



9.1 Suffolk County

This section presents the jurisdictional annex for Suffolk County. It includes resources and information to assist public and private sectors to reduce losses from future hazard events. This annex is not guidance of what to do when a disaster occurs. Rather, this annex concentrates on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. This annex includes a general overview of the municipality and who in the County participated in the planning process; an assessment of Suffolk County’s risk and vulnerability; the different capabilities utilized in the County; and an action plan that will be implemented to achieve a more resilient community.

9.1.1 Hazard Mitigation Planning Team

The following individuals have been identified as Suffolk County’s hazard mitigation plan primary and alternate points of contact.

Table 9.1-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: Jeanne Lenz, PDM Project Manager Address: 102 East Avenue Yaphank, NY 11980 Phone Number: 631-852-4909 Email: Jeanne.lez@suffolkcountyny.gov	Name/Title: Ken Kutner, PDM Project Aide Address: 102 East Avenue Yaphank, NY 11980 Phone Number: 631-852-4908 Email: Kenneth.kutner@suffolkcountyny.gov

9.1.2 County Profile

Section 3 (County Profile), Volume I of this HMP includes details on Suffolk County’s population, location, climate, history, growth, and development.

9.1.3 Growth/Development Trends

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to understanding a jurisdiction’s overall risk to its hazards of concern. Table 9.1-2 summarizes recent and expected future development trends, including major residential/commercial development and major infrastructure development. The figures at the end of this annex illustrate the geographically-delineated hazard areas and the location of potential new development, where available. The recent and anticipated development depicted on these figures excludes the Suffolk County wastewater upgrades; refer to Section 4 (County Profile) for additional information on this development.

Table 9.1-2. Recent and Expected Future Development

Type of Development	2014	2015	2016	2017	2018	2019
Number of Building Permits for New Construction Issued Since the Previous HMP* (within regulatory floodplain/ Outside regulatory floodplain)						
Information on building permits for new construction can be found in Sections 9.2 – 9.46 in the jurisdictional annexes.						
Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zone(s)*	Description / Status of Development	
Recent Major Development and Infrastructure from 2015 to Present						



Type of Development	2014	2015	2016	2017	2018	2019
Information on major development can be found in Sections 9.2 – 9.46 in the jurisdictional annexes.						
Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years						
Information on major development can be found in Sections 9.2 – 9.46 in the jurisdictional annexes.						

SFHA Special Flood Hazard Area (1% flood event)

* Only location-specific hazard zones or vulnerabilities identified.

9.1.4 Capability Assessment

Suffolk County performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Section 5 (Capability Assessment) describes the components included in the capability assessment and their significance for hazard mitigation planning. This section summarizes the following findings of the assessment:

- An assessment of legal and regulatory capabilities.
- Development and permitting capabilities.
- An assessment of fiscal capabilities.
- An assessment of education and outreach capabilities.
- Information on National Flood Insurance Program (NFIP) compliance.
- Classification under various community mitigation programs.
- The community’s adaptive capacity for the impacts of climate change.

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into the day-to-day local government operations. As part of this planning effort, planning/policy documents were reviewed, and each jurisdiction was surveyed to obtain a better understanding of their progress in plan integration. Areas with current mitigation integration are summarized in Capability Assessment (Section 9.1.4). Suffolk County identified specific integration activities that will be incorporated into municipal procedures are included in the updated mitigation strategy. Appendix X provides the results of the planning/policy document review and the answers to integration survey questions.

Planning, Legal, and Regulatory Capability

The table below summarizes the regulatory tools that are available to Suffolk County and where hazard mitigation has been integrated.

Table 9.1-3. Planning, Legal, and Regulatory Capability

	Do you have this? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Department / Agency Responsible	State Mandated	Has this been integrated?	
						If no - can it be a mitigation action?	
Codes, Ordinances, & Requirements							
Building Code	Yes	Building Construction, Chapter 44, Administrative Code of Suffolk County; Fire Prevention, Chapter 471, Administrative Code of Suffolk County	County	Building Inspector; Fire Marshall	Yes	Yes	-



	Do you have this? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Department / Agency Responsible	State Mandated	Has this been integrated? If no - can it be a mitigation action?	
Comment: The Building Construction chapter regulates constructions within the County. Chapter 471 outlines mitigations steps to reduce loss of life and property damage by fire.							
Zoning Code	Yes	See comment.	County/Local	Suffolk County Planning Committee	No	No	-
Comment: Suffolk County Planning Committee (SCPC) has non-binding review power over municipal zoning/subdivision actions and proposed site plans that occur within jurisdictional boundaries of SCPC.							
Subdivisions	Yes	See comment.	County/Local	Suffolk County Planning Committee	No	No	-
Comment: Suffolk County Planning Committee (SCPC) has non-binding review power over municipal zoning/subdivision actions and proposed site plans that occur within jurisdictional boundaries of SCPC.							
Stormwater Management	Yes	Stormwater Management, Chapter 763, Administrative Code of Suffolk County	County	DPW	Yes	Yes	-
Comment: The Stormwater Management chapter was adopted for the following reasons: A. This Legislature hereby finds and determines that recharge basins located within the County of Suffolk provide a critical function in the hydrogeologic cycle which should be protected and preserved to the maximum extent possible. B. This Legislature further finds and determines that the use of recharge basins to collect storm runoff and retain it for groundwater recharge purposes has been crucial in facilitating groundwater recharge areas within the County of Suffolk as the County has become increasingly urbanized through extensive development resulting in the creation of impervious surfaces. C. This Legislature also determines that many such recharge basins are not being properly maintained within the County of Suffolk and, in some cases, are being used for purposes in direct contradiction to their primary function by virtue of such activities as the dumping of construction debris and the temporary storage of machinery and building materials at such sites. D. Therefore, the purpose of this article is to establish a mechanism for the designation and protection of those recharge basins owned and/or operated or maintained by the County of Suffolk, currently approximating 250 such sites.							
Post-Disaster Recovery	No	-	-	-	No	-	-
Comment: Post-Disaster recovery is guided by the Robert T. Stafford Act through FEMA.							
Real Estate Disclosure	Yes	Property Condition Disclosure Act, NY Code - Article 14 §460-467	State	NYS Department of State, Real Estate Agent	Yes	-	-
Comment:							
Growth Management	Yes	A Review of Selected Growth & Development Areas, Suffolk County, NY; Suffolk County Open Space Acquisition Programs See August 06 Report	Local	Various Departments	No	-	-
Comment: Suffolk County Planning Department prepared a plan that recommends the application of principles of Smart Growth to the municipalities within SC.							
Site Plan Review	Yes	See above.	-	-	No	-	-
Comment:							
Environmental Protection	Yes	Environmental Protection, Chapter 446, Administrative Code of Suffolk County; Environmental Quality Review, Chapter 450, Administrative Code of	County	Suffolk County Department of Health Services; Suffolk County Council on	Yes	Yes	-



