2008 PSA 123 Provide a legislative process to conduct wildland fuel reduction efforts on private properties.	1	Medium	Continuing Capability / Responsibility	NJFS	Wildfire	Incomplete cooperation on various land ownerships disrupts linear continuity of mitigation efforts	Protects life and property.	Completed Action/Ongoing Capability
NJDEP, & NJOEM, New Jersey Treasury	Inventory flood damage structures (This action is part of the Repetitive Loss Strategy – Section 8)	2	High	Continuing	Existing state assets and federal grants	Flood	Identifying repetitive loss areas and properties helps communities develop a strategy to reduce future hazard losses	Retrofitting, elevating or removing RL properties from known hazard areas protect property and lives as well as preserve personal, state, and federal financial resources	Completed Action/Ongoing Capability
NJOEM	To provide technical assistance to Counties regarding hazard mitigation plan updates to ensure consistency across local	4, 5	High	3 years	Federal and State Resources	All Hazards	Consistent methodology and reporting of local plans will allow for an efficient roll-up of local plans and further enhance the State HMP.	Enhance State and local mitigation capabilities to reduce hazard vulnerabilities.	Complete



Completed Actions that have become on-going Capabilities									
Responsible Agency	Mitigation Action/Initiative	Goal	Priority	Projected Timeline	Projected Resources	Hazards Addressed	Rationale for Action and Priority	How Action Contributes to Mitigation Strategy	Plan Update Status
	capability assessments, risk ranking and vulnerability assessments.								
NJOEM	2008 Action 221 Inventory non-state owned critical assets that are vulnerable to natural hazards.	2	High	Continuing	Existing resources	All Hazards	Establishes comprehensive GIS-based repository for data on critical non-State owned facilities.	Database will allow identification of non-State owned critical facilities so that they may be targeted for future mitigation projects.	Complete
NJOEM	2008 Action 421 Compile a GIS-based inventory of State-owned critical facilities Statewide	4	High	Two to five years (2016)	Existing staff, possibly consultants depending on funding availability	All Hazards	Developing basic information such as this will allow the State to meet federal requirements for prioritizing mitigation grant funds that will be directed to reducing losses to State-owned and operated facilities. Furthermore, and more importantly, this information will allow the State to make informed decisions regarding the use of federal and State resources to reduce potential damages.	This action is the basic building block of a mitigation strategy. Completing this action is the first step in meeting the goals of protecting lives and property, as related to State facilities	Complete
NJOEM	2008 Action 511 Seek funding for additional staff and resources –	5	High	Continuing	To be determined, probably State of New Jersey and FEMA.	All Hazards	Federal requirement. In order to maximize the utility of the plan, it must be constantly updated to include most recent information.	Basis for most of the State's decisions about mitigation actions and strategies.	Complete
NJOEM	2008 Action 512 Provide ongoing staff and resources to keep the State plan a living document.	5	High	Continuing	State, NJOEM. Sandy funds	All Hazards	Ensures that the plan is a current and technically accurate document.	Ensures that all aspects of the HMP are current, and enhances resources available to local and regional planners.	Complete
NJOEM	2008 Action 251 Use HAZUS to identify local or regional police, fire, hospital and emergency operations centers that are in FEMA-designated V and VE flood zones.	2	Medium	3 years (2014)	Existing NJOEM Resources	All Hazards	Increase level of protection to eligible, but not covered jurisdiction, from all natural hazards and a greater awareness throughout the state to a large segment of the vulnerable population.	Advances the goal of achieving 100% mitigation planning coverage	Complete
NJOEM	2008 PSA 322 Incorporate additional profiling and vulnerability information	3	High	Continuing Capability / Responsibility	Existing State resources	All Hazards	To increase statewide vulnerability and hazard trends.	Decreases losses through identification of hazard prone areas. Increases	Complete/Ongoing Capability



Completed Actions that have become on-going Capabilities									
Responsible Agency	Mitigation Action/Initiative	Goal	Priority	Projected Timeline	Projected Resources	Hazards Addressed	Rationale for Action and Priority	How Action Contributes to Mitigation Strategy	Plan Update Status
	recommended by FEMA into the SHMP.							protection of vulnerable state activities.	
NJOEM	2008 PSA 325 Develop state hazard profiles for manmade and technological hazards.	3	High	Continuing Capability / Responsibility	Mitigation grants	All Hazards	Existing profiles primarily discuss state and local vulnerability to natural hazards.	Improving knowledge of manmade hazards and technological hazard events will improve mitigation and other planning designs to reduce the impact of hazard events on local and state economies.	Complete/Ongoing Capability
NJOEM	2008 PSA 342 Increase NJOEM staffing in areas of planning, engineering and management.	3	High	Continuing Capability / Responsibility	Mitigation grants	All Hazards	Additional staff required to expand expertise, for the timely development of hazard mitigation plans and to facilitate implementation of projects.	Development of viable local hazard mitigation plans and projects.	Complete/Ongoing Capability
NJOEM / NJFFS	2008 PSA 345 Ensure that each municipality and county develop a wildfire preparedness plan for incorporation into their local and county emergency management plans.	3	Medium	Continuing Capability / Responsibility	FEMA Fire Management Assistance Grant Program; National Fire Plan grants and NJDEP Community Wildfire Hazard Mitigation Grants, others.	All Hazards	Provides resources for preparing mitigation plans and implementation of measures to mitigate wildfire hazards	Helps to address goals of protecting life and property.	Completed Action/Ongoing Capability
NJOEM / NJGS	2008 PSA 161 Implement seismic retrofits critical facilities, which are especially vulnerable seismically and located in high hazard areas.	1	Medium	Continuing Capability / Responsibility	FEMA grant funds, grants from other federal or State agencies TBD.	Earthquake	Potential for deaths and casualties in certain combinations of building types and occupancies means that some critical facilities should be protected from seismic hazards.	Protects life and property. Will help State maintain operations in the event of an earthquake.	Completed Action/Ongoing Capability
NJOEM / NJGS	2009 PSA 351 Enhance public education and outreach efforts to increase awareness of earthquake hazards and risk in New Jersey.	3	Low to Medium	Continuing Capability / Responsibility	Existing State staff and funds	All Hazards	Protects life and property	Advances goals of protecting life and property.	Completed Action/Ongoing Capability
NJOEM / Treasury	2008 PSA 214 Provide training seminars in identifying potential hazards to State bureaus	2	Medium	Continuing Capability / Responsibility	Existing resources	All Hazards	Training will augment existing initiatives of Treasury and the State's insurance carriers by expanding the number of hazards addressed and	Identification of potential hazards will identify vulnerabilities and avoid losses to State facilities	Completed Action/Ongoing Capability





Completed Actions that have become on-going Capabilities									
Responsible Agency	Mitigation Action/Initiative	Goal	Priority	Projected Timeline	Projected Resources	Hazards Addressed	Rationale for Action and Priority	How Action Contributes to Mitigation Strategy	Plan Update Status
	responsible for rental/leasing of properties for State offices.						will use all existing hazard profiling information.	through mitigation or relocation. Securing facility contents will protect them from damage and also minimize flood insurance claims.	
NJOEM Communications Bureau	2008 PSA 111 Expand reverse 911 implementation.	1	High	Continuing Capability / Responsibility	Existing State Resources	All Hazards	The State is seeking an inexpensive way to expand warning and emergency communication with the public.	Reverse 911 improves local and state capability to protect life.	Completed Action/Ongoing Capability
NJOEM Mitigation Unit	2008 PSA 131 Encourage participation in existing programs – FMA, PDM, HMGP.	1	High	Continuing Capability / Responsibility	Existing local, State and Federal grant funds.	Flood	Significant number of households are in floodplains and are potentially at risk to hazards and repetitive losses. Opportunities exist to coordinate with “smart growth” and “safe growth” planning initiatives.	Increasing municipal involvement in and public support for improving the structural integrity of vulnerable homes will improve the safety of households which would otherwise be at risk.	Completed Action/Ongoing Capability
NJOEM Mitigation Unit	2008 PSA 153 Encourage educational programs (Rutgers, UMDNJ).	1	Medium	Continuing Capability / Responsibility	Existing State resources	All Hazards	Continued participation in this joint program leads to a stronger understanding of hazards and risks within the emergency management community as well as in the private sector.	Enhance community abilities to effectively respond to hazard events	Completed Action/Ongoing Capability
NJOEM Preparedness Unit	2008 PSA 112 Expand Flood Warning Systems (Preparedness Unit).	1	High	Continuing Capability / Responsibility	Existing State Resources	Flood	Improve coverage increases the number of people able to receive warning of potentially life-threatening flooding events.	Expanding and enhancing this system improves local and state capability to protect life.	Completed Action/Ongoing Capability
NJOEM Training Unit	2008 PSA 151 Promote Community Emergency Response Team (CERT) training	1	Medium	Continuing Capability/Responsibility/Program	Existing State Resources	All Hazards	To enhance local communities’ ability to respond to hazard events.	Provides public and communities with immediate pool trained first responders.	Completed Action/Ongoing Capability
NJOEM Training Unit	2008 PSA 151 Promote Community Emergency Response Team (CERT) training	1	Medium	Continuing Capability / Responsibility	Existing State Resources	All Hazards	To enhance local communities’ ability to respond to hazard events.	Provide public and communities with immediate pool trained first responders.	Completed Action/Ongoing Capability
NJOEM Training Unit	2008 PSA 152 Utilize the NJOEM Training Unit to train emergency responders.	1	Medium	Continuing Capability / Responsibility	Existing State Resources	All Hazards	To enhance local communities’ awareness of risks.	Enhance community abilities to effectively respond to hazard events	Completed Action/Ongoing Capability



Completed Actions that have become on-going Capabilities									
Responsible Agency	Mitigation Action/Initiative	Goal	Priority	Projected Timeline	Projected Resources	Hazards Addressed	Rationale for Action and Priority	How Action Contributes to Mitigation Strategy	Plan Update Status
NJOEM State Agencies Local Emergency Management Coordinators	2010 PSA 222 Encourage training of owners and operators of non-state owned critical facilities for hazard mitigation.	2	High	Continuing Capability / Responsibility	Existing resources	All Hazards	Targeted training will augment existing initiatives of NJOEM and insurance carriers	Targeted training efforts based on identification of potential hazards will reduce vulnerabilities and losses to critical facilities through mitigation or relocation. Training to secure contents of critical facilities will protect assets from damage and minimize flood insurance claims.	Completed Action/Ongoing Capability
NJOEM, NJDEP, New Jersey Treasury	Inventory flood damage structures (This action is part of the Repetitive Loss Strategy – Section 8)	2	High	Continuing	Existing state assets and federal grants	Flood	Identifying repetitive loss areas and properties helps communities develop a strategy to reduce future hazard losses	Retrofitting, elevating or removing RL properties from known hazard areas protect property and lives as well as preserve personal, state, and federal financial resources	Completed Action/Ongoing Capability
NJOIT	2009 PSA 271 Update and maintain continuity of government to enable the state government to provide critical services during an interruption of business.	2	High	Continuing Capability / Responsibility	Existing resources	All Hazards	Critical services are still necessary during an interruption of business.	The existence and exercise of these plans will assure that State Government services will continue to be provided regardless of the hazards faced.	Completed Action/Ongoing Capability
NJOIT/GIS	2009 PSA 323 Develop a hazard event GIS database to help State and local emergency managers with hazard mitigation and other planning initiatives.	3	High	Continuing Capability / Responsibility	Existing resources	All Hazards	The current NJOEM GIS database to capture and organize the volume of information generated by research and actual disaster events needs to be expanded.	Improving knowledge of hazards and hazard events will improve mitigation and other planning designs to reduce the impact of hazard events on local and state economies.	Completed Action/Ongoing Capability
NJOIT/GIS	2009 PSA 324 Expand and enhance GIS/HAZUS hazard mitigation databases and use for analysis and mapping in the SHMP.	3	High	Continuing Capability / Responsibility	Existing resources and mitigation grants	All Hazards	Provide a data base for the identification of hazardous areas and provide loss estimations for hurricanes and flood winds	Provide rationalization for future land use planning.	Completed Action/Ongoing Capability



