



Section 6. Mitigation Strategies

This section presents mitigation actions for Suffolk County to reduce potential exposure and losses identified as concerns in the Risk Assessment portion of this plan. The Planning Committee reviewed the Risk Assessment to identify and develop these mitigation actions, which are presented herein.

This section includes:

- (1) Background and Past Mitigation Accomplishments
- (2) Overview of Mitigation Strategy Development
- (3) Review and Update of Mitigation Goals and Objectives
- (4) Capability Assessment
- (5) Review and Update of Mitigation Strategies
- (6) Mitigation Strategy Prioritization, including Review of Cost-Effectiveness

Hazard mitigation reduces the potential impacts of, and costs associated with, emergency and disaster-related events. Mitigation actions address a range of impacts, including impacts on the population, property, the economy, and the environment.

Mitigation actions can include activities such as: revisions to land-use planning, training and education, and structural and nonstructural safety measures.

6.1 Background and Past Mitigation Accomplishments

In accordance with DMA 2000 requirements, a discussion regarding past mitigation activities and an overview of past efforts is provided as a foundation for understanding the mitigation goals, objectives, and activities outlined in this Plan. The County, through previous and ongoing hazard mitigation activities, has demonstrated that it is pro-active in protecting its physical assets and citizens against losses from natural hazards. Examples of previous and ongoing actions and projects include the following:

- The County facilitated the development of the original Suffolk County Multi-Jurisdictional All-Hazards Mitigation Plan, completed in 2008, which included eight of the ten towns and most of their inclusive municipalities. The current planning process represents the regulatory five-year local plan update process, which includes participation of all ten towns, their inclusive municipalities, two tribal nations, and key county and regional stakeholders.
- All municipalities participating in this Plan participate in the NFIP, which requires the adoption of FEMA floodplain mapping and certain minimum construction standards for building within the floodplain. The two participating tribal nations are considering joining the NFIP and have included such as a mitigation action.
- To ensure critical assets and essential services maintain power during hazard events, through NYS grant funding, Suffolk County has invested in 22 backup generators. Currently, one unit is in service on Shelter Island and one on Fishers Island due to their remote locations. The remaining units are on stand-by at secure locations in Suffolk County and may be requested by any municipality to mitigate a disaster.
- Suffolk County Office of Emergency Management (OEM) participates on the New York Coastal Storm Planning Team. The New York Coastal Storm Planning Team is a multi-jurisdictional effort to examine neighboring county and transportation emergency plans.
- Suffolk County applied for and received an HMPG grant from the Federal Emergency Management Agency (FEMA) through the NY State Office of Emergency Management to conduct a public



education campaign on coastal hazards. Public meetings were hosted by local County Legislators in the most at-risk areas of the County, and a public website (www.suffolkcountyny.gov/MEND) was established for continued awareness of natural hazards and mitigation related information.

- Suffolk County FRES makes presentations regarding hurricane preparedness to local Chambers of Commerce, communities and civic associations across Suffolk County. During the late summer and fall periods approximately 20 – 25 presentations are given each month. In addition Suffolk County FRES attends public meetings with local political figures to emphasize preparedness.
- Numerous studies have been conducted by Federal, State, County and local agencies/entities to examine natural hazards affecting Suffolk County, and have been reviewed and incorporated into this plan update as appropriate.
- Many municipalities in Suffolk County have adopted regulatory standards regarding land-use and zoning that exceed minimum requirements and provide the communities with greater capability to manage development without increasing hazard risk and vulnerability. Examples of these standards are presented in the Capability Assessment subsection later in this chapter.
- Municipalities have developed or leveraged programs to fund mitigation activities, including the formation of coastal erosion districts, the establishment and maintenance of “engineered beaches”, and property transfer fees to acquire high-risk property and preserve for open-space use.
- Municipalities have actively participated in available mitigation grant funding opportunities to implement mitigation projects, including the ongoing New York Rising Hazard Mitigation Grant Program.
- The Governor’s Coastal Erosion Task Force Final Report II identifies previous investigations, past actions and associated costs, and recommendations to address coastal erosion along the Atlantic shoreline.
- The County and municipalities have implemented mitigation actions to protect critical facilities and infrastructure throughout the planning area.



6.2 General Mitigation Planning Approach

The overall approach used to update the County and local hazard mitigation strategies are based on FEMA and NYS regulations and guidance regarding local mitigation plan development, including:

- DMA 2000 regulations, specifically 44 CFR 201.6 (local mitigation planning) and 44 CFR 201.7 (Tribal mitigation planning)
- FEMA “Local Mitigation Planning Handbook”, March 2013
- FEMA “Integrating Hazard Mitigation into Local Planning”, March 2013
- Identifying Mitigation Actions and Implementing Strategies (FEMA 386-3)
- Mitigation Ideas

The mitigation strategy update approach includes the following steps that are further detailed in later sections of this section:

- Review and update mitigation goals and objectives
- Identify mitigation capabilities, and evaluate their capacity and effectiveness to mitigate and manage hazard risk
- Identify progress on previous county and local mitigation strategies
- Develop updated county and local mitigation strategies
- Prepare an implementation strategy, including the prioritization of projects and initiatives in the updated mitigation strategy

6.3 Review and Update of Mitigation Goals And Objectives

This section documents the efforts to update the guiding principle (mission statement), and hazard mitigation goals and objectives established to reduce or avoid long-term vulnerabilities to the identified hazards.

6.3.1 Mission Statement

Per FEMA guidance (386-1), a mission statement or guiding principle describes the overall duty and purpose of the planning process, and serves to identify the principle message of the plan. It focuses or constrains the range of goals and objectives identified. This is not a goal because it does not describe outcomes, rather it is broad in scope, and provides a direction for the Plan.

During the original county hazard mitigation planning process the Mitigation Planning Committee (MPC) developed a mission statement. As part the of the 2014 update process, the Suffolk County Hazard Mitigation Steering Committee reviewed the mission statement and elected to maintain it without edit or amendment, as:

Identify and reduce the vulnerability to natural hazards in order to protect the health, safety, quality of life, environment and economy of the communities within Suffolk County.

FEMA defines **Goals** as general guidelines that explain what should be achieved. Goals are usually broad, long-term, policy statements, and represent a global vision.

FEMA defines **Objectives** as strategies or implementation steps to attain mitigation goals. Unlike goals, objectives are specific and measurable, where feasible.

FEMA defines **Mitigation Actions** as specific actions that help to achieve the mitigation goals and objectives.



6.3.2 Goals and Objectives

According to CFR 201.6(c)(3)(i): “The hazard mitigation strategy shall include a description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.” The Planning Committee developed mitigation goals and objectives based on the risk assessment results, discussions, research, and input from amongst the committee, existing authorities, polices, programs, resources, stakeholders and the public.

The original goals and objectives of the County HMP were established by the MPC during the 2007/8 planning process. The MPC identified eight goals through a facilitated exercise, working from a catalog of goal statements created through review of similar plans and FEMA planning guidance. Once the goals were established, objectives that meet multiple goals were selected through a similar facilitated exercise. For the purposes of this plan, goals are defined as follows:

Goals are general guidelines that explain what is to be achieved. They are usually broad, long-term, policy-type statements and represent global visions. Goals help define the benefits that the plan is trying to achieve. The success of the plan, once implemented, should be measured by the degree to which its goals have been met (that is, by the actual benefits in terms of hazard mitigation).

The Suffolk County goals are compatible with the needs and goals expressed in other available community planning documents as well as the NYS HMP. Achievement of these goals helps to define the effectiveness of a mitigation strategy.

Objectives were then developed and/or selected by the Planning Committee through its knowledge of the local area, review of past efforts, findings of the risk assessment, qualitative evaluations, and identification of mitigation options. The objectives are used to 1) measure the success of the plan once implemented, and 2) to help prioritize identified mitigation actions. For the purposes of this plan, objectives are defined as follows:

Objectives are short-term aims which, when combined, form a strategy or course of action to meet a goal. Unlike goals, objectives are specific and measurable.

The Planning Committee selected objectives that would meet multiple goals. The objectives serve as a stand-alone measurement of a mitigation action, rather than as a subset of a goal. Achievement of the objectives will be a measure of the effectiveness of a mitigation strategy. The objectives also are used to help establish priorities.

During the 2014 plan update process, the Steering Committee reviewed the 2008 goals and objectives. Further, all participating municipalities were a Goals and Objectives worksheet to facilitate their input to the update process. The 2008 goals and objectives were reviewed in consideration of the hazard events and losses since the 2008 plan, the updated hazard profiles and vulnerability assessment, the goals and objectives established in the other related State, county and local risk management plans, as well as direct input on how the County and municipalities recognize they need to move forward to best manage their hazard risk.

It is noted that the Goals for the 2014 update remain unchanged; however an Objective has been added to address stormwater management issues and concerns. As a result of this update process, the following are the updated goals and objectives for the 2014 plan update (Tables 6-2 and 6-3).



Table 6-1. Suffolk County Hazard Mitigation Plan Goals

Goal Number	Goal Statement
G-1	Save lives and reduce injury.
G-2	Avoid, minimize or reduce damage to property including but not limited to critical facilities, infrastructure and those properties known to receive or experience repetitive damages.
G-3	Reduce exposure to risk, while protecting or restoring natural processes to the maximum extent possible.
G-4	Consider the wise uses of land in known or identified hazard areas.
G-5	Encourage the development and implementation of long-term, cost-effective and environmentally sound mitigation projects.
G-6	Promote hazard mitigation awareness and education throughout the county.
G-7	Improve community emergency management capability (i.e., prepare, respond, recover, mitigate).
G-8	Maintain economic viability after a hazard event.