	Do you have this? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Department / Agency Responsible	State Mandated	Has this been integrated?	
						If no - can it be a mitigation action?	
		Suffolk County		Environmental Quality			
<p>Comment: Chapter 446 mitigates the risk posed by non-native and invasive species. Chapter 450: Article 8 of the Environmental Conservation Law, known as the "State Environmental Quality Review Act of 1975" (SEQRA), provides that all agencies shall prepare, or cause to be prepared by contract or otherwise, an environmental impact statement (EIS) on any action they propose or approve which may have a significant effect on the environment. This chapter is adopted pursuant to Subdivision 3 of § 8-0113 of the Environmental Conservation Law, which requires agencies to adopt and publish such additional procedures as may be necessary for the implementation by them of SEQRA, consistent with the statewide rules and regulations, 6 NYCRR 617 (the "Regulations"), adopted by the Commissioner of Environmental Conservation pursuant to Subdivision 1 of § 8-0113 of the Environmental Conservation Law.</p>							
Flood Damage Prevention	No	-	-	-	Yes - BFE+2 feet for all construction in the SFHA (residential and non-residential)	-	-
<p>Comment: NFIP is administered at the local level.</p>							
Municipal Separate Storm Sewer System (MS4)	Yes	Storm Sewers, Chapter 759, Administrative Code of Suffolk County	County	DPW	Yes	Yes	-
<p>Comment: Chapter 759 administers the maintenance and regulation of the municipal separate storm sewer system.</p>							
Emergency Management	Yes	Chapter 436, Emergency Services, Administrative Code of Suffolk County	County	Department of Labor, Licensing and Consumer Affairs	Yes	Yes	-
<p>Comment: This Legislature hereby finds and determines that the County of Suffolk strives to protect the health and safety of County residents and visitors to the County. This Legislature further finds and determines that 911 is the United States' universal emergency assistance line. This Legislature finds that many telephone systems for hotels, motels and businesses require that a user dial an additional number to obtain an outside line. This Legislature determines that persons unfamiliar with such a telephone system will be unable to reach emergency services in a crisis, which can lead to disastrous results.</p>							
Climate Change	Yes	Climate Smart Community Program, Chapter 943 Article III, Administrative Code of Suffolk County	County	Climate Smart Community Standing Committee	Yes	Yes	-
<p>Comment: The chapter identifies activities to reduce greenhouse gas emissions and establishes the standing committee.</p>							
Disaster Recovery Ordinance	No	-	-	-	No	-	-
<p>Comment:</p>							
Disaster Reconstruction Ordinance	No	-	-	-	No	-	-
<p>Comment:</p>							
Surface Water Protection	Yes	Chapter 1133, Surface Water Protection, Administrative Code of Suffolk County	County	Suffolk County Council on Environmental Quality	-	-	-
<p>Comment: When the Suffolk County Legislature makes a State Environmental Quality Review Act (SEQRA) finding for any capital budget and/or program project for the County of Suffolk, alternate methods for the disposal of stormwater runoff associated with the implementation of such a project shall be identified and the plan or method to be utilized for such a project shall be documented.</p>							
<p>Planning Documents</p>							