Completed Actions that have become on-going Capabilities									
Responsible Agency	Mitigation Action/Initiative	Goal	Priority	Projected Timeline	Projected Resources	Hazards Addressed	Rationale for Action and Priority	How Action Contributes to Mitigation Strategy	Plan Update Status
Rutgers University	2009 PSA 313 Promote continuing education of state and local officials through Rutgers programs.	3	Medium	Continuing Capability / Responsibility	Existing State resources	All Hazards	To make local officials and emergency management coordinators aware of possible hazards and actions to reduce hazards and vulnerabilities in their community.	Increases protection to property and life in the state.	Completed Action/Ongoing Capability

Table 6-16 Withdrawn Actions

Withdrawn Actions									
Responsible Agency	Mitigation Action/Initiative	Goal	Priority	Projected Timeline	Projected Resources	Hazards Addressed	Rationale for Action and Priority	How Action Contributes to Mitigation Strategy	Plan Update Status
NJ Treasury	2009 Action 421 Compile a GIS-based inventory of State-owned critical facilities Statewide	4	High	Two to five years (2013)	Existing staff, possibly consultants depending on funding availability	All Hazards	Developing basic information such as this will allow the State to meet federal requirements for prioritizing mitigation grant funds that will be directed to reducing losses to State-owned and operated facilities. Furthermore, and more importantly, this information will allow the State to make informed decisions regarding the use of federal and State resources to reduce potential damages.	This action is the basic building block of a mitigation strategy. Completing this action is the first step in meeting the goals of protecting lives and property, as related to State facilities	Withdrawn. Same as Action 211
NJOEM	A data capture tool (spreadsheet or otherwise) will be developed that will support the aggregation and archiving of municipal, county, and local events and loss data as it becomes available in the post-disaster recovery period.	4, 5	Medium	3 years	Internal NJOEM resources	All	The data capture system shall be designed and made available to support local mitigation planning and grant application (benefit-cost) activities, and shall serve as a basis for the regular update of the State risk assessment.	Enhance State and local mitigation capabilities to reduce hazard vulnerabilities.	Withdrawn
NJOEM	2009 Action 212 Prioritize structural and nonstructural retrofits for critical State-owned facilities based on their vulnerability to natural hazards.	2	High	3 years - 2014	Existing State Resources and possible mitigation grant funds	All Hazards	Prioritizing will address the most vulnerable structures first.	Retrofitting facilities based on their vulnerability will preserve important state buildings, as well as protect their records, systems and	Withdrawn



# STATE OF NEW JERSEY 2019 ALL-HAZARD MITIGATION PLAN

Withdrawn Actions									
Responsible Agency	Mitigation Action/Initiative	Goal	Priority	Projected Timeline	Projected Resources	Hazards Addressed	Rationale for Action and Priority	How Action Contributes to Mitigation Strategy	Plan Update Status
								occupants from hazard events.	
NJOEM	2008 Action 253 Initiate mitigation projects to reduce risks to State-owned critical facilities located in V and VE zones	2	Medium to High	To be determined based on funding.	FEMA grant programs, with State	All Hazards	Protects critical facilities.	Contribute to goals of protecting property and life.	Withdrawn
NJOEM	2008 Action 344 Develop and maintain local government mitigation planning assistance/coordination web page.	3	Highest	6 months (2011)	Existing state resources	All Hazards	Provide up to date reference for the development and updating of local hazard mitigation plans.	This local information will be utilized in the updating of the State Hazard Mitigation Plan.	Withdrawn
NJOEM	2008 Action 361 Encourage the NJ League of Municipalities to become more involved in mitigation activities.	3	Medium	Continuing	Existing staff	All Hazards	Helps to spread concepts of mitigation to new areas.	Advances all goals in the plan by increasing preparedness and knowledge of citizens, and law and policymakers.	Withdrawn
NJOEM	2008 Action 461 Conduct a survey of wind vulnerabilities, based on criteria such as age of the facility, value of operations, proximity to the coast, etc.	4	Medium	To be determined	State funds, dependent on budget priorities.	All Hazards	Although wind is not as significant a risk to the State as some other hazards, there are likely some State facilities that are quite vulnerable to wind hazards, and where these vulnerabilities may be relatively inexpensive to mitigate.	Basis for prioritizing actions to mitigate risk.	Withdrawn
NJOEM	2008 Action 491 Ensure coordination with the State Planning Commission –	4	High	Continuing	Existing State Resources	All Hazards	To ensure that growth plans do not conflict with hazard mitigation and response planning.	To enhance the State's coordination abilities.	Withdrawn
NJOEM	2011 Action 224 Establish an annual "mitigation" meeting to which a target group on a specific subject will be invited on a 3 year rotating schedule	3	Medium	Continuing	Existing NJOEM Resources	All Hazards	Increase level of protection to eligible, but not covered jurisdiction, from all natural hazards and a greater awareness throughout the state to a large segment of the vulnerable population.	Advances the goal of achieving 100% mitigation planning coverage	Withdrawn
NJOEM	2008 Action 252 Undertake detailed vulnerability assessments and develop mitigation options for State-owned critical facilities in V and VE zones.	2	Medium to High	One year (2011)	Existing NJOEM and local/regional resources	All Hazards	First step in initiating mitigation activities to protect critical facilities.	Protects property, and because the facilities in question are critical in nature, by extension these activities also contribute to the goal of protecting life, as well as maintaining the effective operation of government operations that may be essential in the post-event environment.	Withdrawn
NJOEM	2011 Action 412 Make the AHP web site more user friendly and maintain, as part of the web site, all handouts and	3	High	Continuing	Existing NJOEM Resources	All Hazards	Increase level of protection from all natural hazards and a greater awareness throughout the state.	Advances the goal of achieving 100% mitigation planning coverage	Withdrawn



Withdrawn Actions									
Responsible Agency	Mitigation Action/Initiative	Goal	Priority	Projected Timeline	Projected Resources	Hazards Addressed	Rationale for Action and Priority	How Action Contributes to Mitigation Strategy	Plan Update Status
	information developed for public distribution with current information								
NJOEM	2008 Action 344 2010 Action 344 Develop and maintain local government mitigation planning assistance/coordination web page.	3, 4, 5	High	5 years	FEMA Grant Funding	All Hazards	Provides eligible counties with grants to develop multi-jurisdictional hazard mitigation plans	Builds local-level hazard mitigation capability.	Withdrawn
NJOEM *	2008 PSA 213 Expand State facilities risk management program.	1	Medium	Continuing	Existing State resources	All Hazards	DHS requirement	Protects life, property and continuity of operations.	Withdrawn
NJOEM	2008 PSA 213 Expand State facilities risk management program.	2	High	Continuing Capability / Responsibility	Existing resources	Flood	Maintain flood protection and fire protection	Increases safety of personnel and reduces losses due to fire/flood.	Withdrawn
NJOEM	2008 PSA 222 Encourage training of owners and operators of non-state owned critical facilities for hazard mitigation.	2	High	Continuing Capability / Responsibility	Existing resources	All Hazards	Targeted training will augment existing initiatives of NJOEM and insurance carriers	Targeted training efforts based on identification of potential hazards will reduce vulnerabilities and losses to critical facilities through mitigation or relocation. Training to secure contents of critical facilities will protect assets from damage and minimize flood insurance claims.	Withdrawn
NJOEM	2008 PSA 231 Inventory damaged structures.-	2	High	Continuing Capability / Responsibility	Existing State Assets and Federal grants	All Hazards	Identifying repetitive loss areas and properties helps communities develop a strategy to reduce future hazard losses.	Retrofitting, elevating or removing repetitive loss properties from known hazard areas protect property and lives as well as preserve personal, state and federal financial resources.	Withdrawn
NJOEM	2009 PSA 237 Continue NJDEP Green Acres, Blue Acres acquisition of repetitive loss and severe repetitive loss structures.	2	Medium	Continuing Capability / Responsibility	New and existing State appropriations	Flood	Requested in local mitigation planning efforts to eliminate repetitive loss structures.	Augments Federal funding to ensure that more structures will no longer be flooded thereby reducing repetitive loss claims.	Withdrawn
NJOEM	2008 PSA 313 Promote continuing education of state and local officials through Rutgers programs.	3	Medium	Continuing Capability / Responsibility	Existing State resources	All Hazards	To make local officials and emergency management coordinators aware of possible hazards and actions to reduce hazards and vulnerabilities in their community.	Increases protection to property and life in the state.	Withdrawn
NJOEM	2008 PSA 324 Expand and enhance GIS/HAZUS hazard mitigation databases	3	High	Continuing Capability / Responsibility	Existing resources and mitigation grants	Flood, Coastal Erosion,	Provide a data base for the identification of hazardous areas and	Provide rationalization for future land use planning.	Withdrawn





# STATE OF NEW JERSEY 2019 ALL-HAZARD MITIGATION PLAN

Withdrawn Actions									
Responsible Agency	Mitigation Action/Initiative	Goal	Priority	Projected Timeline	Projected Resources	Hazards Addressed	Rationale for Action and Priority	How Action Contributes to Mitigation Strategy	Plan Update Status
	and use for analysis and mapping in the SHMP.					Hurricanes and Tropical Storms	provide loss estimations for hurricanes and flood winds		
NJOEM	2008 PSA 331 Develop a cadre of supplemental staff to assist NJOEM with education of affected communities, project assessment and development of mitigation projects.	3	High	Continuing Capability / Responsibility	Mitigation grants	All Hazards	Allow flexibility in staffing and increase during periods of disasters. Hiring staff is necessary for the Mitigation Unit to fulfill its responsibilities and manage its increased workload resulting from recent disasters and commitments in the SHMP.	Provide better public relations, education and identification of viable hazard mitigation projects.	Withdrawn
NJOEM	2008 PSA 341 Conduct community outreach, workshops and training opportunities to promote development of PDM plans.	3	High	Continuing Capability / Responsibility	Mitigation grants and technical assistance funds.	All Hazards	Development of FEMA approved plans is required for HMGP and PDM funds	Approved plans will allow communities to receive mitigation grants to implement projects that will protect life and property.	Withdrawn
NJOEM	2009 PSA 441 Overlay an inventory of State-owned critical facilities with the level of seismic hazard at each location, using the USGS national seismic hazard maps and the New Jersey Geological Survey maps of seismic soil classes.	4	Medium	Continuing Capability / Responsibility	To be determined	All Hazards	Serves as first step in a long-term plan to reduce risks to the most critical State facilities.	Results in protecting both life and property.	Withdrawn
NJOEM	2008 PSA 481 Provide grants, planning tools, training and technical assistance to increase the number of public and private sector hazard mitigation plans and initiatives, especially for multi-jurisdiction districts.	4	High	Continuing Capability / Responsibility	Existing Resources, Mitigation Grant	All Hazards	Providing incentives and resources encourages organizations to develop hazard mitigation plans and initiatives they otherwise would not have	Expanding the number of hazard mitigation initiative will improve the state's resistance to hazards and reduce the impact of hazard events on the State's economy.	Withdrawn
NJOEM	2008 PSA 233 Conduct yearly workshops related to FEMA hazard mitigation grant programs.	2	High	Continuing Capability / Responsibility	Existing State Assets and Federal grants	Flood	Making local officials aware of FMA increases participation.	FMA contributes to the mitigations strategy to reduce future flood losses.	Withdrawn
NJOEM	2008 PSA 234 Promote acquisition and elevation of repetitive loss and severe repetitive loss structures.	2	High	Continuing Capability / Responsibility	Federal grants	Flood	To eliminate repetitive loss structures	Structures will no longer be flooded thereby reducing repetitive loss claims	Withdrawn
PANYNJ	Teterboro Airport – Perform resilience enhancements to the back-up power system.	6	High	2 years, depending on funding availability. Project LOI submitted to NJOEM under Sandy HMGP.	FEMA Grant Funding with facility providing local match	All Hazards	Maintenance Building 73 contains much of the emergency equipment, as well as the key maintenance staff, necessary to keep the airport running. Administrative Building 72 is where critical security and communications equipment is located for the entire airport. The two solid waste lifts stations are susceptible to power	The Teterboro Airport is an important component of the Region's transportation infrastructure, particularly as it concerns private air traffic into the NY/NY metropolitan area. The capability to maintain a reliable source of power for this airport and its	Withdrawn