Table 6-2. Suffolk County Hazard Mitigation Plan Objectives

Objective Number	Objective Statement
O-1	Enhance the public's understanding of natural hazards, the risk they pose and ways to mitigate those impacts.
O-2	Retrofit, acquire, or relocate structures in high hazard areas, including but not limited to those known to be or subject to repetitive damages.
O-3	Continually improve understanding of the location and potential impacts of natural hazards, the vulnerability of building types, and community development patterns and the measures needed to protect life safety at the local government level.
O-4	Strengthen codes so that new construction can withstand the impacts of natural hazards and lessen the impact of that development on the environment's ability to absorb the impact of natural hazards.
O-5	Seek projects that minimize or mitigate their impact on the environment including but not limited to: beach nourishment, stream channel restoration, and wetlands creation/preservation
O-6	Consider providing incentives to promote wise land uses in known or identified high risk areas.
O-7	Establish a partnership among all levels of government and the business community to improve and implement methods to protect property.
O-8	Develop and implement wildfire mitigation and watershed. Protection strategies that reduce losses to wildlife habitat and protect water while also reducing damage to development.
O-9	Lower cost of flood insurance premiums through CRS program.
O-10	Protect against invasive species (noxious weeds) and exclude and eradicate invasive insects, disease, and weeds.
O-11	Implement water conservation measures, use reclaimed water, and increase groundwater usage, create surface water storage where appropriate.
O-12	Develop or improve early warning emergency response systems and evacuation procedures.
O-13	Work to lower emergency service response times, including improvement to transportation facilities.
O-14	Seek to integrate/coordinate all phases of Emergency Management within the planning area.
O-15	Seek mitigation projects that provide the highest degree of natural hazards protection at the least cost by considering projects that will mitigate the impacts of multiple hazards and/or leverage multiple funding sources.
O-16	Increase resilience of critical facilities and infrastructure.
O-17	Implement best stormwater management practices and seek to implement identified stormwater management activities and projects, including securing needed funding. <i>(New objective for the 2014 update)</i>



Table 6-3. Suffolk County Hazard Mitigation Plan Objectives

Obj. #	Objective Statement	Goal 1	Goal 2	Goal 3	Goal 4	Goal 5	Goal 6	Goal 7	Goal 8
O-1	Enhance the public’s understanding of natural hazards, the risk they pose and ways to mitigate those impacts.	X	X				X		
O-2	Retrofit, acquire, or relocate structures in high hazard areas, including but not limited to those known to be or subject to repetitive damages.		X			X			X
O-3	Continually improve understanding of the location and potential impacts of natural hazards, the vulnerability of building types, and community development patterns and the measures needed to protect life safety at the local government level.	X	X		X				X
O-4	Strengthen codes so that new construction can withstand the impacts of natural hazards and lessen the impact of that development on the environment’s ability to absorb the impact of natural hazards.		X		X	X			
O-5	Seek projects that minimize or mitigate their impact on the environment including but not limited to: beach nourishment, stream channel restoration, and wetlands creation/preservation			X		X			
O-6	Consider providing incentives to promote wise land uses in known or identified high risk areas.			X	X				
O-7	Establish a partnership among all levels of government and the business community to improve and implement methods to protect property.		X				X	X	X
O-8	Develop and implement wildfire mitigation and watershed Protection strategies that reduce losses to wildlife habitat and protect water while also reducing damage to development.	X	X	X	X	X			
O-9	Lower cost of flood insurance premiums through CRS program.					X	X		X
O-10	Protect against invasive species (noxious weeds) and exclude and eradicate invasive insects, disease, and weeds.		X	X		X			
O-11	Implement water conservation measures, use reclaimed water, and increase groundwater usage, create surface water storage where appropriate.			X		X			
O-12	Develop or improve early warning emergency response systems and evacuation procedures.	X						X	X
O-13	Work to lower emergency service response times, including improvement to transportation facilities.	X						X	X
O-14	Seek to integrate/coordinate all phases of Emergency Management within the planning area.							X	X
O-15	Seek mitigation projects that provide the highest degree of natural hazards protection at the least cost by considering projects that will mitigate the impacts of multiple hazards and/or leverage multiple funding sources.	X	X	X	X	X	X	X	X
O-16	Increase resilience of critical facilities and infrastructure.		X						X
O-17	Implement best stormwater management practices and seek to implement identified stormwater management activities and projects, including securing needed funding. <i>(New objective for the 2014 update)</i>		X	X		X			



6.4 Capability Assessment

According to FEMA 386-3, a capability assessment is an inventory of a community's missions, programs and policies; and an analysis of its capacity to carry them out. This assessment is an integral part of the planning process. The assessment process enables identification, review and analysis of local and state programs, policies, regulations, funding and practices currently in place that may either facilitate or hinder mitigation.

During the original planning process, the County and all municipalities identified and assessed their capabilities in the areas of planning and regulatory, administrative and technical, and fiscal. By completing this assessment, the Planning Committee and each jurisdiction learned how or whether they would be able to implement certain mitigation actions by determining the following:

- Limitations that may exist on undertaking actions;
- The range of local and/or state administrative, programmatic, regulatory, financial and technical resources available to assist in implementing their mitigation actions;
- Action is currently outside the scope of capabilities;
- Types of mitigation actions that may be technically, legally (regulatory) administratively, politically or fiscally challenging or infeasible;
- Opportunities to enhance local capabilities to support long term mitigation and risk reduction.

During the 2014 plan update process, all participating jurisdictions were tasked with developing or updating their capability assessment, paying particular attention to evaluating the effectiveness of these capabilities in supporting hazard mitigation, and identifying opportunities to enhance local capabilities.

County, municipal and tribal capabilities in the areas of planning and regulatory, administrative and technical, and fiscal may be found in the Capability Assessment section of their jurisdictional annexes in Section 9. Further, within each annex participating jurisdictions have identified how they have integrated hazard risk management into their existing planning, regulatory and operational/administrative framework ("integration capabilities"), and how they intend to promote this integration ("integration actions"). A further summary of these continued efforts to develop and promote a comprehensive and holistic approach to hazard risk management and mitigation is presented in Section 7.

6.4.1 Summary of Plans, Programs and Resources Available to Support Mitigation

A summary of the various Federal, State, County and local planning and regulatory, administrative and technical, and fiscal programs available to promote and support mitigation and risk reduction in Suffolk County are presented below.

National Flood Insurance Program (NFIP)

The U.S. Congress established the NFIP with the passage of the National Flood Insurance Act of 1968 (FEMA's 2002 National Flood Insurance Program (NFIP): Program Description). The NFIP is a Federal program enabling property owners in participating communities to purchase insurance as a protection against flood losses in exchange for State and community floodplain management regulations that reduce future flood damages. Please refer to Section 5.4.5 for information on recent legislation related to reforms to the NFIP.



There are three components to the NFIP: flood insurance, floodplain management and flood hazard mapping. Communities participate in the NFIP by adopting and enforcing floodplain management ordinances to reduce future flood damage. In exchange, the NFIP makes federally backed flood insurance available to homeowners, renters, and business owners in these communities. Community participation in the NFIP is voluntary. Flood insurance is designed to provide an alternative to disaster assistance to reduce the escalating costs of repairing damage to buildings and their contents caused by floods. Flood damage in the U.S. is reduced by nearly \$1 billion each year through communities implementing sound floodplain management requirements and property owners purchasing flood insurance. Additionally, buildings constructed in compliance with NFIP building standards suffer approximately 80% less damage annually than those not built in compliance (FEMA, 2008).

Suffolk County and many of the county's individual jurisdictions actively participate in the NFIP. As of October 31, 2013, there were 39,873 NFIP policyholders in Suffolk County. There have been 32,239 claims made, totaling nearly \$1 billion for damages to structures and contents. There are 3,506 NFIP Repetitive Loss (RL) properties, and 351 NFIP Severe Repetitive Loss (SRL) properties in the County. Further details on the County's flood vulnerability may be found in the flood hazard profile in Section 5.

The County is actively participating in the management of the floodplain and is in the process of finalizing a Floodplain Management Area-wide Compliance Document in accordance with Executive Order 11988. This plan includes a number of initiatives that will further enhance the County's ability to manage flooding and other natural hazard risks, including the amendment of several ordinances, mitigating flood prone properties (including several RL/SRL properties) and identifying areas for potential buyout properties.

Municipal participation in and compliance with the NFIP is supported at the Federal level by FEMA Region II and the Insurance Services Organization (ISO), at the state-level by the New York State Department of Environmental Conservation (NYSDEC) and New York State Office of Emergency Management (NYSOEM). Additional information on the NFIP program and its implementation throughout the County may be found in the flood hazard profile (Section 5).

The State and communities may adopt higher regulatory standards when implementing the provisions of the NFIP. Specifically identified are the following:

Freeboard: By law, NYS requires Base Flood Elevation plus 2 feet (BFE+2) for all single- and two-family residential construction, and BFE+1 for all other types of construction. Communities may go beyond this State requirement, providing for additional freeboard or requiring BFE+2 for all types of construction. Further, a number of communities have supported property owners meeting and exceeding freeboard requirements through the site plan review and zoning board of approvals process; for instance, allowing overall structure heights to be determined from BFE+2 rather than grade within NFIP floodplains.

Cumulative Substantial Improvements/Damages: The NFIP allows improvements valued at up to 50% of the building's pre-improvement value to be permitted without meeting the flood protection requirements. Over the years, a community may issue a succession of permits for different repairs or improvement to the same structures. This can greatly increase the overall flood damage potential for the structure and within a community. The community may wish to demonstrate "substantial improvement" cumulatively so that once a threshold of improvement within a certain length of time is reached, the structure is considered to be substantially improved and must meet flood protection requirements.

Limit of Moderate Wave Action (LiMWA): LiMWA depicts the Limit of the Area of Moderate Wave Action (MOWA), the portion of the 1% annual chance coastal flood hazard area referenced by building



codes and standards, where base flood wave heights are between 1.5 and 3 feet, and where wave characteristics are deemed sufficient to damage many National Flood Insurance Program (NFIP)-compliant structures on shallow or solid wall foundations. Coastal communities may adopt what is commonly referred to as the “LiMWA standard” where they enforce “V zone” construction standards within coastal LiMWA “A zones”.

NFIP Community Rating System (CRS)

As an additional component of the NFIP, the Community Rating System (CRS) is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements. As a result, flood insurance premium rates are discounted to reflect the reduced flood risk resulting from the community actions meeting the three goals of the CRS: (1) reduce flood losses; (2) facilitate accurate insurance rating; and (3) promote the awareness of flood insurance (FEMA, 2012).

Currently only five (5) communities in Suffolk County participate in CRS, specifically the Town of Southampton and the Villages of Babylon, Brightwaters, Northport and Southampton, however all five communities are currently identified as “rescinded” with CRS ratings of 10 (no discount).