	Do you have this? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Department / Agency Responsible	State Mandated	Has this been integrated?	
						Yes	If no - can it be a mitigation action?
Comprehensive Plan	Yes	SUFFOLK COUNTY Comprehensive Master Plan 2035 (2015)	County	Office of Natural Resources	No	Yes	-
<p>Comment: The Comprehensive Plan has the following goals related to hazard mitigation:</p> <ul style="list-style-type: none"> • As a result of Superstorm Sandy, in an effort to promote resilience, create and/or expand sewer districts for existing communities identified as priority areas and upgrade current wastewater infrastructure to improve coastal resiliency, water quality, and/or targeted economic development supported by local communities. • Develop a range of approvable advanced wastewater treatment options (onsite, decentralized, sewers, non-proprietary) available for residential and non-residential properties. Gain acceptance and encourage participation. • Develop criteria for the use of clustered and single on-site systems. • Establish watershed-specific goals for nitrogen and other contaminants. • Review and evaluate the feasibility of updating the Sanitary Code based on the recommendations in the 2015 CWRM Plan, to prohibit the in-kind replacement of sanitary systems. • Develop new standards for decentralized and innovative alternative septic systems. • Develop financial incentives and countywide mechanism for the replacement and upgrade of cesspools and septic systems, for new and existing development. • Expand appropriately scaled, advanced wastewater infrastructure (onsite, decentralized, sewers) to existing communities. • Upgrade or replace the Bergen Point outfall pipe. • Implement the Reducing Toxics Capital and Volatile Organic Compound Action programs. • Investigate the feasibility of incentivizing fertilizer, pesticide, and noise reduction programs and regulations for homeowners and commercial landscapers. • Expand education and outreach programs and promote safer alternative management practices for household hazardous waste, pesticides, personal care products, and pharmaceuticals. • Update the Agricultural Stewardship Plan and incentivize farmers to participate in best management practices to reduce fertilizer and pesticide use. • Implement Harmful Algal Bloom Action Plan to minimize blooms and mitigate impacts. • Identify locations for wastewater upgrades to protect water quality and promote resurgence of coastal wetlands. • Facilitate the development of stormwater management projects (rain gardens, permeable pavement, etc.) for enhanced coastal resiliency. • Assess and implement a demonstration program for alternative wastewater treatment technologies. • Evaluate opportunities for decentralized waste treatment and recharge facilities. • Identify locations suitable for new water/sewer infrastructure near growth centers and hamlet areas with transit connections. • Explore alternative financing models for sewer infrastructure. • Identify locations for regional solid waste infrastructure facilities. • Promote burial of utilities for resiliency and community beautification. • To the greatest extent possible, leave shorelines in a natural state, where appropriate and feasible. • Evaluate tax delinquent properties for advanced wastewater treatment. 							
Capital Improvement Plan	Yes	Multi-Year Capital Budget – updated annually	County	Administration	No	Yes	-
<p>Comment: The Plan is updated annually.</p>							
Disaster Debris Management Plan	Yes	Suffolk County Multi-Jurisdictional Debris Management Plan	County, Local	Suffolk County FRES	No	-	-
<p>Comment: This NYS and FEMA approved comprehensive Multi-Jurisdictional Debris Management Plan was developed through the cooperative efforts of Suffolk County and each of the ten (10) Towns, working together in conjunction with partners from private, state and federal agencies.</p>							
Floodplain or Watershed Plan	Yes	Narrow Bay Floodplain & Hazard Mitigation Plan –	County/Local	Local Departments	No	-	-
<p>Comment: Report issued. NFIP NYS Coordinator requires Floodplain Mgr at Town & Village level not at county level</p>							
Stormwater Plan	Yes	Stormwater Management Program Plan (SWMP)	County	DPW	No	-	-
<p>Comment: The Plan aims to:</p> <ol style="list-style-type: none"> 1) Reduce the discharge of pollutants from the County’s Municipal Separate Storm Sewer System (MS4) to the maximum extent practicable (MEP). 2) Protect and improve water quality. 3) Satisfy the appropriate water quality requirements of the Environmental Conservation Law and the Clean Water Act. 							



	Do you have this? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Department / Agency Responsible	State Mandated	Has this been integrated?	
						If no - can it be a mitigation action?	
Open Space Plan	Yes	Suffolk County Open Space Plan, 1998; Open Space Acquisition Policy Plan for Suffolk County, 2007	County	Division of Planning and Environment	Yes	-	-
Comment: The Plan provides a comprehensive listing of parcels which are worthy of preservation or active recreation.							
Urban Water Management Plan	Yes	Suffolk County Comprehensive Water Resources Management Plan (2015)	County	Suffolk County Council on Environmental Quality; Office of Natural Resources	No	Yes	-
<p>Comment: The Plan has the following goals:</p> <p>GOAL 1: All groundwater shall be in compliance with the stricter of New York State Ambient Groundwater standards and guidance values or Maximum Contaminant Level Goals (MCLGs) to the greatest extent feasible and practical. Water quality that is better than the existing standards should be preserved, to the greatest extent feasible and practical.</p> <p>GOAL 2: Nitrogen loading should be reduced to the greatest extent feasible and practical for the protection of current and future drinking water supplies and to restore/maintain ecological functions of streams, lakes, estuaries and marine waters. Arrest and reverse the trend of increasing nitrogen concentrations in ground and surface waters to the greatest extent feasible and practical by decreasing the nitrogen loading from septic systems and fertilizers.</p> <p>GOAL 3: Concentrations of other regulated and unregulated contaminants in groundwater should be minimized to the greatest extent feasible and practical, to protect current and future drinking water supplies and to restore/maintain ecological functions of streams, lakes, estuaries and marine waters. Reduce the discharge of volatile organic compounds and other regulated and unregulated contaminants to groundwater.</p> <p>GOAL 4: Land use patterns should be consistent with the protection of the County's groundwater and surface water resources, including the protection of existing and future drinking water supplies.</p> <p>GOAL 5: Groundwater quality and quantity should be maintained to protect and preserve the County's drinking water supply and natural resources.</p> <p>GOAL 6: Groundwater levels should be maintained to protect and preserve the long term sustainability and ecological functions of existing surface water resources.</p> <p>GOAL 7: Existing programs to monitor, prevent contamination of, and manage Suffolk County groundwater resources should be enhanced and improved to provide the data and programs necessary to protect the groundwater resource that provides the County's drinking water supplies, and to provide the information necessary to develop a long term approach to mitigate expected impacts of sea level rise upon existing infrastructure.</p>							
Habitat Conservation Plan	No	-	-	-	No	-	-
Comment: Habitat conservation contained within open space planning.							
Economic Development Plan	Yes	Annual reporting	County	SCEDC	No	Yes	-
Comment: Economic development planning is carried out by the Suffolk County Economic Development Corporation. SCEDC's mission is to assist complement and be an addition to the economic development efforts of the Suffolk County Industrial Development Agency and the Suffolk County Department of Economic Development and Planning. SCEDC's primary focus in accomplishing this mission is to provide financial assistance to not-for-profit organizations that make valuable contributions to the health and well being of the residents of Suffolk County. Annual plans and reports are produced by the SCEDC.							
Shoreline Management Plan	Yes	Hurricane Damage Mitigation Plan; Proposed LI South Shore Hazard Management Program	Federal, State, County, and Local	Administration	No	-	-
Comment: Related to SC properties including parks.							
Community Wildfire Protection Plan	Yes	Community Wildfire Protection Plan for the Ridge-Manorville-Calverton Communities, 2016	County	Central Pine Barrens Commission	No	Yes	-