Withdrawn Actions									
Responsible Agency	Mitigation Action/Initiative	Goal	Priority	Projected Timeline	Projected Resources	Hazards Addressed	Rationale for Action and Priority	How Action Contributes to Mitigation Strategy	Plan Update Status
							failures during floods, and it is very important for these facilities to have their own reliable source of back-up power in order to function.	supporting operations is critical to the Region's ability to respond to normal and emergency transportation needs.	
PANYNJ	Teterboro Airport – Perform stormwater drainage improvements.	2, 6	Medium	2 years, depending on funding availability. Project LOI submitted to NJOEM under Sandy HMGP.	FEMA Grant Funding with facility providing local match	Flood	Due to its location, Teterboro Airport is vulnerable to regular stormwater flooding. During Superstorm Sandy, the airport experience serious flooding over much of its infrastructure.	The Teterboro Airport is an important component of the Region's transportation infrastructure, particularly as it concerns private air traffic into the NY/NY metropolitan area. Mitigation measures can lessen the effects of flooding and will allow the airport to continue to function during an emergency and support the area's normal and emergency transportation needs.	Withdrawn
PANYNJ	Newark Airport – Perform resilience enhancements to the back-up power system.	6	High	2 years, depending on funding availability. Project LOI submitted to NJOEM under Sandy HMGP.	FEMA Grant Funding with facility providing local match	All Hazards	A program for the installation of permanent generators at critical locations around the airport would alleviate many of the operability problems experienced during power failures.	The Newark International Airport is a critical component of the Region's transportation infrastructure, accounting for over 400,000 plane landings a year and moving over 33 million passengers through the NY/NJ metropolitan area. The capability to maintain a reliable source of power for this airport and its supporting operation is critical to the Region's ability to respond to normal and emergency transportation needs.	Withdrawn
PANYNJ	Newark Airport – Perform resilience enhancements to the back-up power system – City of Newark Pump Station.	6	Medium	2 years, depending on funding availability. Project LOI submitted to NJOEM under Sandy HMGP.	FEMA Grant Funding with facility providing local match	All Hazards	The City of Newark pump station is owned and operated by the City of Newark and provides the flood control necessary for surrounding towns and agencies. The installation of a backup generator would prevent flooding at	The Newark International Airport is a critical component of the Region's transportation infrastructure, accounting for over 400,000 plane landings a year and moving over 33 million	Withdrawn





Withdrawn Actions									
Responsible Agency	Mitigation Action/Initiative	Goal	Priority	Projected Timeline	Projected Resources	Hazards Addressed	Rationale for Action and Priority	How Action Contributes to Mitigation Strategy	Plan Update Status
							the airport and surrounding area when the primary feed is not in service.	passengers through the NY/NJ metropolitan area. The capability to maintain a reliable source of power for this airport and its supporting operation is critical to the Region's ability to respond to normal and emergency transportation needs.	
PANYNJ	Newark Airport – Perform stormwater drainage at Terminal B.	2, 6	Medium	2 years, depending on funding availability. Project LOI submitted to NJOEM under Sandy HMGP.	FEMA Grant Funding with facility providing local match	Flood	The drainage system surrounding Terminal B needs significant rehabilitation to increase capacity. The current drainage system is not capable of handling the runoff from the parking area, restricted vehicle service road, and roof drains. The trench drain must be increased in size to prevent the baggage room and Terminal B lower level from flooding.	The Newark International Airport is a critical component of the Region's transportation infrastructure, accounting for over 400,000 plane landings a year and moving over 33 million passengers through the NY/NJ metropolitan area. The capability to maintain a reliable source of power for this airport and its supporting operation is critical to the Region's ability to respond to normal and emergency transportation needs.	Withdrawn
PANYNJ	Newark Airport – Perform resiliency improvements to airport drainage system (valves).	2, 6	High	2 years, depending on funding availability. Project LOI submitted to NJOEM under Sandy HMGP.	FEMA Grant Funding with facility providing local match	Flood	This project will help to prevent the flooding of the lower level of Terminal B and P7 lot.	The Newark International Airport is a critical component of the Region's transportation infrastructure, accounting for over 400,000 plane landings a year and moving over 33 million passengers through the NY/NJ metropolitan area. The capability to maintain a reliable source of power for this airport and its supporting operation is critical to the Region's ability to respond to normal and emergency transportation needs.	Withdrawn



Withdrawn Actions									
Responsible Agency	Mitigation Action/Initiative	Goal	Priority	Projected Timeline	Projected Resources	Hazards Addressed	Rationale for Action and Priority	How Action Contributes to Mitigation Strategy	Plan Update Status
PANYNJ	Newark Airport – Perform resiliency improvements to airport Peripheral Ditch drainage system.	2, 6	High	2 years, depending on funding availability. Project LOI submitted to NJOEM under Sandy HMGP.	FEMA Grant Funding with facility providing local match	Flood	The Peripheral Ditch is the catch basin to many outfalls and provides a source for retention of carport drainage. The source of the outfalls come from various locations including the City of Newark, the City of Elizabeth, the Passaic Valley Sewerage Authority, and NJ Turnpike. If the ditch is not providing optimal performance the impact could be affecting the surrounding areas.	The Newark International Airport is a critical component of the Region's transportation infrastructure, accounting for over 400,000 plane landings a year and moving over 33 million passengers through the NY/NJ metropolitan area. The capability to maintain a reliable source of power for this airport and its supporting operation is critical to the Region's ability to respond to normal and emergency transportation needs.	Withdrawn
PANYNJ	Lincoln Tunnel – Perform resiliency of tunnel electrical system for tunnel drainage pumps and ventilation system	6	High	2 years, depending on funding availability. Project LOI submitted to NJOEM under Sandy HMGP.	FEMA Grant Funding with facility providing local match	All Hazards	The capability to maintain a reliable source of power for this tunnel and its supporting operations is critical to the Region's ability to respond to normal and emergency transportation needs.	The Lincoln Tunnel is a critical component of the Region's transportation infrastructure, and in addition to providing access to about 120,000 vehicles a day, it also serves as a major evacuation route for the area and a key point of entry and exist for emergency personnel. These measures would ensure that this vital transportation link for the NY-NJ metropolitan area could restore service as soon as possible in a safe manner.	Withdrawn
PANYNJ	Holland Tunnel – Perform resiliency of tunnel electrical system: Power Service for Drainage Pumps and Ventilation System	6	High	2 years, depending on funding availability. Project LOI submitted to NJOEM under Sandy HMGP.	FEMA Grant Funding with facility providing local match	All Hazards	The capability to maintain a reliable source of power for this tunnel and its supporting operations is critical to the Region's ability to respond to normal and emergency transportation needs.	The Holland Tunnel is a critical component of the Region's transportation infrastructure, and in addition to providing access to about 100,000 vehicles a day, it also serves as a major evacuation route for the area and a key point of entry and exist for emergency personnel. These	Withdrawn



Withdrawn Actions									
Responsible Agency	Mitigation Action/Initiative	Goal	Priority	Projected Timeline	Projected Resources	Hazards Addressed	Rationale for Action and Priority	How Action Contributes to Mitigation Strategy	Plan Update Status
								measures would ensure that this vital transportation link for the NY-NJ metropolitan area could restore service as soon as possible in a safe manner.	
PANYNJ	George Washington Bridge – Resiliency of Electrical System	6	High	2 years, depending on funding availability. Project LOI submitted to NJOEM under Sandy HMGP.	FEMA Grant Funding with facility providing local match	All Hazards	The capability to maintain a reliable source of power for this bridge and its supporting operations is critical to the region's ability to respond to normal and emergency transportation needs.	The bridge is a critical component of the Region's transportation infrastructure, and in addition to providing access for hundreds of thousands of vehicles a day, it also serves as a major evacuation route for the area.	Withdrawn
PANYNJ	George Washington Bridge – Drainage Improvements for New Jersey Anchorage	2, 6	High	2 years, depending on funding availability. Project LOI submitted to NJOEM under Sandy HMGP.	FEMA Grant Funding with facility providing local match	Flood	The value of mitigation the effects from heavy rainfall to the bridge's structural components in the New Jersey anchorage are high. It would eliminate the possibilities of structural failures in the area of the bridge and contribute to the region's ability to respond to normal and emergency transportation needs.	The bridge is a critical component of the Region's transportation infrastructure, and in addition to providing access for hundreds of thousands of vehicles a day, it also serves as a major evacuation route for the area.	Withdrawn
PANYNJ	Develop a Port Authority of New York and New Jersey Multi-Hazard Mitigation Plan	All	High	2 years, depending on funding availability. Project LOI submitted to NJOEM under Sandy HMGP.	FEMA Grant Funding with facility providing local match	All Hazards	The PANYNJ is responsible for building, operating, and maintaining infrastructure critical to the region's trade and transportation needs. As part of its recovery efforts from Superstorm Sandy, the PANYNJ has identified the need to develop a comprehensive mitigation plan for its facilities.	The information developed, and priorities established, during a PANYNJ hazard mitigation plan would them become a component of the State mitigation planning, considering the key role that the Port Authority's infrastructure plays in New Jersey's economy.	Withdrawn

### 6.4.3 NEW PRIORITIES, ACTIONS AND FUNDING SOURCES

Even though Superstorm Sandy occurred over 6 years ago now, its impacts remain a constant reminder that New Jersey needs to continue to prepare for and mitigate against potential hazard events. As methods to focus on mitigation today, the State is: :

- Working closely with local communities and stakeholders to develop comprehensive plans for recovery and to maximize disaster relief funds;
- Providing critical resources to rebuild housing, public buildings, small businesses, and infrastructure in a manner that is cost-efficient and disaster resilient;
- Developing hazard mitigation initiatives to create stronger communities;
- Cutting red tape and streamlining the regulatory framework for recovery and rebuilding; and
- Incorporating compliance measures into the State's grant programs to ensure effective and efficient use of funds.