Towns and the County as a whole could expect significant cost savings on premiums if enrolled in the CRS program. For example: if all the Towns in the County were enrolled in the CRS program and maintained an average CRS rate class of 8 (10% reduction in flood insurance premiums) policyholders in the County would save approximately 4 million dollars.

New York State Flood Plain Management

There are two departments that have statutory authorities and programs that affect floodplain management at the local jurisdiction level in New York State: the New York State Department of Environmental Conservation (NYSDEC) and the Department of State’s Division of Code Enforcement and Administration (DCEA).

In 1992, the New York State Legislature amended an existing law, finding that “it is in the interests of the people of this state to provide for participation” in the NFIP (New York Laws, Environmental Conservation, Article 36). Although the Legislature recognized that “land use regulation is principally a matter of local concern” and that local governments “have the principal responsibility for enacting appropriate land use regulations,” the law requires all local governments with land use restrictions over SFHAs to comply with all NFIP requirements. The law clearly advises local governments that failure to qualify for the NFIP may result in sanctions under Federal law, and specifies that the State “will cooperate with the federal government in the enforcement of these sanctions.”

The 1992 law that provides for local government participation in the NFIP also requires State agencies to “take affirmative action to minimize flood hazards and losses in connection with state-owned and state-financed buildings, roads and other facilities, the disposition of state land and properties, the administration of state and state-assisted planning programs, and the preparation and administration of state building, sanitary and other pertinent codes.” In particular, the commissioner of the NYSDEC is to assist State agencies in several respects, including reviewing potential flood hazards at proposed construction sites.

The NYSDEC is charged with conserving, improving, and protecting the State’s natural resources and environment, and preventing, abating, and controlling water, land, and air pollution. Programs that have bearing on floodplain management are managed by the Bureau of Flood Protection and Dam Safety, which cooperates with Federal, State, regional, and local partners to protect lives and property from



floods, coastal erosion, and dam failures. These objectives are accomplished through floodplain management and both structural and nonstructural means.

The Coastal Management Section works to reduce coastal erosion and storm damage to protect lives, natural resources, and properties through structural and nonstructural means. The Dam Safety Section is responsible for “reviewing repairs and modifications to dams, and assuring [sic] that dam owners operate and maintain dams in a safe condition through inspections, technical reviews, enforcement, and emergency planning.” The Flood Control Projects Section is responsible for reducing flood risk to life and property through construction, operation, and maintenance of flood control facilities.

The Floodplain Management Section is responsible for reducing flood risk to life and property through management of activities, such as development in flood hazard areas, and for reviewing and developing revised flood maps. The Section serves as the NFIP State Coordinating Agency and in this capacity is the liaison between FEMA and New York communities that elect to participate in the NFIP. The Section provides a wide range of technical assistance.

Comprehensive Master Plans

Comprehensive planning is a term used in the United States by land use planners to describe a process that determines community goals and aspirations in terms of community development. The outcome of comprehensive planning is the “Comprehensive Plan” or Master Plan” which dictates public policy in terms of transportation, utilities, land use, recreation, and housing. Towns are authorized to develop and adopt a comprehensive plan by New York State Town Law Section 272-a.; villages can do the same per Section 7-722 of the Village Law. State statutes require that all land use laws in a municipality be consistent with a comprehensive plan.

Suffolk County is in the process of updating its comprehensive master plan. A draft report that focuses on transportation, economic development and housing challenges in Suffolk County will be completed by Spring 2014. It will identify policies and initiatives that will: provide the foundation for sustainable growth of communities in the County; and encourage economic development that will help to retain and attract businesses and create jobs for all County residents. Key objectives of this regional analysis include the following:

- Provide adequate housing options for all Suffolk County residents.
- Provide infrastructure that supports sustainable growth in Suffolk County.
- Improve mobility, access, and safety.
- Stimulate growth of target sectors in Suffolk County.
- Promote connectivity between areas accommodating residential and economic growth with recreational resources.
- Improve resiliency to effects of climate change.
- Protect the County’s open spaces, natural resources and aquifer.
- Maintain and improve the quality of life for Suffolk County residents.
- Provide education and training to Suffolk County’s current and future workforce.
- Forster regional coordination and collaboration among all stakeholders.

This comprehensive plan update will include sustainability and resilience strategies to guide the County into the future. These strategies will take the 100-year floodplain, and environmental constraints into account.

Each Town within Suffolk County has a comprehensive master plan with a purpose of guiding policy and effectuating zoning at the local level. There are opportunities for coordination with the County’s Hazard



Mitigation Plan recommendations and action items. An example of this is in the Town of Southold which is currently in the process of updating its comprehensive plan (Southold 2020), and has included a draft Natural Hazards chapter developed through collaboration with NOAA Coastal Services Center, the Association of State Floodplain Managers (ASFPM) and the Nature Conservancy. Per NOAA’s Digital Coast website, “The result is strengthened connections between Southold’s comprehensive plan and the town’s hazards and climate resilience strategy. These connections and opportunities are being documented in a comprehensive plan that is focusing more attention on future, as well as present, hazard mitigation strategies.”

The current status of the comprehensive plans in the County is shown in Table 6-4 below.

Table 6-4. Comprehensive Plan Status in Suffolk County

Jurisdiction	Year Adopted	Status
Babylon	1998	
Brookhaven	1996	2010 Update in progress
East Hampton	2005	
Huntington	2008	
Islip	1989	
Riverhead	2003	
Shelter Island	1994	
Smithtown	1961	2005 Update in progress
Southampton	1999	
Southold	1985	2005 Update in progress

Source: Suffolk County Planning Department 2014

Stormwater Management Planning

When proper controls are not in place, research studies show a clear link between urbanization and increased flooding and pollutant export. The goal of stormwater management is to ensure that the quantity and quality of stormwater runoff from a site that is undergoing construction or development should not be substantially altered from its pre-development conditions (NYSDEC, 2014).

According to the federal law commonly known as Stormwater Phase II, permits are required for stormwater discharges from Municipal Separate Storm Sewer Systems (MS4s) in urbanized areas and those additionally designated by the NYSDEC. Owners or operators of such MS4s must be authorized in accordance with the State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Municipal Separate Storm Sewer Systems. The permit requires development of a Stormwater Management Program (SWMP).

Suffolk County has developed a Stormwater Phase II management plan in accordance with Permit No. GP-0-08-002 that includes county wide and local initiatives to protect water quality and reduce local flooding, including a prioritized plan to meet current and future needs for repair, expansion and management of local stormwater infrastructure. Maintenance programs are developed to continually assess the condition of the stormwater system, to track sediment by volume and type removed, and to reduce the likelihood of flooding due to clogged collection and conveyance systems. Progress on, and updates to, the County’s stormwater management program are documented in annual progress reports.



All 10 towns in the County have their own individual Stormwater Management Plans and conduct annual progress reports. All Towns have stormwater management and control measures that address the minimum control measures required by the NYSDEC.

Many municipalities have found the recently released New York State Stormwater Manual to be a valuable resource in managing their MS4 program.

6.4.2 Administrative and Technical Capabilities - Local

Suffolk County Department of Economic Development and Planning

The Department of Economic Development & Planning assists and promotes the development, growth and retention of a broad mix of industry clusters that facilitate job opportunities and private investment. The Department implements programs which enhance both economic development and the quality of life for Suffolk County residents.

Economic Development and Planning is of paramount importance for the growth of Long Island and the coordinated approach to land use, land development and the environment employed by the Department will ensure that Suffolk County remains a regional leader in economic growth and innovation. The Department carries out a variety of functions, including the following:

- Encourages, promotes and assists in the establishment, location, preservation and expansion within the County of enterprises, which are beneficial to the general welfare of the people of the County;
- Advises, assists, participates and cooperates with other agencies of the County, other governments, regional or bi-county agencies, boards or commissions and private enterprise groups and committees, on matters pertaining to the economic development and planning of the County;
- Solicits prospective employers through regional, national and international recruitment and marketing efforts;
- Provides specialized assistance and services to women-owned, minority and small businesses;
- Undertakes a full-time program of tourism and convention promotion;
- Assists with the development of overall policy with regard to economic development in the fields of small business, procurement, motion pictures/television and export/import economies;
- Supervises and conducts the management of the Francis S. Gabreski Airport at Westhampton Beach and accepts and reviews requests for the lease of space at the Airport;
- Supervises and conducts the management of the Affordable Housing Program;
- Supervises and conducts the management of Suffolk County's Community Development Office;
- Oversees, supervises and manages the Division of Real Property Acquisition and Management and the Division of Planning and Environment.

The Suffolk County Division of Planning and Environment provides professional technical service to many stakeholders including the County Executive, the Legislature, the County Planning Commission, the Council of Environmental Quality, the Farmland Committee, other county departments and agencies, other municipalities (towns, villages, school districts, etc.), civic and not-for-profit entities, the private sector and the public at large, as noted below.

- In accordance with Section 239 of the General Municipal Laws of New York State and Article XIV of the Suffolk County Charter and Administrative Code, the Division has the responsibility for the preparation of a comprehensive plan; the review of certain municipal zoning and



subdivision actions; provision of assistance to localities, including demographics and economic research and environmental studies; the rendering of advice to local, state and federal government in development of projects; the formulation and coordination of all long-range facilities planning among County departments.

- Services to Municipalities – The Division provides a wide range of services to the 10 towns and 33 villages of the county on a regular basis. This includes technical assistance, research, planning services, mapping, and consultation. The Division also handles over 2,000 municipal zoning and subdivision referrals a year.
- Services to Statutory Boards – The Division continues to provide services to the Suffolk County Planning Commission, the Council on Environmental Quality, the Farmland Committee, the Agricultural and Farmland Protection Board, the Aquaculture Lease Board, as well as many ad hoc committees as directed by the County Executive and the Legislature. The Division also administers the Environmental Trust Review Board, the Sewer Infrastructure Committee, and provides support to the newly created Suffolk County Landbank.
- Water Quality Improvement – The Water Quality Improvement Unit in the Division is charged with the supervision, administration and implementation of the Water Quality Protection and Restoration Program and Land Stewardship Initiatives (WQPRP) under Section 12-2(B) of the Suffolk County Charter. The unit’s mission is to protect and maintain the quality and integrity of Suffolk County’s natural resources, to protect our ground and surface waters, to support projects to remediate degraded surface waters, to support land stewardship initiatives and to support the restoration of critical wetlands habitats.