	Do you have this? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Department / Agency Responsible	State Mandated	Has this been integrated? If no - can it be a mitigation action?	
<p>Comment: The Central Pine Barrens Commission worked with the Ridge and Manorville Fire Departments and other municipal, state and federal land management agencies to develop a Community Wildfire Protection Plan (called a CWPP) that seeks to identify the most at risk areas of the Ridge, Manorville and Calverton Hamlets to wildfire. The Plan area encompasses the Ridge Hamlet and portions of the Manorville and Calverton Hamlets as indicated in the aerial below. The Plan identifies strategies to mitigate wildfire on the public lands in this area and also provides outreach to homeowners on measures that they can readily implement to protect their properties and significantly reduce their loss and damage to their homes from a wildfire through programs such as Firewise and Ready Set Go !! and by learning how to become a Firewise Community.</p>							
Forest Management Plan	No	-	-	-	-	-	-
<p>Comment:</p>							
Transportation Plan	No	Policy area in Comprehensive Plan	County	Department of Planning and Economic Development	No	Yes	-
<p>Comment:</p>							
Agriculture Plan	Yes	Suffolk County Agriculture and Farmland Protection Plan, 2015	County	Division of Planning and Environment	No	Yes	-
<p>Comment: This report documents the current state of agriculture in Suffolk, defines goals for the future, and outlines recommendations to increase the competitiveness and resiliency for the agriculture sector.</p>							
Wastewater Plan	Yes	Subwatersheds Wastewater Plan Generic Environmental Impact Statement (August 2019)	County	Various Departments	No	Yes	-
<p>Comment: The Impact Statement:</p> <ul style="list-style-type: none"> • Establishment of a Countywide Wastewater Management District (CWMD); • Initial recommendations for sewer expansion and the use of clustered/decentralized systems; • Identifies wastewater management strategies for locations with unique site conditions through the preparation of initial feasibility analyses called “advanced wastewater treatment pilot evaluations” (see Appendix E of the SC SWP); and, • Other recommendations to address wastewater management needs where insufficient information is available to make final recommendations within the SC SWP. 							
Climate Action Plan	Yes	Suffolk County Climate Action Plan (March 2015)	County	Various Departments	No	Yes	-
<p>Comment: The plan aims to increase climate resiliency by reducing greenhouse emissions.</p>							
<p>Response/Recovery Planning</p>							
Comprehensive Emergency Management Plan	Yes	Suffolk County Comprehensive Emergency Management Plan (2018)	Suffolk County and Associated Jurisdictions	Suffolk FRES	Yes	Yes	-
<p>Comment: The County Comprehensive Emergency Management Plan (CEMP) describes the emergency obligations of County government and its capability and capacity to undertake emergency assignments or acquire those resources necessary to support its emergency mission. The Concept of Operations of the CEMP describes the management of emergencies within the National Incident Management System (NIMS) and details emergency management programmatic efforts to accommodate present standards.</p>							
Strategic Recovery Planning Report	Yes	Hurricane Sandy Rebuilding Strategy, 2013	Federal	Hurricane Sandy Rebuilding Task Force, HUD	No	Yes	-
<p>Comment: Identified innovative strategies, along with the additional recommendations, to help the Sandy-affected region rebuild and serve as a model for every community in the country that faces greater risk from extreme weather.</p>							
Threat & Hazard Identification & Risk Assessment (THIRA)	Yes	Threat & Hazard Identification & Risk Assessment	County	FRES/OEM	No	-	-



	Do you have this? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Department / Agency Responsible	State Mandated	Has this been integrated?	
						If no - can it be a mitigation action?	
Comment:							
Post-Disaster Recovery Plan	Yes	Defined in Continuity of Operations Plan (COOP), dated 3/2005	County	FRES/OEM	No	-	-
Comment:							
Continuity of Operations Plan	Yes	Continuity of Operations Plan, 3/2005	County	FRES/OEM	No	-	-
Comment:							
Public Health Plan	Yes	Suffolk County Public Health Plan, 2018	County	Department of Health	No	Yes	No
Comment: Current updated plan is waiting State approval.							
Other	No	--	-	-	-	-	-
Comment:							

Table 9.1-4. Development and Permitting Capability

Indicate if your jurisdiction implements the following	Response Yes/No; Provide further detail
Development Permits. If yes, what department?	Done at local level
Permits are tracked by hazard area. For example, floodplain development permits.	Done at local level
Buildable land inventory If yes, please describe If no, please quantitatively describe the level of buildout in the jurisdiction.	Yes, Open space plan, agriculture plan, etc. at the County level; Local inventories.

Administrative and Technical Capability

The table below summarizes potential staff and personnel resources available to Suffolk County.

Table 9.1-5. Administrative and Technical Capabilities

Resources	Available? (Yes or No)	Department/ Agency/Position
Administrative Capability		
Planning Board	Yes	Suffolk County Planning Commission
Mitigation Planning Committee	Yes	FRES
Environmental Board/Commission	Yes	Division of Environmental Quality
Open Space Board/Committee	Yes	Open Space and Farmland section is concerned with the various aspects of Open Space and Farmland preservation in Suffolk County
Economic Development Commission/Committee	Yes	Suffolk County Economic Development Corp. (SCEDC)
Warning Systems / Services (reverse 911, outdoor warning signals)	Yes	Smart911 Registry; The Smart911 Registry gathers information from Suffolk County Residents for use during emergencies,