Acquisitions and elevations continue to be one of the State's top priorities in mitigating flood risk as discussed in the Hazard Mitigation Grant Program Administrative Plan. The State has identified the following six (6) priorities to fund elevation and buyouts projects within the State. Funding to mitigate Severe Repetitive Loss properties that are substantially damaged is the highest priority.

1. Substantially Damaged, Severe Repetitive Loss Properties (FEMA insured)
2. Substantially Damaged, Repetitive Loss Properties (FEMA insured)
3. Severe Repetitive Loss Properties (FEMA insured)
4. Repetitive Loss Properties (FEMA insured)
5. Substantially Damaged (FEMA insured)
6. Other Properties (Non FEMA Insured)

The State will also no longer fund elevation projects located within Zone V of FEMA's Flood Insurance Rate Maps. V zones are the most hazardous of the Special Flood Hazard Areas.

Table 6-14 identifies the State's new mitigation actions for the 2019 Plan. As the recovery process continues, the State anticipates utilizing the plan maintenance process to evaluate and enhance continuous/in-progress mitigation actions. Based on the evaluation, the State may supplement the items found in Table 6-14 with new mitigation actions. Consideration/evaluation of new mitigation actions will be a part of the bi-annual plan maintenance meetings outlined in Section 7 (Plan Maintenance).

### 6.4.4 PRIORITIZING MITIGATION ACTIONS

*44 CFR 201.4(c)(3)(iii): An identification, evaluation and prioritization of cost-effective, environmentally sound, and technically feasible mitigation actions...*

In previous versions of the State HMP the social, technical, administrative, political, legal, economic, and environmental (STAPLEE) criteria were used for project evaluation and prioritization. The STAPLEE method provides a systematic approach that considers the opportunities and constraints of implementing a particular mitigation action.

The 2014 New Jersey State Plan used a STAPLEE methodology identified in FEMA planning guidance (March 2013) that identified a modified STAPLEE mitigation action evaluation schema that uses a set of 10 evaluation criteria, more suited to the purposes of mitigation strategy evaluation. Per SHMT approval, the updated STAPLEE criteria, along with any additional criteria specifically addressing cost-effectiveness, were used to evaluate and prioritize new mitigation actions for the 2019 Plan update. The 11 evaluation criteria are defined below:

- **Life Safety** – How effective will the action be at protecting lives and preventing injuries?
- **Property Protection** – How significant will the action be at eliminating or reducing damage to structures and infrastructure?
- **Cost-Effectiveness** – Are the costs to implement the project or initiative commensurate with the benefits achieved?
- **Technical** – Is the mitigation action technically feasible? Is it a long-term solution? Eliminate actions that, from a technical standpoint, will not meet the goals.
- **Political** – Is there overall public support for the mitigation action? Is there the political will to support it?
- **Legal** – Does the State have the authority to implement the action?
- **Environmental** – What are the potential environmental impacts of the action? Will it comply with environmental regulations?
- **Social** – Will the proposed action adversely affect one segment of the population? Will the action disrupt established neighborhoods, break up voting districts, or cause the relocation of lower income people?
- **Administrative** – Does the State have the personnel and administrative capabilities to implement the action and maintain it or will outside help be necessary?
- **Agency Champion** – Is there a strong advocate for the action or project among State agencies that will support the action's implementation?
- **Other State and Local Objectives** – Does the action advance other State and local objectives, such as capital improvements, economic development, environmental quality, or open-space preservation? Does it support the policies of other plans and programs?

Agencies were asked to use these criteria to assist them in evaluating and prioritizing new mitigation actions identified in the 2019 update. Specifically, for each new mitigation action, agencies were asked to assign a numeric rank (-1, 0, or 1) for each of the 11 evaluation criteria, defined as follows:

- 1 = Highly effective or feasible
- 0 = Neutral
- -1 = Ineffective or not feasible

The numerical results of this exercise were then used by each agency to help prioritize the action or strategy as “Low”, “Medium,” or “High.” While this provided a consistent, systematic methodology to support the evaluation and prioritization of new mitigation actions, agencies may have additional considerations that could influence their overall prioritization of mitigation actions.

It is important to note that certain initiatives from the 2011 and 2014 HMP are being carried forward in the 2019 Plan update. As discussed, these initiatives were previously prioritized using the STAPLEE approach in 2011. At their discretion, agencies carrying forward prior initiatives were encouraged to re-evaluate their priority, particularly if conditions that would affect the prioritization criteria had changed. Where agencies determined that their original priority ranking for “carry forward” initiatives remained valid, they were not required to re-prioritize using the 2019 updated STAPLEE criteria because is fundamentally identical to the STAPLEE used in 2011. There were no agencies that identified a change in prioritization for mitigation actions being carried forward in the 2019 Plan update.

Table 6-17 lists the prioritization of the new actions. The prioritization of all previous actions has remained the same. Appendix O includes the STAPLEE criteria for the 2014 Plan previous mitigation actions.

**Table 6-17 Prioritization of New Actions Added to the 2019 Plan**

Agency	Mitigation Action/Initiative	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Environmental	Social	Administrative	Agency Champion	Other Community Objectives	Total
Delaware Valley Regional Planning Commission	Provide planning assistance services to integrate FEMA hazard mitigation plans (HMPS) into county and municipal master plans.	1	1	1	1	1	1	1	1	1	0	1	10
Delaware Valley Regional Planning Commission	Evaluate critical transportation and community assets that are vulnerable to climate change within the New Jersey portion of the DVRPC region.	1	1	1	1	1	1	1	0	1	0	0	8
Delaware Valley Regional Planning Commission, NJDOT	Enhance and Expand the Interactive Detour Route Mapping (IDRuM) to include all of New Jersey and where data is available, model flooding and coastal surge inundation areas for roadway segments, ramps, and bridges that have the greatest risk for potential inundation during a high-water event.	1	1	1	1	1	1	0	0	0	1	1	8
New Jersey Sports and Exposition Authority	Coordinate and execute an agreement with leaseholders to use the MetLife Sports Complex as a shelter during a hazardous event or disaster.	1	1	1	1	1	1	1	1	1	1	0	10



Agency	Mitigation Action/Initiative	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Environmental	Social	Administrative	Agency Champion	Other Community Objectives	Total
New Jersey Sports and Exposition Authority	Host a Conference/Symposiums specific to resiliency and hazard mitigation planning for the region to enhance stakeholder education and training.	0	0	1	1	1	1	1	1	1	1	1	9
New Jersey Sports and Exposition Authority	Update and enhance NJSEA's GIS databases to assist in identifying critical infrastructure and facilities within the Meadowlands District to assist with outreach, recovery and mitigation planning within the Meadowlands District.	1	1	1	1	1	1	1	0	1	1	1	10
New Jersey Turnpike Authority	Roadway and Bridge Elevations:	1	1	0	0	1	1	0	1	1	0	1	7
New Jersey Turnpike Authority	Toll Plaza Elevations:	1	1	1	1	1	1	0	0	1	0	0	7
New Jersey Turnpike Authority	New Jersey Turnpike Maintenance Yard Elevations:	1	1	0	1	1	1	0	0	1	0	1	7
New Jersey Turnpike Authority	Elevation of Service Areas:	1	1	0	1	1	1	0	0	1	0	1	7

## 6. MITIGATION STRATEGY

## 6. MITIGATION STRATEGY

Agency	Mitigation Action/Initiative	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Environmental	Social	Administrative	Agency Champion	Other Community Objectives	Total
New Jersey Turnpike Authority	Target Hardening of infrastructure within the Authority's Right of Way against potential terrorist attacks.	1	1	1	1	1	1	0	0	1	1	1	9
New Jersey Turnpike Authority	Develop a Resiliency Action Plan for the New Jersey Turnpike (NJTP) and the Garden State Parkway (GSP).	1	1	1	1	1	1	1	0	1	0	0	8
New Jersey Turnpike Authority, New Jersey State Police	State Police Station Improvements: In coordination with the New Jersey State Police, elevate and/or floodproof portions of the New Jersey State Police facilities at risk for potential flooding during a high-water event.	1	1	0	1	1	1	1	1	1	1	1	10
NJ Department of Banking and Insurance	Participate in tabletop exercises with State and Industry partners through the current Infrastructure Advisory Committee meetings.	1	1	1	1	1	1	1	0	1	0	0	8
NJ Department of Banking and Insurance, NJOHSP, State Police	In coordination with NJOHSP, OEM and State Police, develop and maintain a system of credentialing insurance adjusters to manage access to disaster areas possible through the existing RDDB system.	0	1	0	1	1	1	1	1	1	1	0	8
NJ Department of Corrections	Purchase and install new mobile trailers or structures that can withstand high winds during hazardous events.	1	1	0	1	1	1	1	0	1	1	0	8

Agency	Mitigation Action/Initiative	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Environmental	Social	Administrative	Agency Champion	Other Community Objectives	Total
NJ Department of Corrections	Purchase and install dual hook up (natural gas and diesel) generators and generator transfer switches at State Correction Facilities.	1	1	1	1	1	1	1	0	1	1	0	9
NJ Department of Corrections	Conduct a facilities-wide resiliency study to evaluate the risk and vulnerability of the State's Correctional Facilities to natural and human-based hazards.	1	1	1	1	1	1	1	0	1	0	0	8
NJ Department of Corrections	Purchase mobile air conditioning and heater units to provide temporary heat and air to facilities that may experience unsafe temperatures during emergency situations.	1	1	1	1	1	1	0	0	1	1	0	8
NJ Department of Corrections	Purchase and install additional equipment to assist in detecting and decontaminating hazardous substances.	1	1	1	1	1	1	0	1	1	1	0	9
NJ Department of Corrections	Purchase and install new system-wide alert for the department of corrections, similar to Reverse 911.	1	1	1	1	1	1	0	0	1	1	1	9
NJ Department of Corrections	Purchase and install counter-acting drone intrusion infrastructure and/or devices for State Correctional Facilities.	1	1	1	1	0	0	0	0	1	1	1	7
NJ TRANSIT	Conduct an Extreme Weather Vulnerability and Risk Assessment of NJ TRANSIT's infrastructure and facilities. The	1	1	1	1	0	0	1	1	1	1	1	9

## 6. MITIGATION STRATEGY

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Agency	Mitigation Action/Initiative	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Environmental	Social	Administrative	Agency Champion	Other Community Objectives	Total
	assessment would further NJ TRANSIT's understanding of current climate hazards and identify strategies to address vulnerabilities, including but not limited to defining sensitive locations and sacrificial components.												
NJ TRANSIT	Elevate NJ TRANSIT's critical infrastructure and facilities to NJ Transit's defined Design Flood Elevation, which is 2.5 (ft) above Base Flood Elevation (B.F.E.).	1	1	1	1	1	1	1	1	1	1	1	11
NJ TRANSIT	Wet or dry floodproof NJ TRANSIT infrastructure and facilities that provide system critical support; and, which cannot be elevated due to physical site constraints or current operational system requirements.	1	1	1	1	1	1	1	1	1	1	1	11
NJ TRANSIT	Identify and implement resiliency actions needed to flood proof and protect NJ TRANSIT's assets and transportation infrastructure that are located outside of the Rebuild by Design funded improvements along the Hudson River.	1	1	0	1	1	1	1	1	1	1	1	10
NJ TRANSIT	Determine the availability of innovative technologies such as sealants and coatings for application to protect NJ	1	1	1	1	0	0	0	0	1	1	1	7