The Division is engaged in a number of ongoing projects and initiatives, namely: Brownfields Redevelopment; Connect Long Island; Climate Resiliency Planning; Open Space and Farmland Protection; Marine Resources/Suffolk County Shellfish Aquaculture Lease Program; Regional Planning; and Wastewater Comprehensive Planning.

Suffolk County Planning Commission

The County Planning Commission is comprised of 15 members who are nominated by the County Executive and are confirmed by the County Legislature. Of the 15 Commissioners, one represents each of the 10 Towns in Suffolk, one represents villages with population under 5000, one represents villages with population over 5000 and there are three at large representatives. County law also requires that the Commission members collectively reflect a variety of backgrounds including in law, business, real estate, labor, environmental action and transportation.

The Commission has the responsibility under State and County law to:

- Review site plans and zoning actions meeting certain jurisdictional requirements such as within 500 feet of county or state roads, municipal boundaries and/or estuaries (see Commission Jurisdictional Map below)
- Establish a Comprehensive Plan for Suffolk County
- Recommend land use and planning policies to Suffolk’s towns and villages
- Report annually to the legislature on the status of the County
- Adopt rules to oversee the County Planning & Environment Division



Suffolk County Soil and Water Conservation District

During the 1930s, the Midwest experienced an environmental disaster known as the Dust Bowl. Due to a long drought and lack of a cover crop, topsoil from farmland was eroded by wind and lifted into huge dust clouds, which traveled thousands of miles. This event prompted Congress to pass legislation declaring soil and water conservation a national priority. In 1937, President Roosevelt requested that all states provide the opportunity for local governments to establish Soil and Water Conservation Districts stating that their responsibilities would be to assist in the prevention of soil erosion and flood control. In 1940, New York State adopted the Soil and Water Conservation Districts Law and consequently, in 1964 Suffolk County Legislators declared the county, a Soil and Water Conservation District.

As such, resolution 245-1964 established the Soil and Water Conservation District in accordance with the provisions of the Soil and Water Conservation District Law of New York, Chapter 727, Laws of 1940. The law directs Districts to conserve soil and water resources, control sediment and erosion, reduce floodwater, preserve natural resources, assist in the drainage and irrigation of agricultural lands, preserve wildlife and protect public lands. In 1975 the State passed an amendment to the Law, which requires the District to develop a conservation plan for all farms over twenty-five acres. Another amendment in 1989 was added directing Districts to improve water quality and to control and abate nonpoint source pollution. A Board of Directors, whose members are appointed by the County Legislature, governs the District. The type of member and the length of term are dictated in the Soil and Water Conservation District Law.

District Directors decide activities of the District and are responsible for its operational management. The diverse scope of expertise and knowledge of the District has rendered the department an asset to the County's goal to protect and preserve natural resources. The District's dedication has been established by increased assistance provided to the agricultural community, private landowners and municipalities and by the many partnerships we established with various local, county, state and federal governmental agencies.

Suffolk County SWCD Assistance for Agricultural Producers, Landowners, Municipalities & Professional Consultants:



Conservation Planning

- Agricultural Value Assessment
- Agricultural Environmental Management Plans (AEM)
- USDA Conservation Programs
- Wildlife Watering Facilities
- Watershed Management
- Wetland Restoration Programs

Technical Assistance

- Agricultural Irrigation Systems
- Agricultural Engineering Practices
- Agricultural Technical Assistance
- Agronomic Practices
- Environmental Consultant Assistance *
- Nonpoint Source Pollution (NPS) Control
- NYSDEC Erosion & Sediment Control Training
- Native Plants
- Invasive Species
- Long Island Native Plant Initiative (LINPI)

Reference Materials

- Conservation Plant Info Sheets
- Conservation Wildlife Management Programs
- Educational Materials & Programs
- Long Island Regional Envirothon

Soils

- MAPS: Aerials, Soil, Topographic, and Wetland
- Soils Information
- Erosion & Drainage Control Designs

Inventory & Evaluations

- Site Plans & Subdivision Reviews
- Coastal Erosion Control

Suffolk County Council on Environmental Quality

The Council on Environmental Quality was established in 1970 by Article I of the Suffolk County Charter otherwise known as the Environmental Bill of Rights. In 1972 the County established the Suffolk County Historic Trust and appointed the CEQ members as trustees. The Council’s primary responsibilities include providing advice and assistance to any department, board, commission or agency of Suffolk County government on the implementation of and compliance with the State Environmental Quality Review Act. In addition, the Council may make recommendations to the County Legislature and County Executive as to what county-owned properties should be dedicated to the county nature preserve or historic trust and what properties not owned by the county should be acquired for purposes of dedication. The Council also serves an important role examining developments in the County that are likely to have an impact on the quality of the environment. Under its mandated Charter responsibilities, the Council is advisory to both the County Executive and Legislature.

Central Pine Barrens Commission

Three of Suffolk County's 10 Towns host the 100,000+ acre, New York State designated region known as the Central Pine Barrens. This region is the largest remnant of a forest thought to have once encompassed over a quarter million acres. The Central Pine Barrens overlies a portion of Long Island's federally designated sole source drinking water aquifer. In 1993, New York State's Long Island Pine Barrens Protection Act defined this region at the junction of the Towns of Brookhaven, Riverhead, and Southampton. The 1993 Act created a five member Central Pine Barrens Joint Planning and Policy Commission, an Advisory Committee, and mandated the production and implementation of the *Central Pine Barrens Comprehensive Land Use Plan*, adopted in June 1995.



Under NY Environmental Conservation Law Article 57, the Commission produced and implements a Comprehensive Land Use Plan. The Act and the Plan charge the Commission with the combined duties of a state agency, a planning board, and a park commission:

- Land use review, permitting, and enforcement authority in the Central Pine Barrens, along with the local municipalities.
- Establishment and operation of a transferable development rights and conservation easement program.
- Coordination of public lands stewardship and management on a regional basis.

The Commission's stewardship work is advanced by a set of "Councils". They have responsibility for:

- Protected Lands Management
- Law Enforcement
- Fire Management
- Research.

NY State law requires the Central Pine Barrens Plan to address "Provisions for fire management for controlled, prescribed burning, and responses to unanticipated fires." Towards this end, the Wildfire Task Force brings together 41 public and private agencies to:

- Produce and implement a Pine Barrens Fire Management Plan
- Perform fire protection assessments
- Operate a prescribed fire program
- Run a fire weather and daily fire danger posting program, including broadcasts, web postings, roadside signs, and fax notifications.
- Run the NY Wildfire and Incident Management Academy, a National Wildfire Coordinating Group training venue
- Operate an air ground firefighting training program
- Work cooperatively on arson investigation & prevention
- Operate a public outreach program.

6.4.3 Administrative and Technical Capabilities – State and Regional

Local mitigation is further supported by county, regional, state and federal administrative and technical capabilities, including the following:

New York State Office of Emergency Management (NYSOEM)

For more than 50 years, NYSOEM and its predecessor agencies have been responsible for coordinating the activities of all State agencies to protect New York's communities, the State's economic well-being, and the environment from natural and man-made disasters and emergencies. NYSOEM routinely assists local governments, voluntary organizations, and private industry through a variety of emergency management programs including hazard identification, loss prevention, planning, training, operational response to emergencies, technical support, and disaster recovery assistance.

NYSOEM administers the FEMA mitigation grant programs in the state, and supports local mitigation planning in addition to developing and routinely updating the State Hazard Mitigation Plan. NYSOEM prepared the current State Hazard Mitigation Plan working with input from other State agencies, authorities and organizations. It was approved by FEMA on January 4, 2011, and it keeps New York eligible for recovery assistance in all Public Assistance Categories A through G, and Hazard Mitigation



assistance in each of the Unified Hazard Mitigation Assistance Program's five grant programs. For example, the 2008-2011 State Mitigation Plan allowed the State and its communities to access nearly \$57 million in mitigation grants to prepare plans and carry out projects.

Every three years, NYSDHSES updates the New York State HMP. The most recent update was submitted to FEMA in December 2013 and the most recent update was used as guidance in completing the Suffolk County HMP Update.

New York State Department of Environmental Conservation (NYSDEC) – Division of Water - Bureau of Flood Protection and Dam Safety

Within the NYSDEC – Division of Water, the Bureau of Flood Protection and Dam Safety cooperates with federal, state, regional, and local partners to protect lives and property from floods, coastal erosion and dam failures through floodplain management and both structural and non-structural means; and, provides support for information technology needs in the Division. The Bureau consists of the following Sections:

- Coastal Management: Works to reduce coastal erosion and storm damage to protect lives, natural resources, and properties through structural and non-structural means.
- Dam Safety: Is responsible for reviewing repairs and modifications to dams, and assuring that dam owners operate and maintain dams in a safe condition through inspections, technical reviews, enforcement, and emergency planning.
- Flood Control Projects: Is responsible for reducing flood risk to life and property through construction, operation and maintenance of flood control facilities.
- Floodplain Management: Is responsible for reducing flood risk to life and property through proper management of activities including, development in flood hazard areas and review and development of revised flood maps.

Department of State's Division of Code Enforcement and Administration (DCEA)

Technical Bulletins for the 2010 Codes of New York State

The DCEA publishes 14 technical bulletins including two recent bulletins with guidance related to flood hazard areas: Electrical Systems and Equipment in Flood-damaged Structures and Accessory Structures. One archived bulletin from January 2003, Flood Venting in Foundations and Enclosures Below Design Flood Elevation, refers to the out-of-date edition of FEMA Technical Bulletin 1 and to American Society of Civil Engineers (ASCE) 24-98, which is not the edition referenced by the current codes.

Forms and Publications

The DCEA posts several model reporting forms and related publications on its web page. The Building Permit Application requests the applicant to indicate whether the site is or is not in a floodplain and advises checking with town clerks or NYSDEC. The General Residential Code Plan Review form includes a reminder to “add 2’ freeboard.” Sample Flood Hazard Area Review Forms, including plan review checklists and inspection checklists for Zone A and Zone V, are based on the forms in Reducing Flood Losses through the International Code Series published by International Code Council and FEMA (2008).