Resources	Available? (Yes or No)	Department/ Agency/Position
		evacuations and sheltering operations.
Maintenance programs to reduce risk	Yes	DPW, Highway, and Parks complete maintenance of stormwater system/tree trimming as needed
Mutual aid agreements	Yes	With local jurisdictions
Technical/Staffing Capability		
Planners or engineers with knowledge of land development and land management practices	Yes	Suffolk County Department of Economic Development and Planning (SCDEDP); SC Dept. Public Works (SCDPW); SC Dept. Health Services (SCDHS)
Engineers or professionals trained in building or infrastructure construction practices	Yes	Suffolk County Dept. Public Works; (engineers and architects)
Planners or engineers with an understanding of natural hazards	Yes	Suffolk County Planning Dept.; SC Dept. Public Works
Staff with expertise or training in benefit/cost analysis	Yes	Multiple departments
Professionals trained in conducting damage assessments	Yes	OEM-FRES
Personnel skilled or trained in GIS and/or Hazards United States (HAZUS) – Multi-Hazards (MH) applications	Yes	Suffolk County Information Technology, SC Planning Dept; SC Fire Rescue & Emergency Services; etc.
Scientist familiar with natural hazards	Yes	Suffolk County Planning Dept.
NFIP Floodplain Administrator (FPA)	No	Per NYS Coordinator of NFIP Floodplain Manager not applicable on County level as requirement and jurisdiction is with Towns and Villages
Surveyor(s)	Yes	Suffolk County Dept. Public Works; SC Dept. of Energy & Environment, Div. of Real Estate
Emergency Manager	Yes	Suffolk County Fire Rescue & Emergency Services
Grant writer(s)	Yes	Multiple departments
Resilience Officer	No	-
Other (this could include stormwater engineer, environmental specialist, etc.)	No	-

Fiscal Capability

The table below summarizes financial resources available to Suffolk County.

Table 9.1-6. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use (Yes/No)
Community development Block Grants (CDBG, CDBG-DR)	Yes - used for infrastructure upgrades, such as storm water drainage improvements & bulkhead repairs
Capital improvements project funding	Yes – Suffolk County Capital Program/Budget finances erosion & flood control projects, land acquisition for Open Space, acquisition of development rights to preserve agriculture uses
Authority to levy taxes for specific purposes	Yes - Suffolk County levies taxes for police districts, sewer districts, erosion control districts,



Financial Resources	Accessible or Eligible to Use (Yes/No)
	etc.
User fees for water, sewer, gas or electric service	Yes - Suffolk County charges user fees for sewer service
Impact fees for homebuyers or developers of new development/homes	No - Town or Village function as related to homebuyers or developers of new development/homes. SC has the ability on a limited basis related to County Roads.
Stormwater utility fee	The Charter Law extending and accelerating the Suffolk County ¼% drinking water protection program for environmental protection was approved by the Suffolk County voters during November 2007. This law extended the ¼% sales tax revenue trust fund through November 30, 2030. An additional 0.50% share of the ¼% sales tax trust fund was implemented on December 1, 2007 to fund the Water Quality Protection and Restoration Program and Land Stewardship Initiatives (WQPRP). This raises the portion of the ¼% sales tax revenues apportioned to the WQPRP to 11.75%.
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Yes
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	Not aware of this at the County level – more at the Federal level – Coastal Barrier Resource Act (CBRA)
Other federal or state Funding Programs	Yes – Through their various departments, the County leverages available grant programs to support mitigation efforts
Open Space Acquisition funding programs	Suffolk County's Farmland Purchase of Development Rights Program, Federal funding sources
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	No

Education and Outreach Capability

The table below summarizes the education and outreach resources available to Suffolk County.

Table 9.1-7. Education and Outreach Capabilities

Indicate if your jurisdiction has the following resources	Yes/No; Please describe
Public information officer or communications office?	Yes, Communications Office as well as individual department public information offices.
Personnel skilled or trained in website development?	Yes
Hazard mitigation information available on your website; if yes, describe	Yes; Hazard Mitigation Plan and outreach information is hosted by FRES
Social media for hazard mitigation education and outreach; if yes, briefly describe.	Yes; Facebook, Twitter, YouTube
Citizen boards or commissions that address issues related to hazard mitigation; if yes, briefly describe.	Yes, various commissions (identified in Section 9.1.5 below)
Other programs already in place that could be used to communicate hazard-related information; if yes, briefly describe.	Various departments outreach such as Parks, Soil and Water Conservation, etc.
Warning systems for hazard events; if yes, briefly describe.	Smart911 Registry; The Smart911 Registry gathers information from Suffolk County Residents for use



Indicate if your jurisdiction has the following resources	Yes/No; Please describe
	during emergencies, evacuations and sheltering operations.
Natural disaster/safety programs in place for schools; if yes, briefly describe.	Yes, the County completes safety education programs for County public schools
Other	-

Community Classifications

The table below summarizes classifications for community programs available to Suffolk County.

Table 9.1-8. Community Classifications

Program	Participating? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	N/A	-	-
Building Code Effectiveness Grading Schedule (BCEGS)	N/A	-	-
Public Protection (ISO Fire Protection Classes 1 to 10)	N/A	-	-
NYSDEC Climate Smart Community	Yes	-	-
Storm Ready Certification	Yes	Storm Ready	February 2000
Firewise Communities classification	N/A	-	-
Other	No	-	-

Note:

- N/A Not applicable
- NP Not participating
- Unavailable

Adaptive Capacity

Adaptive capacity is defined as “the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences” (IPCC 2014). In other words, it describes a jurisdiction’s current ability to adjust to, protect from, or withstand a hazard event. This term is often discussed in reference to climate change; however, adaptive capacity also includes an understanding of local capacity for adapting to current and future risks and changing conditions. The table below summarizes the adaptive capacity for each hazard and the jurisdiction’s rating.