Agency	Mitigation Action/Initiative	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Environmental	Social	Administrative	Agency Champion	Other Community Objectives	Total
	TRANSIT's infrastructure, including but not limited to rail switches.												
NJ TRANSIT	Make additional improvements to facilitate the continuity of operations. These may include the Lifeline Critical Infrastructure Sectors before, during, and after an extreme weather event. Sectors include: transportation systems, energy, communications, and water/wastewater.	1	1	1	1	1	0	0	1	1	1	1	9
NJDEP	Install generators at state aquaculture/fishery facilities to ensure the continuous operation of critical equipment for the survival of fish used to stock New Jersey waterways.	0	1	1	1	1	1	1	0	1	1	0	8
NJDEP - Bureau of Dam Safety and Flood Control	Develop a tracking system/database for floodplain managers to upload information on substantially damaged properties, flood permits, elevation certificates, and other flood related information.	1	1	1	1	1	1	1	1	1	1	1	11
NJDEP - Bureau of Dam Safety and Flood Control	Work with USACE and Stockton University to update shoreline mitigation tables.	1	1	0	1	1	1	1	0	1	1	1	9

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Agency	Mitigation Action/Initiative	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Environmental	Social	Administrative	Agency Champion	Other Community Objectives	Total
NJDEP - Bureau of Dam Safety and Flood Control	Support or adopt rules to limit or restrict public funding for elevation of structures in the V zone.	1	1	1	1	0	0	1	0	1	1	1	8
NJDEP - Bureau of Dam Safety and Flood Control	Inventory of Emergency Actions Plans for Dams outside and inside of New Jersey that have the potential to impact New Jersey.	1	1	1	1	0	0	1	1	1	1	1	9
NJDEP - Bureau of Dam Safety and Flood Control	Establish database to digitize dam locations and updates to inundation boundary maps	1	1	1	1	1	1	1	1	1	1	1	11
NJDEP - Emergency Management	Create and maintain a spatial damage assessment and inventory of damage to park systems and infrastructure from hazard events.	0	0	1	1	1	1	1	1	1	1	0	8
NJDEP - Emergency Management	Assessment of NJDEP facilities for the need of resiliency improvements, such as installation of new generators.	1	1	1	1	1	1	1	1	1	1	0	10
NJDEP - Emergency Management/Forest Fire Service	Obtain a communications system upgrade for Forest Fire response. Current system relies on old VHF technology.	1	1	1	1	1	1	1	1	1	1	1	11
NJDEP - Historic Preservation Office	Create an outreach program to improve disaster preparedness education for cultural resources	1	1	1	1	1	1	1	1	1	1	0	10



Agency	Mitigation Action/Initiative	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Environmental	Social	Administrative	Agency Champion	Other Community Objectives	Total
NJDEP - Historic Preservation Office	Coordinate and integrate emergency preparedness and historic preservation plans for cultural institutions including libraries, museums, art institutes, etc.	1	1	1	1	1	1	1	1	1	1	0	10
NJDEP - Land Use Management	Embed staff at Joint Field Office (JFO) to facilitate the permitting process	0	1	1	1	1	1	1	1	1	1	0	9
NJDEP - Land Use Management / Emergency Management	Establish universal programmatic agreements for public assistance Project Worksheets	0	1	1	1	1	1	1	1	1	1	0	9
NJDEP - Radiation Protection Element	Enhance radiation monitoring for power plants	1	1	1	1	1	1	1	0	1	1	0	9
NJDEP - Radiation Protection Element	Strengthen social media campaign to raise awareness of resources and capabilities provided by NJDEP Radiation Protection Element and to increase public education on risk.	1	1	1	1	1	1	1	1	1	1	0	10
NJDEP - Science Advisory Board/C&E	Create a spatial inventory of storm drains and outfalls to integrate with flood data.	0	1	1	1	1	1	1	0	1	1	0	8

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Agency	Mitigation Action/Initiative	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Environmental	Social	Administrative	Agency Champion	Other Community Objectives	Total
NJDEP - Science Advisory Board/C&E	Conduct data collection or refine current data to better understand risk and vulnerability to hazards. There are current data gaps in the following areas: sediment loads, low tides, multi-spectral imagery, post-impact assessments, and day time census information.	1	1	1	1	1	1	1	0	1	1	1	10
NJDEP - Science Advisory Board/C&E	Conduct a comprehensive inventory of private well locations and ground water depth at private wells.	1	1	1	1	1	1	1	0	1	1	1	10
NJDEP - Water Resource Management	Conduct hydraulic modeling and a feasibility study to understand water resources and infrastructure improvements across New Jersey.	1	1	1	1	1	1	1	1	0	1	1	10
NJDEP - Water Resource Management	Conduct a study to investigate and refine estimates for total water loss and leakage that occurs throughout New Jersey's water resources.	1	1	1	1	1	1	1	1	0	1	1	10
NJDEP - Water Resource Management	Replacement or improvement of reservoirs deemed to be deficient.	1	1	0	1	0	1	0	1	1	1	1	8

Agency	Mitigation Action/Initiative	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Environmental	Social	Administrative	Agency Champion	Other Community Objectives	Total
NJDEP- DSHW	Conduct an inventory of contaminated/dirty debris piles throughout the state that have occurred post disaster	1	1	1	1	1	1	1	0	1	1	1	10
NJDEP- DSHW	Amend rules to require a 90-day minimum to Temporary Debris Management Areas approvals that are activated	1	1	1	1	1	1	1	1	1	1	1	11
NJDEP- DSHW	Conduct outreach for each county to increase awareness and/or adopt their own Debris Management Plan.	0	1	1	1	1	1	1	1	1	1	0	9
NJDEP- DSHW	Conduct an assessment of public and private debris management facilities to study vulnerability to flooding and identify resiliency measures needed to prevent flooding and other cascading failures during a hazard.	0	1	1	1	1	1	1	0	1	1	0	8
NJDEP- DSHW	Generators and “quick connect” points for portable generators for dedicated Waste Management Sites that receive waste post disaster.	1	1	1	1	1	1	1	0	1	1	0	9
NJDEP- DSHW, NJDOT	Coordinate with NJDOT to establish an interagency tracking mechanism to understand impacted transportation networks that prevent the transfer and cleanup of debris during and post hazard event.	1	1	1	1	1	1	1	0	1	1	1	10

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Agency	Mitigation Action/Initiative	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Environmental	Social	Administrative	Agency Champion	Other Community Objectives	Total
NJDEP- Emergency Management/DSH W	Establish contracts for the emergency storage of debris with a Hazmat component in each county to facilitate debris management prior to a hazard event.	1	1	1	1	1	1	1	0	1	1	1	10
NJDEP- Green Acres	Create an inventory of properties targeted for large buyouts in coordination with DCA to reduce risk from hazard events	0	1	1	1	1	1	1	0	1	1	1	9
PANYNJ	George Washington Bridge: Natural Hazards: PANYNJ's "Restoring the George" plan provides for numerous upgrades to the GW Bridge which generally will make the bridge more able to withstand storm events and other natural hazards. However, most hazard mitigation measures currently planned for the GW Bridge specifically address man-made hazards. (see below). We will continue to develop plans and policies to mitigate other hazards that may affect the George Washington Bridge.	1	1	1	1	1	1	1	1	1	1	1	11
PANYNJ	George Washington Bridge: Man-Made Hazards: The Port Authority has incorporated numerous security enhancements to the George Washington Bridge over the past 17 years. As bridge components	1	1	1	1	1	0	0	1	1	1	1	9

Agency	Mitigation Action/Initiative	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Environmental	Social	Administrative	Agency Champion	Other Community Objectives	Total
	are replaced/upgraded, security elements are incorporated into the design.												
PANYNJ	Greenville Yards: Natural Hazards: Repair shipping infrastructure damaged by Superstorm Sandy - including the replacement of seven barge mooring cells - and improve the resiliency/durability of flood-prone assets.	1	1	1	1	1	0	1	1	1	1	1	10
PANYNJ	Greenville Yards: Man-Made Hazards: The Port Authority has incorporated numerous security enhancements to Greenville Yards since it became operational.	1	1	1	1	1	0	0	1	1	1	1	9
PANYNJ	Holland Tunnel: Man-Made Hazards: The Port Authority has incorporated numerous security enhancements to the Holland Tunnel over the past 17 years. As tunnel infrastructure is replaced/upgraded, security elements are incorporated into the design.	1	1	1	1	1	0	0	1	1	1	1	9
PANYNJ	Holland Tunnel: Man-Made Hazards: The Port Authority has incorporated numerous security enhancements to the Holland Tunnel over the past 17 years. As tunnel infrastructure is replaced/upgraded, security elements are	1	1	1	1	1	0	0	1	1	1	1	9

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Agency	Mitigation Action/Initiative	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Environmental	Social	Administrative	Agency Champion	Other Community Objectives	Total
	incorporated into the design.												
PANYNJ	Lincoln Tunnel: Natural Hazards: Repair and improve tunnel electrical, mechanical and plumbing infrastructure damaged by Superstorm Sandy-related saltwater intrusion. Protect facility, especially tunnel ventilation buildings, from sea level rise and coastal flooding threats. Improve onsite stormwater management practices.	1	1	1	1	1	0	1	1	1	1	1	10
PANYNJ	Lincoln Tunnel: Man-Made Hazards: The Port Authority has incorporated numerous security enhancements to the Lincoln Tunnel over the past 17 years. As tunnel infrastructure is replaced/upgraded, security elements are incorporated into the design.	1	1	1	1	1	0	0	1	1	1	1	9
PANYNJ	Newark Liberty International Airport: Natural Hazards: Installation of flood mitigation infrastructure including: improvements to the Bridge N5 underpass, tide gate pumping equipment upgrades, and elevation of the airport's combined	1	1	1	1	1	0	1	1	1	1	1	10

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Agency	Mitigation Action/Initiative	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Environmental	Social	Administrative	Agency Champion	Other Community Objectives	Total
	heating and refrigeration plant (CHRP). The airport's future Terminal 1 reconstruction plan will also adhere to PANYNJ's Climate Resiliency Guidelines. We will also continue to develop plans and policies to mitigate other hazards that may affect Newark Liberty International Airport.												
PANYNJ	Newark Liberty International Airport: Man-Made Hazards: The Port Authority has incorporated numerous security enhancements to Newark Liberty International Airport over the past 17 years. Security design criteria is incorporated into the new Terminal 1 Redevelopment Project. Mitigating strategies are built into the redesigned structure.	1	1	1	1	1	0	0	1	1	1	1	9
PANYNJ	Outerbridge Crossing: Man-Made Hazards: The Port Authority has incorporated numerous security enhancements to the Outerbridge Crossing over the past 17 years. As bridge components are replaced/upgraded, security elements will be incorporated into the design.	1	1	1	1	1	0	1	1	1	1	1	10



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Agency	Mitigation Action/Initiative	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Environmental	Social	Administrative	Agency Champion	Other Community Objectives	Total
PANYNJ	PATH: Natural Hazards: PANYNJ's PATH Train system is undergoing extensive improvements over the next eight years. Pending hazard mitigation projects include flood protection enhancements at most PATH stations and key mechanical sites, improved stormwater management, rainwater storage systems, repairs to and relocation of critical electrical substations, installation of flood barriers at equipment storage sites and in tunnels, and Superstorm Sandy-related repairs to electrical, mechanical and ventilation equipment. We will also continue to develop plans and policies to mitigate other hazards that may affect the PATH system.	1	1	1	1	1	0	1	1	1	1	1	10
PANYNJ	PATH: Man-Made Hazards: The Port Authority has incorporated numerous security enhancements throughout the PATH System over the past 17 years. As systems, components, and infrastructure are replaced/upgraded, security elements will be incorporated into the design.	1	1	1	1	1	0	1	1	1	1	1	10