Long Island Regional Planning Council

The Long Island Regional Planning Council (LIRPC) is established to represent the various interests and needs of all Long Islanders in providing education, research, planning, advocacy and leadership on important issues affecting the physical, economic and social health, and overall quality of life, of the region and its residents.



In furtherance of its goals, the LIRPC shall disseminate valuable information, serve as a regional forum for discourse and debate on key issues affecting Long Island, identify and address impediments and obstacles to resolving such issues, utilize the inherent powers entrusted to it to effectuate positive change, and assemble the available resources necessary to develop a comprehensive plan which shall serve as a blueprint for implementation of the Region's long-range planning goals and strategies. The LIRPC, formed in 2008 from the original Long Island Regional Planning Board, is established pursuant to New York State General Municipal Law by founding Legislation in Nassau and Suffolk Counties for the purpose of promoting the physical, economic and social health and well-being of the Long Island region and its residents. The main goal of the LIRPC is to educate Long Island's officials, stakeholders and residents on key issues affecting the quality of life on Long Island, and to serve as a catalyst for action by proposing immediate and long-term implemental solutions for these issues of regional concern.

6.4.4 Fiscal Capabilities-Federal and State

Mitigation projects and initiatives are largely or entirely dependent on available funding. Suffolk County is able to fund mitigation projects through existing local budgets, local appropriations (including referendums and bonding), and through a myriad of Federal and State loan and grant programs.

New York Rising Community Reconstruction Program

The NY Rising Community Reconstruction program was established to provide additional rebuilding and revitalization assistance to communities severely damaged by Hurricanes Sandy and Irene and Tropical Storm Lee. The NY Rising Community Reconstruction program enables communities to identify resilient and innovative reconstruction projects and other needed actions based on community-driven plans that consider current damage, future threats and the communities' economic opportunities. Communities successfully completing a recovery plan will be eligible to receive funds to support the implementation of projects and activities identified in the plans.

Each NY Rising Community has a Planning Committee that includes, among others, a representative from the County, Town or Village, elected legislative representatives, local residents, and leaders of other organizations and businesses in the community. The Planning Committee will take the lead in developing the content of the plan. The State has provided each NY Rising Community with a planning team to help prepare a plan. Consultants have been hired through a State process administered by New York State Homes and Community Renewal (NYS HCR) through its Office of Community Renewal (OCR) and the Housing Trust Fund Corporation (HTFC). Planning experts from the Department of State and Department of Transportation have been assigned to each community to provide assistance to the community and help oversee the planning consultants.

Suffolk County has the following NY Rising Communities spread out over three Suffolk County towns and four villages:

- Village of Amityville
- Copiague
- Village of Lindenhurst
- West Babylon
- The Village of Babylon
- West Islip
- West Gilgo to Captree
- Fire Island
- Oakdale/West Sayville
- Mastic Beach and Smith Point of Shirley



Based on FEMA assessed damages, each community is eligible for between 3 and 25 million dollars for the implementation of the projects identified in the community’s plan. Table 6-6 shows the eligible funding amounts for the NY Rising Communities in Suffolk County.

Table 6-6. NY Community Rising Funding for Suffolk County Communities

Project Area	Jurisdiction	Eligible Amount
Village of Amityville	Village of Amityville, Town of Babylon	\$5,551,038
Copiague	Town of Babylon	\$8,559,028
Village of Lindenhurst	Village of Lindenhurst, Town of Babylon	\$6,120,465
West Babylon	Town of Babylon	\$3,936,687
The Village of Babylon	Village of Babylon, Town of Babylon	\$6,243,971
West Islip	Town of Islip	\$3,089,547
West Gilgo to Captree	Town of Babylon, Town of Islip (part of Captree only)	\$3,000,000
Fire Island	Saltaire, Ocean Beach, Islip, and Brookhaven	\$3,000,000
Oakdale/West Sayville	Town of Islip	\$3,000,000
Mastic Beach and Smith Point of Shirley	Town of Brookhaven	\$3,000,000

Source: Cuomo, 2013

Projects range from construction of protective mitigation measures like dunes or sea walls to the development of community planning documents such as comprehensive master plans or economic development plans.

Army Corps of Engineers – Fire Island to Montauk Point (FIMP) Reformulation Program

Study Purpose

The purpose of the on-going Fire Island to Montauk Point (FIMP) Reformulation Study is to identify, evaluate and recommend long-term solutions for hurricane and storm damage reduction for homes and businesses within the floodplain extending along 83-miles of ocean and bay shorelines from Fire Island Inlet to Montauk Point. This area extends as far landward in some locations as Sunrise Highway and Montauk Highway. The study considers all areas within the maximum estimated limit of flooding, and is located entirely within Suffolk County. This encompasses the Atlantic and bay shores of the Towns of Babylon, Islip, Brookhaven, Southampton, and East Hampton and incorporated Villages. The study area also includes 26 miles of the Fire Island National Seashore, which is under the jurisdiction of the National Park Service.

Congress and New York State have asked the United States Army Corps of Engineers (Corps) to develop a comprehensive long-term plan of protection for areas that are prone to flooding, erosion and other storm damage. This plan would replace the numerous uncoordinated measures that have been used to protect individual properties with a comprehensive management approach that considers the entire coastal system. The objective of the study, therefore, is to evaluate and recommend a long-term, comprehensive plan for storm damage reduction, which maintains, preserves or enhances the natural resources. The New York State Department of Environmental Conservation (DEC) is the Corps' non-Federal partner.



- The Reformulation Study approaches the issue of storm damage along Suffolk County's south shore in a different way than previous studies:
- It looks at the study area as a comprehensive coastal system and evaluates alternatives for their impacts at specific locations and on the entire system.
- The study team includes the participation of all concerned Federal, State and local government agencies, as well as major scientific and environmental organizations.
- It includes state-of-the-art engineering, environmental, economic and planning studies to provide information about historic conditions and to model possible future conditions. To ensure objectivity and high standards, these studies are being independently reviewed.

The Study Process

The 83-mile long Fire Island Inlet to Montauk Point study area contains many different physical environments and distinct geographic areas, each having individual problems and needs. The planning process consists of a series of steps to identify problems, propose and evaluate alternative solutions, and ultimately identify a recommended plan. The development of alternative plans will combine different measures in different locations of the study area. This approach offers both flexibility and opportunities for long-term decisions about what works best for each location, as well as for the entire study area. While the specific solutions will vary, the following basic components are being evaluated at all locations:

- Coastal Management Measures (inlet modifications or breach contingency plans)
- Storm Damage Reduction Options
- Locally Implemented Floodplain Management Plans
- Coastal management measures will address issues such as the condition of inlets including the need for sand bypassing, and emergency response to storm events.

This assessment may result in adopting new procedures for maintaining navigation inlets or responding to breaches in the barrier system. Storm damage reduction options may include structural and non-structural options, and may supplement the effectiveness of coastal management measures. The study approach is to identify cost-effective regional or coastal protection features, such as beach and dune fill and groin modification. Concurrently, the direct protection of flood plain development through measures such as flood proofing or structure acquisition will be evaluated and ultimately integrated into a comprehensive plan.

An additional element of the FIMP project will be a Floodplain Management Plan to ensure the future effectiveness of the Coastal Management Measures or the Storm Damage Reduction features. The elements of the Floodplain Management Plan will be developed in parallel with the development of the Coastal Management Measures and Storm Damage Reduction features.

While Coastal Management and Storm Damage reduction features may be implemented with federal funding support, the Floodplain Management Plan is implemented at the state, county and community level.

Specific details on the implementation of dune restoration, beach re-nourishment and other projects to address specific areas of coastal erosion within the County are identified in an ACOE document entitled "FIMP Tentative Federal Selected Plan – Shoreline Reach Features (8-12-13)" presented in the Coastal Erosion hazard profile in Section 5.



Local Waterfront Revitalization Program

The Waterfront Revitalization of Coastal Areas and Inland Waterways Act offers local governments the opportunity to participate in the State's Coastal Management Program (CMP) (pdf) on a voluntary basis by preparing and adopting a Local Waterfront Revitalization Program (LWRP), providing more detailed implementation of the State's CMP through use of such existing broad powers as zoning and site plan review. When an LWRP is approved by the New York State Secretary of State, State agency actions are required to be consistent with the approved LWRP to the maximum extent practicable. When the federal government concurs with the incorporation of an LWRP into the CMP, federal agency actions must be consistent with the approved addition to the CMP.

Title 19 of NYCRR Part 600, 601, 602, and 603 provide the rules and regulations that implement each of the provisions of the Waterfront Revitalization of Coastal Areas and Inland Waterways Act including but not limited to the required content of an LWRP, the processes of review and approval of an LWRP, and LWRP amendments.

A Local Waterfront Revitalization Program consists of a planning document prepared by a community, and the program established to implement the plan. An LWRP may be comprehensive and address all issues that affect a community's entire waterfront, or it may address the most critical issues facing a significant portion of its waterfront.

An LWRP follows a step-by-step process by which a community can advance community planning from a vision to implementation, which is described in the Making the Most of Your Waterfront Guidebook (pdf) developed by the Department of State. Additionally, the Opportunities Waiting to Happen Guidebook (pdf), developed by the Department of State, provides help to assist all New Yorkers to redevelop abandoned buildings as part of the overall vision for their community.

In addition to landward development, water uses are subject to an ever-increasing array of use conflicts. These include conflicts between passive and active types of recreation, between commercial and recreational uses, and between all uses and the natural resources of a harbor. Increases in recreational boating, changes in waterfront uses, coastal hazards what to do with dredged materials, competition for space, climate change, and multiple regulating authorities, all make effective harbor management complex. These conflicts and a lack of clear authority to solve them have resulted in degraded natural and cultural characteristics of many harbors, and their ability to support a range of appropriate uses. As part of an LWRP, a harbor management plan can be used to analyze and resolve these conflicts and issues.

An approved LWRP reflects community consensus and provides a clear direction for appropriate future development. It establishes a long-term partnership among local government, community-based organizations, and the State. Also, funding to advance preparation, refinement, or implementation of Local Waterfront Revitalization Programs is available under Title 11 of the New York State Environmental Protection Fund Local Waterfront Revitalization Program (EPF LWRP) among other sources.