Table 9.1-9. Adaptive Capacity

Hazard	Adaptive Capacity (Capabilities) - High/Medium/Low*
Coastal Erosion	Medium
Cyber Security	Medium
Disease Outbreak	Medium
Drought	Medium
Earthquake	Low
Expansive Soils	Medium
Extreme Temperature	Medium
Flood	Medium
Groundwater Contamination	Medium
Hurricane	Medium
Infestation and Invasive Species	Low
Nor’Easter	Medium
Severe Storm	Medium





Hazard	Adaptive Capacity (Capabilities) - High/Medium/Low*
Severe Winter Storm	High
Shallow Groundwater	Medium
Wildfire	Low

*High Capacity exists and is in use
 Medium Capacity may exist; but is not used or could use some improvement
 Low Capacity does not exist or could use substantial improvement
 Unsure Not enough information is known to assign a rating

Suffolk County has established an Energy and Climate Action Office. The Office identifies opportunities for improved energy policies for the County and coordinates with the Department of Public Works to execute and implement those policies. Suffolk County has an Energy Initiatives Working Group composed of six stakeholders from various departments that utilize all tools and programs available to further the goal of developing renewable energy and making County buildings and fleet more energy efficient.

The overarching goal is to reduce energy use and energy costs to the County, while achieving lower carbon emissions from County operations. It is these smart government investments that lead to a cleaner environment and increase overall quality of life for County residents, support of the growing green energy sector of the local economy, all while reducing energy costs to the taxpayers.

A Climate Action Plan has also been established for the County. This Climate Action Plan (CAP) is the result of a two-year process. It was prepared in accordance with the commitment made by the Suffolk County Legislature when it adopted the Climate Smart Communities pledge on November 20, 2012 through Resolution No. 960-2012, “Adopting Climate Smart Community Goals in the County of Suffolk.”

National Flood Insurance Program

Management and regulation of the regulatory floodplains are done at the local level. Refer to the individual jurisdictional annexes for details on the NFIP for each municipality.

9.1.5 Integration with Other Planning Initiatives

As this HMP update is implemented, Suffolk County will use information from the plan as the best available science and data for natural hazards. The capability assessment presented in this annex identifies codes, plans, and programs that provide opportunities for integration. The Suffolk County and local action plans developed for this HMP update actions related to plan integration, as well as progress on these actions, will be reported through the progress reporting process described in Volume I. New opportunities for integration also will be identified as part of the annual progress report.

Existing Integration

It is the intention of this County to incorporate hazard mitigation planning and natural hazard risk reduction as an integral component of the County’s administrative, regulatory and operational framework. The following textual summary and table identify relevant planning mechanisms and programs that have been/will be incorporated into existing County programs and planning mechanisms, which may include former mitigation initiatives that have become continuous/on-going programs and may be considered mitigation “capabilities”:

- Suffolk County Department of Fire, Rescue and Emergency Services (FRES):** The Suffolk County Department of Fire, Rescue and Emergency Services (FRES) is committed to serving both the 1.5 million residents of Suffolk County and the over 10,000 emergency responders who are dedicated to saving lives and protecting property. FRES leads hazard mitigation planning and comprehensive emergency management planning for the County. FRES is organized into the following functional areas to best provide its services. The Commissioner of FRES oversees all functions including:





- **Fire Marshal's Office:** The Fire Marshal's Office (FMO) provides inspections and enforcement activities for building codes, fire investigations, public education, technical response assistance to the Fire and EMS Agencies within Suffolk County, staffing for various positions within the county's incident command structure and support of emergency management operations.
- **Fire Rescue Communications Section:** The Fire Rescue Communications Section (COMMs) is an enhanced 911 facility which handles Fire and EMS calls, in addition to dispatching services for emergency response. The staff must initially be certified by New York State as Emergency Medical Technicians and maintain national certification as Emergency Medical Dispatchers (EMD) and Emergency Fire Dispatchers (EFD) The staff also operates the county's Mobile Command Vehicles in conjunction with the FMO section.
- **Office of Emergency Management:** The Office of Emergency Management (OEM) coordinates the county's response to natural and man-made disasters. OEM personnel are responsible for development of the Comprehensive All-Hazards Emergency Management Plan, the operation of the county's Emergency Operation Center (EOC) and work with local, state, and federal officials in all aspects of shelter management, planning, resource management, and emergency response and recovery activities.
- **Administration Section:** The Administration Section (ADMIN) provides clerical, human resource, grant management, and financial management coordination functions for the department.
- **Suffolk County Fire Academy:** The Suffolk County Fire Academy (SCFA) which provides classroom instruction and field training for local fire departments throughout the county. Courses range from basic firefighting to incident command, incident management and specialized training as needed.
- **Deployable Assets for Emergency Response:** Suffolk County Fire Rescue and Emergency Services provides resources for emergency responders.
- **Suffolk County Department of Public Works:** The Department of Public Works constructs, maintains and operates county properties and designs, constructs and maintains county roads, sewerage systems, buildings and other facilities, such as waterways, bridges, docks and marinas. In addition, the department is responsible for the operation of the Suffolk County Transit System as well as controlling mosquitoes that transmit disease and impact the enjoyment of outdoor activities.
- **Suffolk County Department of Economic Development and Planning:** The Department of Economic Development and Planning assists and promotes the development, growth and retention of a broad mix of industry clusters that facilitate job opportunities and private capital investment. Through implementation of various technical and financing programs the department acts as a one-stop resource for all type of business sectors and their respective needs.

The Department can support long term recovery from hazard events in the County using planners and GIS staff. Using expertise in grant funding, community engagement, and technology, the Department of Economic Development and Planning is also able to identify the best potential impacts of funding and projects. The Department acts as a data hub post-disaster event to collect information for FEMA, the state, etc. during disaster response phases.



During the COVID-19 crisis, the Department has had an active role in merging technology (geospatial, online meetings, electronic submissions), providing guidance to local towns and villages on how to conduct online meetings and interfacing, and providing guidance to towns on how to resume operations via stabilization of government in a remote setting.