Agency	Mitigation Action/Initiative	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Environmental	Social	Administrative	Agency Champion	Other Community Objectives	Total
PANYNJ	Port Jersey Port Authority Marine Terminal: Natural Hazards: Upgrades to electrical and flood protection infrastructure at sites such as the east substation. We will also continue to develop plans and policies to mitigate other hazards that may affect the Port Jersey Port Authority Marine Terminal.	1	1	1	1	1	0	1	1	1	1	1	10
PANYNJ	Port Jersey Port Authority Marine Terminal: Man-Made Hazards: The Port Authority has incorporated numerous security enhancements to Port Jersey since it was acquired by the Agency in 2008. The Port Authority will work with tenants to incorporate security design for redeveloped infrastructure.	1	1	1	1	1	0	1	1	1	1	1	10
PANYNJ	Port Newark and Elizabeth-Port Authority Marine Terminal: Natural Hazards: The Port Authority will continue to undertake efforts to mitigate coastal hazards at Port Newark. Projects include: repair and/or relocation of key Port facilities such as Building 260, the resident engineer's office, and Building 111 electrical/mechanical equipment, all of which	1	1	1	1	1	0	1	1	1	1	1	10

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Agency	Mitigation Action/Initiative	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Environmental	Social	Administrative	Agency Champion	Other Community Objectives	Total
	was damaged by Superstorm Sandy. We will also continue to develop plans and policies to mitigate other hazards that may affect Port Newark.												
PANYNJ	Port Newark and Elizabeth-Port Authority Marine Terminal: Man-Made Hazards: The Port Authority has incorporated numerous security enhancements to New Jersey Marine Terminals over the last 17 years. The Port Authority works with tenants to incorporate security design for redeveloped infrastructure.	1	1	1	1	1	0	1	1	1	1	1	10
PANYNJ	Teterboro Airport: Natural Hazards: Upgrades to airport flood mitigation infrastructure, including rehabilitation of stormwater drainage system. Electrical infrastructure will also be upgraded, particularly to improve airfield lighting, in response to Superstorm Sandy flooding. We will also continue to develop plans and policies to mitigate other hazards that may affect Teterboro Airport.	1	1	1	1	1	0	1	1	1	1	1	10

Agency	Mitigation Action/Initiative	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Environmental	Social	Administrative	Agency Champion	Other Community Objectives	Total
PANYNJ	Teterboro Airport: Man-Made Hazards: The Port Authority has incorporated numerous security enhancements to Teterboro Airport over the past 17 years. The Port Authority will work with tenants and fixed based operators to incorporate security design for redeveloped infrastructure.	1	1	1	1	1	0	1	1	1	1	1	10
South Jersey Transportation Authority	Improvements to the primary electric and natural gas service to the NJ State Police station located at the Farley Service Plaza on the Atlantic City Expressway.	1	1	0	1	1	1	0	1	1	1	1	9
South Jersey Transportation Authority	Raise the last 4.5 miles of the Atlantic City Expressway	1	1	0	1	1	1	0	1	1	1	1	9
South Jersey Transportation Authority	Raise portions of the Atlantic City Expressway Connector roadway.	1	1	0	1	1	1	0	1	1	1	1	9
South Jersey Transportation Authority	Scour protection for the Atlantic City Expressway Connector bulkhead	1	1	0	1	1	1	0	1	1	1	1	9
South Jersey Transportation Authority	Pleasantville Toll Plaza sanitary sewer system elevation.	0	1	0	1	1	1	0	1	1	1	1	8

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Agency	Mitigation Action/Initiative	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Environmental	Social	Administrative	Agency Champion	Other Community Objectives	Total
South Jersey Transportation Authority	Enhance signage and Intelligent Traffic Systems (ITS) detection systems on the Atlantic City Expressway. This project will add and incorporate ITS devices into the Expressway's current ITS system that will be designed to monitor flood-prone areas during weather events.	1	1	1	1	1	1	0	1	1	1	1	10
South Jersey Transportation Authority	Purchase and Install dual (natural gas and diesel) hook-ups for emergency generators at critical sites and facilities that support SJTPA operations.	1	1	1	1	1	1	1	0	1	1	0	9
South Jersey Transportation Authority	Elevate above-ground storage tanks to be 2 feet above the base flood elevation.	1	1	1	1	1	1	1	0	1	1	0	9
South Jersey Transportation Planning Organization (SJTPO)	Develop a Regional Resiliency Planning Study for the transportation infrastructure in Atlantic, Cape May, Cumberland, and Salem Counties in southern New Jersey.	1	1	1	1	1	1	1	1	1	1	1	11
South Jersey Transportation Planning Organization (SJTPO)	Host a Roundtable specific to resiliency and hazard mitigation planning for the region to enhance stakeholder education and training.	0	0	1	1	1	1	1	1	1	1	0	8

Agency	Mitigation Action/Initiative	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Environmental	Social	Administrative	Agency Champion	Other Community Objectives	Total
South Jersey Transportation Planning Organization (SJTPO)	Review existing local and regional plans pertaining to hazard mitigation and resiliency and integrate principles with Regional Transportation Plan Update.	0	0	1	1	1	1	1	1	1	1	0	8

## 6.5 FUNDING SOURCES

In addition to identifying and evaluating the State's capabilities to address mitigation, another key component to mitigation is funding. For the 2019 Plan update, the federal and State funding programs that provide funding were reviewed and updated and new additions were made. Table 6-18 summarizes these funding sources, potential availability, applicability of pre- or post-disaster requirements, and the type of funding that is available. In addition to the sources listed below, [www.grants.gov](http://www.grants.gov) published a report containing brief descriptions and contact information from government, non-government, and corporate sources that may be able to provide disaster recovery assistance to eligible applicants.

**Table 6-18 Funding Sources Available for Mitigation Activities**

Department/ Agency	Funding Source	Availability	Description	Funding
FEMA/NJOEM	Flood Mitigation Assistance (FMA)	Pre-Disaster	To implement cost-effective measures that reduce or eliminate the long-term risk of flood damage to buildings, manufactured homes, and other structures insured under the National Flood Insurance Program (NFIP).	The FY 2018 FMA application cycle will be implemented as it has been in recent application cycles but will prioritize \$70 million of the \$160 million available under FMA for community flood mitigation projects and FMA advance assistance. Due to the demand for funding by communities with high numbers of SRL and RL properties, projects addressing flooding on a community level were not prioritized for funding until the FY 2017 FMA application cycle. FEMA's grant

Department/ Agency	Funding Source	Availability	Description	Funding
				recipients and subrecipients have and continue to ask for community level flood mitigation funding, so this will again be a primary focus for the FY 2018 FMA application cycle.
FEMA/NJOEM	Hazard Mitigation Grant Program (HMGP)	Post Disaster	To provide funds to states, territories, Indian tribal governments, and communities to significantly reduce or permanently eliminate future risk to lives and property from natural hazards. HMGP funds projects in accordance with priorities identified in state, tribal, or local hazard mitigation plans, and enables mitigation measures to be implemented during the recovery from a disaster.	For states with a FEMA-approved Standard State Mitigation Plan, HMGP funds are available based on up to 15% for amounts not more than \$2 billion. An update to HMGP is that FEMA allows increasing the 5% Initiative amount up to 10% for a Presidential major disaster declaration for tornadoes and high winds at the discretion of the grantee.
FEMA/NJOEM	Pre-Disaster Mitigation (PDM)	Pre-Disaster	To provide funds to states, territories, tribal governments, and communities for hazard mitigation planning and the implementation of mitigation projects prior to a disaster event. Funding these plans and projects reduces overall risks to the population and structures.	Nationwide competition, total funding available – The total amount of funds that will be distributed under the FY 2018 PDM Grant Program will be \$235,200,000
FEMA/NJOEM	Disaster Recovery Reform Act (DRRA)	Pre-Disaster	Amends the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act) to modify the Predisaster Hazard Mitigation Grant Program to:	Under the DRRA, an amount equal to six percent of the post-disaster assistance FEMA provides each year will be deposited in the agency's Pre-Disaster Mitigation fund.



Department/ Agency	Funding Source	Availability	Description	Funding
			<ul style="list-style-type: none"> <li>•permit the use of technical and financial assistance to establish and carry out enforcement activities to implement codes, specifications, and standards that incorporate the latest hazard-resistant designs;</li> <li>•direct the President to establish a National Public Infrastructure Predisaster Mitigation Fund;</li> <li>•authorize the President's contribution to the cost of hazard mitigation measures to be used to increase resilience in any area affected by a major disaster; and</li> <li>•direct the Federal Emergency Management Agency (FEMA) to issue a final rulemaking that defines the terms "resilient" and "resiliency."</li> </ul>	
NJDEP	Environmental Infrastructure Financing Program	Pre or Post-Disaster	Borrowers receive loans in two equal parts: Approximately one half to three quarters comes from a 0-interest State Revolving Fund maintained by the NJDEP. The other portion comes from proceeds of highly rated tax-exempt revenue bonds sold by the Trust. Combining these two funds results in a loan that is 50 to 75% lower than traditional loan rates.	Is available for qualified borrowers.
NJ Pinelands Commission	Pinelands Infrastructure Trust Fund	Pre or Post-Disaster	This program provides funding for infrastructure projects needed to accommodate existing and future needs in the 23	Funding is available for the construction of new collection systems, interceptors, and the expansion/upgrade of

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Department/ Agency	Funding Source	Availability	Description	Funding
			designated Pinelands Regional Growth Areas.	wastewater treatment facilities. Projects certified under this program generally receive a grant for 40% of the allowable project costs, and a loan for 20% of the allowable project costs from the Department. Loans for the remaining project costs may also be received from the Trust.
NJ Sports and Exposition Authority	Meadowlands Infrastructure Trust Fund	Pre or Post-Disaster	A regional zoning and planning agency established by an act of New Jersey State Legislature in 1969. Its founding mandates are to protect the delicate balance of nature, to provide for orderly development, and to manage solid waste activities.	Grants are available for stormwater management, updating GIS systems, affordable housing planning, and solid waste disposal for the counties and municipalities that are under this Commission.
NJDEP	New Jersey Green Acres Program	Pre or Post-Disaster	Today, New Jersey has the largest preservation program in the nation for a geographic area of this size. It is financed with Garden State Preservation Trust funds through three partnering agencies: The Green Acres Program, a division of the Department of Environmental Protection to preserve natural lands and recreational parks. The Farmland Preservation Program is administered by the independent State Agriculture Development Committee to acquire the development rights on privately owned farmland. Historic	Varies

Department/ Agency	Funding Source	Availability	Description	Funding
			Preservation Program is administered by the independent New Jersey Historic Trust to provide matching grants to save important historic buildings.	
NJDCA	New Jersey Small Cities Communities Development Block Grants	Pre or Post-Disaster	Provide funds for economic development, housing rehabilitation, community revitalization, and public facilities designated to benefit people with low and moderate incomes, or to address recent local needs for which no other source of funding is available to non-entitlement counties and municipalities.	Varies
NJDEP	New Jersey Open Space Program	To counties and municipalities that have passed a tax assessment on property owners to help purchase land in their community.	A total of 53 towns and 13 counties collect \$.01 to \$.05 on each \$100 of assessed property value. State law requires that the money go to a dedicated trust fund for open space and parks, farmland development easements, and historic preservation.	Varies based on county tax amount and assessments of property.
NJCF	New Jersey Conservation Foundation (NJCF)	Pre or Post-Disaster	NJCF is a private, not-for-profit organization. Through acquisition and stewardship, NJCF protects strategic lands, promotes strong land use policies, and forges partnerships to achieve conservation goals.	Provides support through knowing and understanding the many type of grants and programs that exist to help fund land preservation activities.
NJDEP	The New Jersey Infrastructure Bank.	Pre or Post-Disaster	The New Jersey Infrastructure Bank is an independent State Financing Authority responsible for providing and administering low interest rate loans to qualified municipalities, counties, regional authorities, and water purveyors in New Jersey.	Low Interest Loans and a limited amount of loan forgiveness is made available each year. Approximately \$350 million is awarded annually.