In addition, State permitting, funding, and direct actions must be consistent, to the maximum extent practicable, with an approved LWRP. Within the federally defined coastal area, federal agency activities are also required to be consistent with an approved LWRP. This "consistency" provision is a strong tool that helps ensure all government levels work in unison to build a stronger economy and a healthier environment.



Federal Hazard Mitigation Funding Opportunities

Federal mitigation grant funding is available to all communities with a current hazard mitigation plan (this plan); however most of these grants require a “local share” in the range of 10-25% of the total grant amount. The FEMA mitigation grant programs are described below.

Hazard Mitigation Grant Program (HMGP)

The HMGP is a post-disaster mitigation program. It is made available to states by FEMA after each Federal disaster declaration. The HMGP can provide up to 75% funding for hazard mitigation measures. The HMGP can be used to fund cost-effective projects that will protect public or private property in an area covered by a federal disaster declaration or that will reduce the likely damage from future disasters. Examples of projects include acquisition and demolition of structures in hazard prone areas, flood-proofing or elevation to reduce future damage, minor structural improvements and development of state or local standards. Projects must fit into an overall mitigation strategy for the area identified as part of a local planning effort. All applicants must have a FEMA-approved Hazard Mitigation Plan (this plan).

Applicants who are eligible for the HMGP are state and local governments, certain nonprofit organizations or institutions that perform essential government services, and Indian tribes and authorized tribal organizations. Individuals or homeowners cannot apply directly for the HMGP; a local government must apply on their behalf. Applications are submitted to NYSOEM and placed in rank order for available funding and submitted to FEMA for final approval. Eligible projects not selected for funding are placed in an inactive status and may be considered as additional HMGP funding becomes available.

Flood Mitigation Assistance (FMA) Program

The FMA combines the previous Repetitive Flood Claims and Severe Repetitive Loss Grants into one grant program. FMA provides funding to assist states and communities in implementing measures to reduce or eliminate the long-term risk of flood damage to buildings, manufactured homes, and other structures insurable under the NFIP. The FMA is funded annually; no federal disaster declaration is required. Only NFIP insured homes and businesses are eligible for mitigation in this program. Funding for FMA is very limited and, as with the HMGP, individuals cannot apply directly for the program. Applications must come from local governments or other eligible organizations. The federal cost share for an FMA project is 75%. At least 25% of the total eligible costs must be provided by a non-federal source. Of this 25%, no more than half can be provided as in-kind contributions from third parties. At minimum, a FEMA-approved local flood mitigation plan is required before a project can be approved. FMA funds are distributed from FEMA to the state. NYSOEM serves as the grantee and program administrator for FMA.

Pre-Disaster Mitigation (PDM) Program

The PDM program is an annually funded, nationwide, competitive grant program. No disaster declaration is required. Federal funds will cover 75% of a project’s cost up to \$3 million. As with the HMGP and FMA, a FEMA-approved local Hazard Mitigation Plan is required to be approved for funding under the PDM program.

Federal and State Disaster and Recovery Assistance Programs

Following a disaster, various types of assistance may be made available by local, state and federal governments. The types and levels of disaster assistance depend on the severity of the damage and the declarations that result from the disaster event. Among the general types of assistance that may be provided should the President of the United States declare the event a major disaster are the following:



Individual Assistance (IA)

IA provides help for homeowners, renters, businesses and some non-profit entities after disasters occur. This program is largely funded by the U.S. Small Business Administration. For homeowners and renters, those who suffered uninsured or underinsured losses may be eligible for a Home Disaster Loan to repair or replace damaged real estate or personal property. Renters are eligible for loans to cover personal property losses. Individuals may borrow up to \$200,000 to repair or replace real estate, \$40,000 to cover losses to personal property and an additional 20% for mitigation. For businesses, loans may be made to repair or replace disaster damages to property owned by the business, including real estate, machinery and equipment, inventory and supplies. Businesses of any size are eligible. Non-profit organizations such as charities, churches, private universities, etc. are also eligible. An Economic Injury Disaster Loan provides necessary working capital until normal operations resume after a physical disaster. These loans are restricted, by law, to small businesses only.

Public Assistance (PA)

PA provides cost reimbursement aid to local governments (state, county, local, municipal authorities and school districts) and certain non-profit agencies that were involved in disaster response and recovery programs or that suffered loss or damage to facilities or property used to deliver government-like services. This program is largely funded by FEMA with both local and state matching contributions required.

Small-Business Administration (SBA) Loans

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.

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.

Social Services Block Grant

To address the needs of critical health and human service providers and the populations they serve, the State of New York will receive a total of \$235.4 million in federal Superstorm Sandy Social Services Block Grant funding. The State will distribute \$200,034,600 through a public and transparent solicitation for proposals. The State is also allocating \$35.4 million in State Priority Projects, using the SSBG funding. Sandy SSBG resources are dedicated to covering necessary expenses resulting from Superstorm Sandy, including social, health and mental health services for individuals, and for repair, renovation and rebuilding of health care facilities, mental hygiene facilities, child care facilities and other social services facilities.

Department of Homeland Security

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 FY 2013 HSGP supports core capabilities across the five mission area of Prevention, Protection, Mitigation, Response, and Recovery based on allowable cost. HSGP is comprised 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.

Community Development Block Grants (CDBG)

CDBG are federal funds intended to provide low and moderate-income households with viable communities, including decent housing, as suitable living environment, and expanded economic opportunities. Eligible activities include community facilities and improvements, roads and infrastructure, housing rehabilitation and preservation, development activities, public services, economic development, planning, and administration. Public improvements may include flood and drainage improvements. In limited instances, and during the times of “urgent need” (e.g. post disaster) as defined by the CDBG National Objectives, CDBG funding may be used to acquire a property located in a floodplain that was severely damaged by a recent flood, demolish a structure severely damaged by an earthquake, or repair a public facility severely damaged by a hazard event.

Community Development Block Grants – Disaster Recovery (CDBG-DR)

On September 27, 2013, the New York State Homes & Community Renewal Office of Community Renewal finalized the Suffolk County Floodplain Managing document in accordance with Executive Order 11988. The State of New York was awarded funding, to be administered by the New York State Homes and Community Renewal (HCR), to provide financial assistance to homeowners whose residences were substantially damaged by storms Sandy, Lee and Irene within various New York State Counties, including Suffolk County. HCR is awarding this funding in accordance with the State of New York Action Plan For Community Development Block Grant Program – Disaster Recovery (Action Plan). The Action Plan provides for, among other things, home buyout and acquisition assistance to owners of 1-2 family homes. This Floodplain Management Document applies to homes in Suffolk County, New York (Action Plan Activities). “Buyouts” involve the purchase of properties located within a floodplain. Structures and improvements will be removed, and the parcel will be allowed to return to its natural state in perpetuity. “Acquisitions” also involve purchase of properties, however, the specific details of reuse will be determined based on site specific conditions. Reuse will be in accordance with local zoning and land use plans. This action is of fundamental importance in assisting landowners with damaged property.

At this time, there are defined locations within Suffolk County where buyouts are proposed to occur. The locations are identified as specific storm damaged neighborhoods within the towns/villages of: Strong’s Creek, Lindenhurst, Venetian Shores, Oakdale, Sayville, Bayport, Patchogue, Mastic Beach, and Flanders. All of these Buyout areas are located along or near the south shore of Long Island, within Suffolk County, with the exception of Flanders. Flanders is located toward the east end of the county, overlooking Great Peconic Bay.

Homeownership Repair and Rebuilding Fund

The Homeownership Repair and Rebuilding Fund provides grants of up to an additional \$10,000 to eligible homeowners who have already qualified for FEMA housing assistance's maximum grant (\$31,900) and will not receive other assistance from private insurance or government agencies that would duplicate the grant's funding. The HRRF includes \$100 million dedicated to help homeowners affected by Sandy and was provided directly from the State of New York.

Empire State Relief Fund

The Empire State Relief Fund is dedicated to providing resources to help recover from Hurricane Sandy and rebuild and restore homes. In many cases, New Yorkers face a substantial gap between the cost of repair or replacement of their home and the funds available to them to cover this cost. The Empire State Relief Fund will focus on long-term residential housing assistance to help fill the funding gap by



providing up to \$10,000 in additional grants. Homeowners eligible for the funding must have received the maximum FEMA grant assistance as well as the maximum funding from HRRF (\$41,900). The ESRF is funded through donations where 100% of the money is dedicated to NYS housing programs.

Federal Highway Administration - Emergency Relief

The Federal Highway Administration Emergency Relief is a grant program that may be used for repair or reconstruction of Federal-aid highways and roads on Federal lands which have suffered serious damage as a result of a disaster. NYS is serving as the liaison between local municipalities and FHWA. \$30 Million in funding was released in October-November of 2012 for emergency repair work conducted in first 180 days following Hurricane Sandy. Another \$220 Million in additional funding became available February 2013.

Federal Transit Administration - Emergency Relief

The Federal Transit Authority Emergency Relief is a grant program that funds capital projects to protect, repair, reconstruct, or replace equipment and facilities of public transportation systems. Administered by the Federal Transit Authority at the U.S. Department of Transportation and directly allocated to MTA and Port Authority. This transportation-specific fund was created as an alternative to FEMA PA. Currently, a total of \$5.2 Billion has been allocated to NYS-related entities.

Hurricane Sandy Coastal Resiliency Competitive Grant Program

Interior Secretary Sally Jewell has announced that competitive grants are now available from the Hurricane Sandy Coastal Resiliency Competitive Grant Program. The program, funded by the Hurricane Sandy disaster relief appropriation, is administered by NFWF.

The Hurricane Sandy Coastal Resiliency Competitive Grants Program will award more than \$100 million in grants throughout the region affected by Hurricane Sandy, including Connecticut, Delaware, the District of Columbia, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, Virginia, and West Virginia—the states that officially declared a natural disaster as a result of the storm event.

Grants from \$100,000 to \$5 million will be awarded to projects that assess, restore, enhance or create wetlands, beaches and other natural systems to better protect communities as well as fish and wildlife species and habitats from the impacts of future storms and naturally occurring events.