The Department includes the following units:

- **Cartography and GIS:** GIS layers can be found at the Suffolk County GIS Portal and the Suffolk County Open Data Portal.
- **Regulatory Review:** Within the Division of Planning and Environment, the Regulatory Review unit is responsible for the following:
 - Review of all Suffolk County actions for compliance with the State Environmental Quality Review Act (SEQRA) and local environmental laws for the Suffolk County Council on Environmental Quality (CEQ);
 - Administer the municipal referral process for the Suffolk County Planning Commission;
 - Act as a liaison between Suffolk County and the American Planning Association, in administering the Suffolk County Planning Federation;
 - Accounting of the County's open space transfer of development rights program;
 - Provide professional services to the municipalities in the County, including advice and technical assistance to municipalities on planning matters such as subdivision design, traffic circulation, parking layouts, land use analysis, innovative planning techniques, zoning and land use control methods, and draft ordinances.
- **Research and Statistics:** Within the Division of Planning and Environment, the Research and Statistics unit performs research and analysis of Suffolk County's demographics, economy, commercial market, housing, development, and land use. The Research and Statistics unit also maintains a reference collection of current and historic demographic and economic data including U. S. Census information for the Nassau-Suffolk region. The unit also maintains a comprehensive development database of proposed and existing multi-family housing complexes, retail centers, hotels, and office buildings in the County.
- **Environmental Planning and Aquaculture:** The Environmental Planning section provides assistance and guidance to Federal, state and local government agencies and the general public regarding coastal-related problems and activities. Land use, zoning and environmental data and information are assembled, portrayed and analyzed in support of the preparation of management plans and recommendations pertaining to Suffolk County's three major estuaries (the Long Island Sound, Peconic Bay System and the South Shore Bays), numerous harbors and watersheds, fragile shorelines and associated natural habitats and resources. Existing land use, land available for development, surface water quality, groundwater resources, public access, flooding and erosion hazard mitigation, fisheries management, dredging and the assessment of environmental impacts of development activities are typical topics that have been investigated. The Section also prepares and assists other County departments in the preparation of grant applications for funding from Federal and state programs that is used for special studies and project implementation.
- **Open Space and Farmland:** The Open Space and Farmland section is concerned with the various aspects of Open Space and Farmland preservation in Suffolk County including



Suffolk County's Farmland Purchase of Development Rights Program, New York State Agricultural District Program, and Suffolk County's Open Space programs.

- **Water Quality Improvement:** The purpose of the Water Quality Improvement Division is to protect and improve Suffolk County's ground and surface waters. Protecting and maintaining the quality of our groundwater resources is especially important in Suffolk County because we are located above a federally designated Sole Source Aquifer system. This means that 100% of the County's drinking water comes from these natural underground reservoirs therefore preserving the integrity of the groundwater systems is critical for public health.

The Charter Law extending and accelerating the Suffolk County ¼% drinking water protection program for environmental protection was approved by the Suffolk County voters during November 2007. This law extended the ¼% sales tax revenue trust fund through November 30, 2030. An additional 0.50% share of the ¼% sales tax trust fund was implemented on December 1, 2007 to fund the Water Quality Protection and Restoration Program and Land Stewardship Initiatives (WQPRP). This raises the portion of the ¼% sales tax revenues apportioned to the WQPRP to 11.75%. WQPRP -Through the WQPRP, Suffolk County has funded over \$52 million in projects to reduce stormwater runoff, mitigate and prevent pollution of groundwater and surface waters, and to restore natural water habitats and wetlands. Management of over 50 Active Projects - The Water Quality Improvement Division supervised 50 on-going water quality projects during 2018. The total funding to date for the projects funded through the Water Quality Protection and Restoration Program and Land Stewardship Initiatives (WQPRP) is approximately \$52 million dollars. Between 2016 and 2018, the WQPRP Review Committee approved \$4.7 million in Enhanced Water Quality funding for an additional 14 projects. During 2018, the WQPRP Review Committee approved nearly \$2.4 million in 477 Water Quality funding for an additional 10 projects.

The Water Quality unit includes numerous programs and projects:

- *Integrated Pest Management (IPM) Program:* The IMP Program is implemented under contract with Cornell Cooperative Extension of Suffolk County (CCE) to support County facilities' compliance with the pesticide prohibition. CCE performs research and demonstration projects on pest management both indoors and outdoors on County properties. CCE staff conducts site visits and scouting on County properties to enable early diagnosis of pest problems and to provide viable alternatives to pest control in order to prevent the need for pesticide use. CCE staff also performs maintenance activities at County facilities to prevent pest incidences. Training to County employees in alternative pest management techniques and Best Management Practices (BMPs) is provided by CCE including pesticide applicator and specialty training required to obtain New York State certifications. CCE also conducts public outreach and presents at various conferences wherein they represent the goals of the County pesticide prohibition law.
- *Pesticide Community Advisory Committee:* The Pesticide Community Advisory Committee (Pesticide CAC) established by Suffolk County Local Law No. 34-1999 and pursuant to Chapter 647 of the Suffolk County Code is a central component of the IMP Program for County Properties. The Pesticide CAC is charged with overseeing the implementation of the pesticide prohibition on County properties and managing the use of any necessary pesticides by reviewing requests and approving special use exemptions. The Pesticide CAC is managed by the Department of



Economic Development and Planning, Division of Water Quality Improvement and includes other County agencies, CCE, cancer awareness advocates, and environmental organizations. The Pesticide CAC works to capitalize on the experiences of various stakeholders to consider the necessity of exemptions and to promote the ongoing development and use of alternative pest management strategies and BMPs on County properties.