Department/ Agency	Funding Source	Availability	Description	Funding
			<p>It provides the two following programs:</p> <p>The New Jersey Environmental Infrastructure Trust (NJEIT) for the purpose of financing water quality infrastructure projects that enhance ground and surface water resources, ensure the safety of drinking water supplies, protect the public health and make possible responsible and sustainable economic development.</p> <p>The New Jersey Transportation Infrastructure Bank (NJTIB) is an independent State Financing Authority responsible for providing and administering low interest rate loans to qualified municipalities, counties, and regional authorities in New Jersey for the purpose of financing transportation quality infrastructure projects.</p>	
NJDEP	The Water Pollution Management Element	Pre or Post-Disaster	The Water Pollution Management Element is responsible for protecting New Jersey's surface and ground waters from pollution caused by improperly treated wastewater and its residuals. This is accomplished primarily through the implementation of the New Jersey Pollutant Discharge Elimination System (NJPDES) permit program. This includes publicly owned treatment	Low-interest loans and a limited amount of loan forgiveness is made available each year through the New Jersey Environmental Infrastructure Financing Program within the Municipal Finance and Construction Element in the Division of Water Quality.

Department/ Agency	Funding Source	Availability	Description	Funding
			facilities (e.g. sanitary sewerage plants) and privately-owned facilities (e.g. industrial facilities) as well as facilities that discharge stormwater (e.g. municipalities and highway agencies) and stormwater related to development. The NJPDES program also regulates discharges to groundwater (e.g. septic systems) and the proper management of any residuals that are generated as part of the treatment process. The varied ownership of infrastructure components is often a complicating factor in the regulation of these entities (e.g. ownership of a treatment facility by a public entity and sewer mains by a different municipal entity). The total universe of NJPDES permits includes over 7,500 permits.	
NJDEP	The Division of Water Supply and Geoscience	Pre or Post-Disaster	The Division of Water Supply and Geoscience works to ensure adequate, reliable, and safe water is available for the future. This goal is accomplished through the regulation of ground and surface water diversions, permitting of wells, permitting of drinking water infrastructure, monitoring of drinking water quality, and technical support for water systems to achieve compliance with all federal and state standards. In addition, Water Supply staff act in a support role during an	The Drinking Water State Revolving Fund (DWSRF) program assists water systems in financing the cost of infrastructure through the use of federal and New Jersey Infrastructure Trust funds. Additionally, the Water Supply program provides operator licensing and training support as well as financial assistance through the DWSRF program.

Department/ Agency	Funding Source	Availability	Description	Funding
			emergency situation to provide technical assistance, as needed, to re-establish safe and adequate public water supplies.	
NJ Highlands	The New Jersey Highlands	Pre-Disaster	The New Jersey Highlands Region represents a 1,343-square-mile area in the northwest part of the State, and in 2001 was established as a Special Resource Area of the State. The New Jersey Highlands Council was established by the legislature in 2004 as part of the Highlands Water and Protection Planning Act and charged with the development and oversight of the Highlands Regional Master Plan (RMP).	RMP grant funding for forest resource and stream corridor protection and management planning includes the identification of restoration, mitigation, and stewardship programming needs and mechanisms.
NJDEP	New Jersey Department of Environmental Protection – Flood Control Section	Pre or Post-Disaster	Leads the State's efforts as the State NFIP Coordinator and Community Rating System (CRS) support. In addition, the section's responsibilities include the funding of construction and operation of federal-state-local flood control mitigation projects throughout the State, including the 24-hour operation of the Pompton Lakes Dam Flood Gates. The section has also taken a lead role on the development and adoption of New Jersey Flood Hazard Area mapping, as well as an active partnership with FEMA on their FEMA Map Modernization Program efforts.	Large-scale flood control projects are cost-shared with the US Army Corps of Engineers through an annual state appropriation under the HR-6 Flood Control project budget. Also, \$25 million was appropriated from the "Dam, Lake, Stream, Flood Control, Water Resources Project Bond Act 2003" to finance the costs of State and local flood control projects.  Of the 566 total municipalities in New Jersey, 544 participate in the NFIP program;

Department/ Agency	Funding Source	Availability	Description	Funding
Passaic River Basin Flood Advisory Commission	Stream Cleaning Grants	Pre or Post-Disaster	The Advisory Commission's charge is to provide recommendations to the Governor including (but not limited to) expanding and expediting Passaic River floodway property buyouts, prioritizing land acquisition and acquiring natural flood storage areas, operating the Pompton Lake Dam floodgates, clearing river of debris, evaluation of regulatory programs, enhancing public involvement, information and outreach for flood response, and identifying methods to phase out or prevent future development in flood-prone hazard areas.	\$350,000 was awarded to Wayne, Pompton Lakes, Pequannock, and Riverdale for stream cleaning. \$3 million in matching grants will be available to communities in the Passaic River Basin.
NJDLPs	New Jersey Department of Law and Public Safety	Pre or Post-Disaster	This Department includes the Office of the Attorney General and the Division of State Police among others. The New Jersey Office of Emergency Management is placed within the Division of State Police.	May be available through the New Jersey Office of Emergency Management (NJOEM), which administers certain grant programs, including mitigation programs. NJOEM does apply for FEMA grants for mitigation projects. (See the State Capabilities Assessment discussed earlier in this section.)
NJDOT	New Jersey Department of Transportation (NJDOT)	Pre or Post-Disaster	NJDOT allocates funds to projects and programs through two main capital program documents: The Transportation Capital Program and the Statewide Transportation Improvement Program. The Transportation	Funding of the Program is typically federal through the Federal Highway Administration or State through the Transportation Trust Fund.



Department/ Agency	Funding Source	Availability	Description	Funding
			<p>Capital Program is a document required by State law that allocates federal and State transportation funding for both NJDOT and New Jersey Transit within one State fiscal year. It also includes funds that are allocated to counties and municipalities. The Statewide Transportation Improvement Program (STIP) is required by federal law. It allocates funding over a 10-year period constrained by what are reasonable revenue expectations. It includes NJDOT, New Jersey Transit, and the counties and municipalities. The STIP is compiled from three regional Transportation Improvement Programs (TIP) that are developed in conjunction with New Jersey's three metropolitan planning organizations (MPO). Each MPO has extensive public involvement activities in preparation for the TIP. A companion document, the Statewide Capital Investment Strategy, lays out capital investment goals for NJDOT, New Jersey Transit, the New Jersey Turnpike Authority, and the South Jersey Transportation Authority. NJDOT programs approximately \$2 billion annually for capital improvements on State and local roads and bridges. The Capital</p>	

Department/ Agency	Funding Source	Availability	Description	Funding
			Program is approved as part of the State's budget.	
NJDOT	New Jersey Department of Transportation – Local Aid Program	Pre or Post-Disaster	NJDOT is committed to advancing transportation projects that enhance safety, renew aging infrastructure, and support new transportation opportunities at the county and municipal level. The Transportation Trust Fund and the Safe, Accountable, Flexible, Efficient Transportation Equity Act (SAFE-TEA) legislation provide the opportunity for funding assistance to local governments for road, bridge, and other transportation projects. NJDOT has established a number of local aid programs that provide financial support to counties and municipalities for capital improvements to transportation infrastructure.	Annually, local aid programs provide approximately \$400 million in a combination of federal and state transportation trust fund funding. The Transportation Trust Fund for FY 2017 thru 2024 alone provides \$310 million in state aid to municipalities and counties for local transportation improvements. Several programs which provide funding to counties and municipalities are supported with federal monies available through the Transportation Equity Act for the 21st Century (TEA 21) legislation. The State funded programs include Bikeway Grants, Local Bridges, Safe Streets and Neighborhoods, and Transit Villages.
FEMA	Fire Management Assistance Grant Program	Post Disaster	Assistance for the mitigation, management, and control of fires on publicly or privately-owned forests or grasslands that threaten such destruction as would constitute a major disaster.	Provides a 75% Federal cost share and the State pay the remaining 25% for actual cost.
Department of Homeland Security	Reimbursement for Firefighting on Federal Property	Post Disaster	Description: Provides reimbursement only for direct costs and losses over and above normal operating costs.	

Department/ Agency	Funding Source	Availability	Description	Funding
FEMA	National Dam Safety Program	Pre-Disaster	National Dam Safety Program (NDSP). The NDSP, which is led by FEMA, is a partnership of the states, federal agencies, and other stakeholders to encourage individual and community responsibility for dam safety. The NDSP was formally established by the Water Resources and Development Act of 1996.	Grant assistance to the States: Provides vital support for the improvement of the State dam safety programs that regulate most of the 79,500 dams in the United States. Funding available in FY 2011 was \$11 Million.
U.S. Department of the Interior	Land and Water Conservation Fund	To state, local, and conservation organizations	Funding to states for outdoor recreational development, renovation, land acquisition, and planning.	The fund is authorized at \$900 million annually, a level that has been met only twice during the program's 40-year history. The program is divided into two distinct funding pots: state grants and federal acquisition funds. Provides matching grants to state and tribal governments for the acquisition and development of public parks and other outdoor recreation sites. Grants have funded projects in every county in the country, over 40,000 projects since 1965. Number of projects = 41,999. Funding provided = \$3.9 billion.
USDA	The Forest Legacy Program	Participation in Forest Legacy is limited to private forest landowners.	Federal program in partnership with states supports efforts to protect environmentally sensitive forest lands. Designed to encourage the protection of privately owned forest lands, Forest Legacy is an	To qualify, landowners are required to prepare a multiple resource management plan as part of the conservation easement acquisition. The federal

Department/ Agency	Funding Source	Availability	Description	Funding
			entirely voluntary program. To maximize the public benefits it achieves, the program focuses on the acquisition of partial interests in privately owned forest lands. Forest Legacy helps states develop and carry out their forest conservation plans. It encourages and supports acquisition of conservation easements, legally binding agreements transferring a negotiated set of property rights from one party to another, without removing the property from private ownership. Most Forest Legacy Program conservation easements restrict development, require sustainable forestry practices, and protect other values.	government may fund up to 75% of project costs, with at least 25% coming from private, state, or local sources. In addition to gains associated with the sale or donation of property rights, many landowners also benefit from reduced taxes associated with limits placed on land use.
DOT	Transportation Trust Fund	Pre and Post-Disaster	Transportation Trust Fund funds grants through a competitive application-based process administered by the Local Aid District Offices. County Aid Program- Administer the County Aid Program for road and bridge infrastructure improvements under county jurisdiction. Each County receives an annual formula-based allotment that takes into consideration county road lane mileage and population. The County Aid Program is funded through the Transportation Trust	Funding: \$150 million in funding was available in the fiscal year 2017 through the County Aid Program.