New York State Department of Transportation (NYSDOT)

Damaged Roads and Signals

High winds, storm tidal surge and flooding caused significant damage to NYSDOT facilities, roads and local transportation infrastructure in the Hudson Valley, Long Island and New York City. Repair and replacement will be necessary for these facilities and infrastructure. In some cases, municipalities will be direct applicants; therefore, not all FEMA-eligible costs are included for damaged infrastructure.

Scour Around Culverts and Bridges

Scour has some of the most significant and destructive effects on roadway culverts and bridges. It is the result of fast flowing water's erosive action, which erodes and carries away foundation materials (sand and rocks from around and beneath abutments, piers, foundations and embankments). Water's intensity and velocity can quickly compromise the integrity of roadway culverts and bridges and is one of three main causes of bridge failures (the other two are collision and overloading). Superstorm Sandy, Tropical



Storm Lee, and Hurricane Irene each exposed the vulnerability of the State's bridges and culverts to scour, as the storms weakened or damaged these structures across the State.

There are 20,000 bridges in New York State, with 91 state bridges, 731 local bridges and 431 culverts at risk of scour¹⁸. This program will address scoured and critical roadway culverts and bridges (Exhibit 13). It will provide replacements and/or permanent scour retrofits to facilities that are unable to protect the transportation system from storm events. Exhibit 14 outlines the number of state and local bridges and large state culverts it will focus on in the various regions. \$500M will be made available for this critical work.

Emergency Watershed Protection Program

The purpose of the Emergency Watershed Protection Program (EWP) was established by Congress to respond to emergencies created by natural disasters. The EWP Program is designed to help people and conserve natural resources by relieving imminent hazards to life and property caused by floods, fires, drought, windstorms, and other natural occurrences. The U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS) administers the EWP Program; EWP-Recovery, and EWP-Floodplain Easement (FPE).

EWP - Recovery

The EWP Program is a recovery effort program aimed at relieving imminent hazards to life and property caused by floods, fires, windstorms, and other natural occurrences. Public and private landowners are eligible for assistance, but must be represented by a project sponsor that must be a legal subdivision of the State, such as a city, county, township or conservation district, and Native American Tribes or Tribal governments. NRCS may pay up to 75 percent of the construction cost of emergency measures. The remaining 25 percent must come from local sources and can be in the form of cash or in-kind services.

EWP work is not limited to any one set of measures. It is designed for installation of recovery measures to safeguard lives and property as a result of a natural disaster. NRCS completes a Damage Survey Report (DSR) which provides a case-by-case investigation of the work necessary to repair or protect a site.

Watershed impairments that the EWP Program addresses are debris-clogged stream channels, undermined and unstable streambanks, jeopardized water control structures and public infrastructures, wind-borne debris removal, and damaged upland sites stripped of protective vegetation by fire or drought.

EWP - FPE

Privately-owned lands or lands owned by local and state governments may be eligible for participation in EWP-FPE. To be eligible, lands must meet one of the following criteria:

- Lands that have been damaged by flooding at least once within the previous calendar year or have been subject to flood damage at least twice within the previous 10 years
- Other lands within the floodplain are eligible, provided the lands would contribute to the restoration of the flood storage and flow, provide for control of erosion, or that would improve the practical management of the floodplain easement
- Lands that would be inundated or adversely impacted as a result of a dam breach

EWP-FPE easements are restored to the extent practicable to the natural environment and may include both structural and nonstructural practices to restore the flood storage and flow, erosion control, and improve the practical management of the easement.



Structures, including buildings, within the floodplain easement must be demolished and removed, or relocated outside the 100-year floodplain or dam breach inundation area.

6.4.5 Fiscal Capabilities – Local

Emergency Solutions Grant (ESG)

The Suffolk County Consortium continues to work with non-profit agencies in the provision of homeless housing and supportive services to implement programs that address the need for emergency shelters. The Emergency Solutions Grant allows the County to provide direct funding to non-profit organizations to assist with the operation of emergency shelters.

In addition to shelter funding, and in order to prevent families and individuals from becoming homeless in the first place, the Suffolk County Community Development Office utilizes Emergency Solutions Grant funds to assist with a homeless prevention program.

Suffolk County Farmland Preservation Program

The Nation's first (1974) purchase of development rights (PDR) program to preserve farmland, the Suffolk County Farmland program has seen 10,508 acres come into the program to date. Land stays in private ownership and the County acquires non-agricultural development rights. These rights are valued as the difference between the full market value of property for its "highest and best use" (full value) minus the value of the agricultural rights (residual value). The owner files property covenants similar to a conservation easement limiting the use of the property to agricultural production.

The department has further information on the program including an historical account, sample deed covenants, local law establishing selection procedures, structure approvals required in future, and maps locating PDR's in Suffolk County. The department also maintains maps and records for the Suffolk County Agricultural District program, a tax abatement program to relieve active farm areas of property tax burdens for short 8 year cycles, which also affords farms protection under New York State "right-to-farm" laws.

Beach Erosion Control and Erosion Control Districts

Several municipalities within the county have established Beach Erosion Control Districts (e.g. Bridgehampton Erosion Control District and Sagaponack Erosion Control District) for the specific purpose of funding beach re-nourishment in those locations.

Community Preservation Fund (CPF)

The Community Preservation Fund is an open-space funding mechanism whereby a 2% tax is imposed on real property transactions for the specific purposes of funding the acquisition and protection of open space parcels within a local jurisdiction. This funding could be used to meet the local share requirements for acquisitions under FEMA's mitigation grant programs.

State-enabling legislation requires the Town Board to establish a Community Preservation Fund Advisory Board. This Advisory Board reviews recommendations on proposed acquisitions of interest in real property using monies from the Transfer Tax, commonly known as the Community Preservation Fund. As required, this Board consists of seven town residents who serve without compensation. This Board acts in an advisory capacity to the Town Board.



6.5 Mitigation Strategy Development and Update

6.5.1 Update of Municipal Mitigation Strategies

To evaluate progress on local mitigation actions, each jurisdiction with actions in previous DMA2000 or related plans, including those who participated in the 2008 Suffolk County HMP, was provided with a Mitigation Action Plan Review Worksheet. Each worksheet was pre-populated with those actions identified for their jurisdiction in the prior plan. For each action, municipalities were asked to indicate the status of each action (“No Progress/Unknown”, “In Progress/Not Yet Complete”, “Continuous”, “Completed”, “Discontinued”), and provide review comments on each. Municipalities were requested to quantify the extent of progress, and provide reasons for the level progress or why actions were discontinued. Each jurisdictional annex provides a table identifying their prior mitigation strategy, the status of those actions and initiatives, and their disposition within their updated strategy.

Local mitigation actions identified as “Complete”, and those actions identified as “Discontinued”, have been removed from the updated strategies. Those local actions that municipalities identified as “No Progress/Unknown”, “In Progress/Not Yet Complete” as well as certain actions/initiatives identified as “Continuous”, have been carried forward in their local updated mitigation strategies. Municipalities were asked to provide further details on these projects to help better define the projects, identify benefits and costs, and improve implementation.

Certain continuous or ongoing strategies represent programs that are, or since the 2008 plan have become, fully integrated into the normal operational and administrative framework of the community. Such programs and initiatives have been identified within the Capabilities section of each annex, and removed from the updated mitigation strategy.

At the Kick-Off and subsequent planning meetings, all participating municipalities were provided a survey (“Municipal Information Worksheet”) to further assist in identifying mitigation activities completed, ongoing and potential/proposed. As new additional potential mitigation actions, projects or initiatives became evident during the plan update process, including as part of the risk assessment update and as identified through the public and stakeholder outreach process (see Section 3), communities were made aware of these either through direct communication (local meetings, email, phone) or via their draft municipal annexes.

The County and municipalities identified projects that have been submitted to NYSOEM for grant funding, including projects for which Letters of Intent (LOI) and grant applications have been submitted under the New York Rising Hazard Mitigation Grant Program. In general, LOI/application-based projects submitted directly by the communities are identified within their updated mitigation strategies. Communities may also have included other LOI/application-based projects submitted by special-purpose districts (e.g. fire or school districts), local utilities, and hospitals and health care entities.

Further, a number of the most Hurricane Sandy-impact communities located within seven of the participating Suffolk County jurisdictions are currently participating in the New York Rising Community Redevelopment (NYRCR) Program. As provided by the community, or directly from their State NYRCR representatives as of the finalization of this plan update (end of March, 2014), these projects have been incorporated into the updated local mitigation strategies.

To help support the selection of an appropriate, risk-based mitigation strategy, each annex provided a summary of hazard vulnerabilities identified during the plan update process, either directly by municipal representatives, through review of available county and local plans and reports, and through the hazard profiling and vulnerability assessment process.



Beginning in August 2013, members of the Planning Committee and contract consultant worked directly with each jurisdiction (phone, email, local support meetings) to assist with the development and update of their annex and include mitigation strategies, focusing on identifying well-defined, implementable projects with a careful consideration of benefits (risk reduction, losses avoided), costs, and possible funding sources (including mitigation grant programs).

Concerted efforts were made to assure that municipalities develop updated mitigation strategies that included activities and initiatives covering the range of mitigation action types described in recent FEMA planning guidance (FEMA “Local Mitigation Planning Handbook” March 2013), specifically:

- Local Plans and Regulations – These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.
-
- Structure and Infrastructure Project- These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct manmade structures to reduce the impact of hazards.
-
- Natural Systems Protection – These are actions that minimize damage and losses, and also preserve or restore the functions of natural systems.
-
- Education and Awareness Programs – These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as the National Flood Insurance Program and Community Rating System, StormReady (NOAA) and Firewise (NFPA) Communities.

In consideration of federal and state mitigation guidance, the Planning Committee recognized that all municipalities would benefit from the inclusion of certain mitigation initiatives. These include initiatives to address vulnerable public and private properties, including RL and SRL properties; initiatives to support continued and enhanced participation in the NFIP; improved public education and awareness programs; and initiatives to support countywide and regional efforts to build greater local mitigation capabilities.

During January 2014, a mitigation strategy workshop conducted by FEMA Region II representatives was held for all participating jurisdictions to support the identification, evaluation and prioritization of local mitigation strategies, as well as how to present and document this process within the plan. Based on FEMA’s guidance and recommendations provided at this workshop and otherwise, the following significant modifications to the mitigation strategy identification and update process and documentation were made:

- An overarching effort has been made to better focus local mitigation strategies to clearly defined, readily actionable projects and initiatives that meet the definition or characteristics of mitigation. Broadly defined mitigation objectives have been eliminated from the updated strategy unless accompanied by discrete actions, projects or initiatives.



- Certain continuous or ongoing strategies that represent programs that are, or since the 2008 plan have become, fully integrated into the normal operational and administrative framework of the community have been identified within the Capabilities section of each annex, and removed from the updated mitigation strategy.
- Where applicable, mitigation projects have been documented with an Action Worksheet, based on FEMA’s Action Worksheet templates and examples provided at the January 2014 mitigation strategy workshop and within recent guidance documents.

6.5.2 Update of County Mitigation Strategy

The update of the county-level mitigation strategies included a review of progress on the actions/initiatives identified in the 2008 HMP, using a process similar to that used to review municipal mitigation strategy progress. The County, through their various department representatives, were provided with a Mitigation Action Plan Review Worksheet identifying all of the county-level actions/initiatives from the 2008 plan, including any progress as identified in the 2009 Progress Report. For each action, relevant county representatives were asked to indicate the status of each action (“No Progress/Unknown”, “In Progress/Not Yet Complete”, “Continuous”, “Completed”, “Discontinued”), and provide review comments on each.

Projects/initiatives identified as “Complete”, as well as though actions identified as “Discontinued”, have been removed from this plan update. Those actions the county has identified as “No Progress/Unknown”, “In Progress/Not Yet Complete” or “Continuous” have been carried forward in the County’s updated mitigation strategy.

Throughout the course of the plan update process, additional regional and county-level mitigation actions have been identified. These were identified through:

- Review of the results and findings of the updated risk assessment;
- Review of available regional and county plans, reports and studies;
- Direct input from county departments and other county and regional agencies, including:
 - Department of Fire Rescue and Emergency Services
 - Department of Economic Development and Planning
 - Department of Public Works
 - Department of Parks
 - Department of Social Services
 - Health Services
 - Police Department
 - Soil and Water Conservation District
 - Cornell Cooperative Extension
- Input received through the public and stakeholder outreach process.

6.5.3 Mitigation Strategy Evaluation and Prioritization

Section 201.c.3.iii of 44 CFR requires an action plan describing how the actions identified will be prioritized.

Recent FEMA planning guidance (March 2013) identifies a modified STAPLEE (Social, Technical, Administrative, Political, Legal, Economic, and Environmental) mitigation action evaluation methodology that uses a set of 10 evaluation criteria suited to the purposes of hazard mitigation strategy evaluation. This method provides a systematic approach that considers the opportunities and constraints



of implementing a particular mitigation action. The January mitigation workshop presented by FEMA representatives further amplified these evaluation criteria, and indicated that communities may want to consider other factors.

Based on this guidance, the Steering and Planning Committees have developed and applied an action evaluation and prioritization methodology which includes an expanded set of fourteen (14) criteria to include the consideration of cost-effectiveness, availability of funding, anticipated timeline, and if the action addresses multiple hazards.

The fourteen (14) evaluation/prioritization criteria used in the 2014 update process are:

1. Life Safety – How effective will the action be at protecting lives and preventing injuries?
2. Property Protection – How significant will the action be at eliminating or reducing damage to structures and infrastructure?
3. Cost-Effectiveness – Are the costs to implement the project or initiative commensurate with the benefits achieved?
4. 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.
5. Political – Is there overall public support for the mitigation action? Is there the political will to support it?
6. Legal – Does the municipality have the authority to implement the action?
7. Fiscal - Can the project be funded under existing program budgets (i.e., is this initiative currently budgeted for)? Or would it require a new budget authorization or funding from another source such as grants?
8. Environmental – What are the potential environmental impacts of the action? Will it comply with environmental regulations?
9. 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?
10. Administrative – Does the jurisdiction have the personnel and administrative capabilities to implement the action and maintain it or will outside help be necessary?
11. Multi-hazard – Does the action reduce the risk to multiple hazards?
12. Timeline - Can the action be completed in less than 5 years (within our planning horizon)?
13. Local Champion – Is there a strong advocate for the action or project among the jurisdiction’s staff, governing body, or committees that will support the action’s implementation?
14. Other Local Objectives – Does the action advance other local objectives, such as capital improvements, economic development, environmental quality, or open space preservation? Does it support the policies of other plans and programs?



Participating jurisdictions were asked to use these criteria to assist them in evaluating and prioritizing mitigation actions identified in the 2014 update. Specifically, for each mitigation action, the jurisdictions were asked to assign a numeric rank (-1, 0, or 1) for each of the 14 evaluation criteria, defined as follows:

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

Further, jurisdictions were asked to provide a brief summary of the rationale behind the numeric rankings assigned, as applicable. The numerical results of this exercise were then used by each jurisdiction 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 mitigation actions, jurisdictions may have additional considerations that could influence their overall prioritization of mitigation actions.

It is noted that jurisdictions may be carrying forward mitigation actions and initiatives from prior mitigation strategies that were prioritized using a different, but not necessarily contrary, approach. Mitigation actions in the 2008 iteration of the Suffolk County plan were prioritized according to the following criteria:

- **High Priority:** A project that meets multiple plan goals and objectives, benefits exceed cost, has funding secured under existing programs or authorizations, or is grant-eligible, and can be completed in 1 to 5 years (short-term project) once project is funded.
- **Medium Priority:** A project that meets at least one plan goal and objective, benefits exceed costs, funding has not been secured and would require a special funding authorization under existing programs, grant eligibility is questionable, and can be completed in 1 to 5 years once project is funded.
- **Low Priority:** A project that will mitigate the risk of a hazard, benefits exceed costs, funding has not been secured, and project is not grant-eligible and/or timeline for completion is considered long-term (5 to 10 years).

It is important to note that certain initiatives from the 2008 Suffolk County HMP and other local HMPs are being carried forward in their updated strategies, with or without modification. These initiatives were previously prioritized using approaches that may be different from that used in this update process; however it is reasonable to assume that all evaluation and prioritization approaches included similar considerations (e.g. mitigation effectiveness, technical and administrative feasibility, cost-effectiveness, etc.)

At their discretion, jurisdictions carrying forward prior initiatives were encouraged to re-evaluate their priority, particularly if conditions that would affect the prioritization criteria had changed. Where communities have determined that their original priority ranking for “carry forward” initiatives remained valid, their earlier priority ranking is indicated on the prioritization table, however the 2014 criteria ratings are indicated with a null “-” marking.

For the 2014 plan update there has been an effort to develop more clearly defined and action-oriented mitigation strategies. These local strategies include projects and initiatives that have been well-vetted, and are seen by the community as the most effective approaches to advance their local mitigation goals and objectives within their capabilities. As such, many of the initiatives in the updated mitigation strategy were ranked as “High” or “Medium” priority, as reflective of the community’s clear intent to



implement, available resources notwithstanding. In general, initiatives that would have had “low” priority rankings were appropriately screened out during the local action evaluation process.

6.5.4 Benefit/Cost Review

Section 201.6.c.3iii of 44CFR requires the prioritization of the action plan to emphasize the extent to which benefits are maximized according to a cost/benefit review of the proposed projects and their associated costs. Stated otherwise, cost-effectiveness is one of the criteria that must be applied during the evaluation and prioritization of all actions comprising the overall mitigation strategy.

The benefit/cost review applied in for the evaluation and prioritization of projects and initiatives in this plan update process was qualitative; that is, it does not include the level of detail required by FEMA for project grant eligibility under the Hazard Mitigation Grant Program (HMGP) and Pre-Disaster Mitigation (PDM) grant program. For all actions identified in the local strategies, jurisdictions have identified both the costs and benefits associated with project, action or initiative.

Costs are the total cost for the action or project, and may include administrative costs, construction costs (including engineering, design and permitting), and maintenance costs.

Benefits are the savings from losses avoided attributed to the implementation of the project, and may include life-safety, structure and infrastructure damages, loss of service or function, and economic and environmental damage and losses.

When available, jurisdictions were asked to identify the actual or estimated dollar value for project costs and associated benefits. Having defined costs and benefits allows a direct comparison of benefits versus costs, and a quantitative evaluation of project cost-effectiveness. Often, however, numerical costs and/or benefits have not been identified, or may be impossible to quantitatively assess.

For the purposes of this planning process, jurisdictions were tasked with evaluating project cost-effectiveness with both costs and benefits assigned to “High”, “Medium” and “Low” ratings. Where quantitative estimates of costs and benefits were available, ratings/ranges were defined as:

Low = < \$10,000 *Medium* = \$10,000 to \$100,000 *High* = > \$100,000

Where quantitative estimates of costs and/or benefits were not available, qualitative ratings using the following definitions were used:

Table 6-5. Qualitative Cost and Benefit Ratings

Costs	
High	Existing funding levels are not adequate to cover the costs of the proposed project, and implementation would require an increase in revenue through an alternative source (e.g., bonds, grants, and fee increases).
Medium	The project could be implemented with existing funding but would require a re-apportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years.
Low	The project could be funded under the existing budget. The project is part of or can be part of an existing, ongoing program.
Benefits	
High	Project will have an immediate impact on the reduction of risk exposure to life and property.
Medium	Project will have a long-term impact on the reduction of risk exposure to life and property or will provide an immediate reduction in the risk exposure to property.
Low	Long-term benefits of the project are difficult to quantify in the short term.



Using this approach, projects with positive benefit versus cost ratios (such as high over high, high over medium, medium over low, etc.) are considered cost-effective.

For some of the Suffolk County initiatives identified, the Planning Committee may seek financial assistance under FEMA's HMGP or Hazard Mitigation Assistance (HMA) programs. These programs require detailed benefit/cost analysis as part of the application process. These analyses will be performed when funding applications are prepared, using the FEMA BCA model process. The Planning Committee is committed to implementing mitigation strategies with benefits that exceed costs. For projects not seeking financial assistance from grant programs that require this sort of analysis, the Planning Committee reserves the right to define "benefits" according to parameters that meet its needs and the goals and objectives of this plan.