## 6. MITIGATION STRATEGY

Department/ Agency	Funding Source	Availability	Description	Funding
			Fund and provides funding for eligible costs of projects included in the county's approved Annual Transportation Program.	
Department of Homeland Security National Fish and Wildlife Foundation	Department of Homeland Security Grant Program (HSGP) Hurricane Sandy Coastal Resiliency Competitive Grant Program	Pre- and Post-Disaster	The Homeland Security Grant Program (HSGP) plays an important role in the implementation of the National Preparedness System by supporting the building, sustainment, and delivery of core capabilities essential to achieving the National Preparedness Goal of a secure and resilient nation. The HSGP supports core capabilities across the five-mission area of Prevention, Protection, Mitigation, Response, and Recovery based on allowable cost. HSGP is composed of three interconnected grant programs including the State Homeland Security Program (SHSP), Urban Areas Security Initiative (UASI), and the Operation Stonegarden (OPSG). Together, these grant programs fund a range of preparedness activities, including planning, organization, equipment purchase, training, exercises, and management and administration. The program will use competitive grants to award funding for science-based solutions by States, local communities, non-profit organizations and other partners to help restore key habitats and bolster	In Fiscal Year 2018, DHS is providing \$1,067,000,000 to enhance the ability of states, local governments, tribes, and territories to prevent, protect against, respond to, and recover from potential terrorist acts and other hazards. Funding: \$100 million in competitive grants.

Department/ Agency	Funding Source	Availability	Description	Funding
			natural systems, enabling these areas to withstand the impact and better protect local communities from future storms.	
FEMA Department of Homeland Security	Emergency Management Performance Grand Program (EMPG) Department of Homeland Security Grant Program (HSGP)	Pre-DisasterPre-Disaster	Grants are available to State, local, territorial, and tribal governments in preparing for all hazards. The Federal Government, through the EMPG Program, provides necessary direction, coordination and guidance, and provides necessary assistance, as authorized so that a comprehensive emergency preparedness system exists at all levels for all hazards. The Homeland Security Grant Program (HSGP) plays an important role in the implementation of the National Preparedness System by supporting the building, sustainment, and delivery of core capabilities essential to achieving the National Preparedness Goal of a secure and resilient nation. The HSGP supports core capabilities across the five-mission area of Prevention, Protection, Mitigation, Response, and Recovery based on allowable cost. HSGP is composed of three interconnected grant programs including the State Homeland Security Program (SHSP), Urban Areas Security Initiative (UASI), and the Operation Stonegarden (OPSG). Together, these grant programs fund a	Total funding available in fiscal year 2018: \$350,100,000In Fiscal Year 2018, DHS is providing \$1,067,000,000 to enhance the ability of states, local governments, tribes, and territories to prevent, protect against, respond to, and recover from potential terrorist acts and other hazards.

Department/ Agency	Funding Source	Availability	Description	Funding
			range of preparedness activities, including planning, organization, equipment purchase, training, exercises, and management and administration.	
USSBA	U.S. Small Business Administration Loan Programs Emergency Management Performance Grand Program (EMPG)	Post DisasterPre-Disaster	Small Business Administration (SBA) provides low-interest disaster loans to homeowners, renters, business of all sizes, and most private nonprofit organizations. SBA 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.Grants are available to State, local, territorial, and tribal governments in preparing for all hazards. The Federal Government, through the EMPG Program, provides necessary direction, coordination and guidance, and provides necessary assistance, as authorized so that a comprehensive emergency preparedness system exists at all levels for all hazards.	Homeowners may apply for up to \$200,000 to replace or repair their primary residence. Renters and homeowners may borrow up to \$40,000 to replace or repair personal property-such as clothing, furniture, cars, and appliances – damaged or destroyed in a disaster. Physical disaster loans of up to \$2 million are available to qualified businesses or most private nonprofit organizations.Total funding available in fiscal year 2018: \$350,100,000
HUD	Community Development Block Grant – Disaster Recovery (CDBG-DR)U.S. Small Business Administration Loan Programs	Post DisasterPost Disaster	Disaster Recovery funds are made available to States, units of general local governments, Indian tribes, and Insular areas designated by the President of the United States as a disaster area.	Fiscal Year 2014: During FY14, CDBG DR grants were allocated to seven local governments and states impacted by qualifying events occurring in 2013, and



Department/ Agency	Funding Source	Availability	Description	Funding
			<p>These communities must have significant unmet recovery needs and the capacity to carry out a disaster recovery program. Grants are available to rebuild the affected areas and provide crucial seed money to start the recovery process.</p> <p>The State has developed various programs using CDBG-DR funds to help homeowners, renters, businesses, and communities impacted by Superstorm Sandy. For more information on these funding programs, refer to the following table or visit <a href="http://reNewJerseyStronger.org">reNewJerseyStronger.org</a></p> <ul style="list-style-type: none"> <li>• CDBG-DR Homeowner Assistance Programs</li> <li>• CDBG-DR Rental Housing and Renter Programs</li> <li>• CDBG-DR Economic Revitalization</li> <li>• CDBG-DR Support for Governmental Entities</li> <li>• CDBG-DR Supportive Services Programs</li> <li>• CDBG-DR Planning, Oversight, and Monitoring</li> </ul> <p>Small Business Administration (SBA) provides low-interest disaster loans to homeowners, renters, business of all sizes, and most private nonprofit organizations. SBA disaster loans can be used to repair or replace the following items damaged or destroyed in a declared disaster: real estate, personal property,</p>	<p>additional funds were allocated to the six Hurricane Sandy grantees. Fiscal Year 2015: Through June 10, 2015, thirty-four (34) CDBG DR grants totaling \$14,181,892,000 have been allocated to local governments and states impacted by Hurricane Sandy and other qualifying events occurring in 2011, 2012, and 2013. Of those funds, HUD has obligated \$7,102,372,284 (50% of the allocation) and grantees have drawn \$3,852,017,671 (54% of the obligated amount) toward their recovery efforts. Fiscal Year 2016: All appropriated funds have been allocated to eligible grantees. The department will continue making additional obligations to the thirty-four eligible grantees and disburse funds for eligible costs as drawn. Homeowners may apply for up to \$200,000 to replace or repair their primary residence. Renters and homeowners may borrow up to \$40,000 to replace or repair personal property-such as clothing, furniture, cars, and appliances – damaged or destroyed in a disaster. Physical disaster loans of up</p>

Department/ Agency	Funding Source	Availability	Description	Funding
			machinery and equipment, and inventory and business assets.	to \$2 million are available to qualified businesses or most private nonprofit organizations.
U.S. Army Corp of Engineers/HUD	U.S. Army Corp of Engineers Flood Plain Management Services ProgramCommunity Development Block Grant – Disaster Recovery (CDBG-DR)	Post Disaster	<p>The Flood Plain Management Services Program provides a full range of technical services and planning guidance that is needed to support effective flood plain management. Disaster Recovery funds are made available to States, units of general local governments, Indian tribes, and Insular areas designated by the President of the United States as a disaster area. These communities must have significant unmet recovery needs and the capacity to carry out a disaster recovery program. Grants are available to rebuild the affected areas and provide crucial seed money to start the recovery process.</p> <p>The State has developed various programs using CDBG-DR funds to help homeowners, renters, businesses, and communities impacted by Superstorm Sandy. For more information on these funding programs, refer to the following table or visit <a href="http://reNewJerseyStronger.org">reNewJerseyStronger.org</a></p> <ul style="list-style-type: none"> <li>• CDBG-DR Homeowner Assistance Programs</li> <li>• CDBG-DR Rental Housing and Renter Programs</li> </ul>	<p>Fiscal Year 2014: During FY14, CDBG DR grants were allocated to seven local governments and states impacted by qualifying events occurring in 2013, and additional funds were allocated to the six Hurricane Sandy grantees. Fiscal Year 2015: Through June 10, 2015, thirty-four (34) CDBG DR grants totaling \$14,181,892,000 have been allocated to local governments and states impacted by Hurricane Sandy and other qualifying events occurring in 2011, 2012, and 2013. Of those funds, HUD has obligated \$7,102,372,284 (50% of the allocation) and grantees have drawn \$3,852,017,671 (54% of the obligated amount) toward their recovery efforts. Fiscal Year 2016: All appropriated funds have been allocated to eligible grantees. The department will continue making additional obligations to the thirty-four eligible grantees and disburse funds for eligible costs as drawn.</p>

Department/ Agency	Funding Source	Availability	Description	Funding
			<ul style="list-style-type: none"> <li>• CDBG-DR Economic Revitalization</li> <li>• CDBG-DR Support for Governmental Entities</li> <li>• CDBG-DR Supportive Services Programs</li> <li>• CDBG-DR Planning, Oversight, and Monitoring</li> </ul>	
EPA/U.S. Army Corp of Engineers	U.S. Environmental Protection Agency U.S. Army Corp of Engineers Flood Plain Management Services Program	Post Disaster	<p>The EPA has allocated funding to the State of New Jersey for improvements to wastewater and drinking water treatment facilities impacted by Superstorm Sandy. The State has created programs to maximize this investment by leveraging available funds to offer low interest loans with opportunities for principal forgiveness. These loans will help fund the repair of Sandy-damaged infrastructure and improve resiliency of the State's environmental infrastructure. The State has also created the Short-term Statewide Assistance Infrastructure Loan Program (SAIL), which is designed to provide facilities with short-term cash flow assistance for Sandy recovery project expenses that will ultimately be financed through other federal grant programs, including FEMA's Public Assistance reimbursement program. The Flood Plain Management Services Program provides a full range of technical services and planning guidance that is needed</p>	Awarded \$229 Million to the State of New Jersey for improvements to wastewater and drinking water treatment facilities impacted by Superstorm Sandy.

Department/ Agency	Funding Source	Availability	Description	Funding
			to support effective flood plain management.	
U.S. Department of Health/EPA	U.S. Department of Health and Human Services – Social Services Block Grant U.S. Environmental Protection Agency	Post Disaster Post Disaster	Post-Sandy funding will be applied to support services with a focus on physical and mental health, as well as the recovery needs of children and families. The EPA has allocated funding to the State of New Jersey for improvements to wastewater and drinking water treatment facilities impacted by Superstorm Sandy. The State has created programs to maximize this investment by leveraging available funds to offer low interest loans with opportunities for principal forgiveness. These loans will help fund the repair of Sandy-damaged infrastructure and improve resiliency of the State's environmental infrastructure. The State has also created the Short-term Statewide Assistance Infrastructure Loan Program (SAIL), which is designed to provide facilities with short-term cash flow assistance for Sandy recovery project expenses that will ultimately be financed through other federal grant programs, including FEMA's Public Assistance reimbursement program.	The U.S. Department of Health and Human Services (HHS) allocated \$226 million to New Jersey as part of the Sandy Supplemental Social Services Block Grant (SSBG). Awarded \$229 Million to the State of New Jersey for improvements to wastewater and drinking water treatment facilities impacted by Superstorm Sandy.
U.S. Department of Health	U.S. Department of Health and Human Services – Social Services Block Grant	Post Disaster	Post-Sandy funding will be applied to support services with a focus on physical and mental health, as well as the	The U.S. Department of Health and Human Services (HHS) allocated \$226 million to New Jersey as part

Department/ Agency	Funding Source	Availability	Description	Funding
			recovery needs of children and families.	of the Sandy Supplemental Social Services Block Grant (SSBG).