- *Stormwater Management Program:* The Suffolk County Stormwater Management Program implements various strategies to mitigate the harmful effects from stormwater discharges and runoff. Components of the program include the identification of stormwater inputs and monitoring, control of stormwater runoff from construction activities, implementation of stormwater improvement projects on roadways, pollution prevention training for County employees, and public education and participation. The Suffolk County Stormwater Management Program is conducted by Cornell Cooperative Extension of Suffolk County in coordination with the Suffolk County Departments of Public Works and Economic Development and Planning. The continuity of the program is mandated by the U.S. Environmental protection Agency (EPA) and New York State Department of Environmental Conservation (NSYDEC).
- *Wetland Stewardship Program:* Suffolk County's coastal marshes are of great importance due to their ecosystem services and natural protective features such as providing critical habitat for species of environmental and commercial importance, nitrogen removal, buffering coastal communities from the impacts of storms, and resilience to sea-level rise. Yet, the sustainability and resilience of Long Island tidal marshes, particularly those on our South Shore, are threatened by tidal restrictions, waterlogging, extensive mudflat and panne formation, and invasive plants. For these reasons a comprehensive wetlands management program was recommended by the Vector Control and Wetlands Management Long-Term Plan, under Resolution 285-2007. The County Executive recognized the importance of this program and adopted the Suffolk County Wetlands Stewardship Strategy (WSS). Several projects are currently underway.
- *National Fish and Wildlife Foundation Hurricane Sandy Coastal Resiliency via Integrated Salt Marsh Management Grant:* In 2014, the County of Suffolk was awarded \$1,310,000 under the Hurricane Sandy Coastal Resiliency Competitive Grant Program to conduct a coastal resiliency project via Integrated Salt Marsh Management to improve marsh services such as nitrogen removal, resiliency of coastal ecosystems and communities and to adapt to rising sea levels and extreme storm events. The project aims to restore four marshes (marshes, tidal wetlands) within the South Shore Estuary Reserve watershed; Suffolk County Gardiner Park East and West, Timber Point marsh, and West Sayville Marsh. This project uses an Integrated Marsh Management approach to restore and enhance environmental and socioeconomic services from currently degraded salt marsh areas affected by large areas of invasive common reed (*Phragmites australis*), waterlogging, extensive mudflat and panne formations, shoreline erosion and high mosquito production. The project started in 2015 with the planning and permitting phase. During 2017, 2018, and 2019, the County conducted pre-restoration monitoring of the marsh sites in coordination with students from Suffolk County Community College and the School



of Marine and Atmospheric Sciences from Stony Brook University. The first successful round of restoration took place in 2018 at the Gardiner Park East marsh, where vegetation recovery of mud flats is rapidly taking place. Reduction in mosquito production and need for aerial spraying the marsh by helicopter was also significantly reduced at the restored location this summer. As of October 2019, Suffolk County Vector Control staff started working on the restoration of the west side of Gardiner Park marshlands.

- *Tidal Wetland Restoration at Smith Point County Park to Improve Protection Against Flooding and Storm Damage:* The Department of Homeland Security-Federal Emergency Management Agency (DHS-FEMA) is provided Federal financial assistance to New York State Division of Homeland Security and Emergency Services (NYS DHSES), as Recipient, and Suffolk County, as Sub-recipient, was awarded funds through the FEMA Hazard Mitigation Grant Program (HMGP) with the main purposes of restoring approximately 77 acres of marshland to improve natural protection against flooding, storm surge, intense wave action, and improve the marsh sustainability and resilience against sea level rise. The project site is the marshland at the Smith Point County Park in the southernmost portion of Shirley, NY. The contract between the County of Suffolk and NYSDHSES started in July 2014. The Phase I, or planning and permitting phase was conducted between 2016 and 2019. It is anticipated that the implementation phase will take place during the restoration season of 2020-2021.
- **Suffolk County Parks Department:** The Parks Department is comprised of 110 full time employees who are responsible for 60,000 acres of parkland, the largest amount of county owned parkland in the country. Staff are responsible for maintenance of spillways, culverts, and weirs in County Parks. The Suffolk County Parks Department Maintenance Division has 20 employees including a tree trimmer. Trees are removed if they are dangers to frequented areas (paths and such). Residents that border parks often call about problem trees. The Environmental Division has 3-4 staff and often responds to erosion control and endangered species related issues. The Environmental Division can be tasked with stream clearing when necessary.
- **Suffolk County Department of Health Services:** The Suffolk County Department of Health Services promotes wellness and protects the public's health and environment. The Department provides support for 27 EMS Departments and 69 Fire-based EMS Departments in Suffolk County.
 - **Bureau of Epidemiology & Disease Control:** The Bureau of Epidemiology and Disease Control within the Division of Public Health plays a central role in the Health Department's mission to prevent the occurrence and spread of communicable disease. The New York Sanitary Code designates over 70 communicable diseases as reportable. The Bureau maintains surveillance for each disease through investigation performed by experienced epidemiological staff. Surveillance activities include identifying patterns and clusters to find common source outbreaks and tracing chains of infection to their origin. Outbreak control measures are instituted in some cases to prevent further spread of disease, such as contact tracing, vaccination of susceptibles, providing prophylactic (preventive) medication or treatment, and notifying and educating individuals or groups of their potential exposure. Occasionally, food handlers, vendors, wholesale suppliers or restaurateurs are identified as the point source of infection and immediate actions are taken to ensure the safety of the public. The Bureau's Nurse Epidemiologists maintain close contact with area hospital



Infection Control Practitioners in order to ascertain suspect patient presentations, unexpected illness, unusual clusters that may indicate a biological terrorist event or unusual occurrence of a communicable disease in the community. Clinical staff are available 24 hours, seven days a week to respond to urgent public health disease inquiries or issues.

- **Environmental Quality:** The Division of Environmental Quality (DEQ) conducts comprehensive programs that protect Suffolk County residents against adverse environmental factors. DEQ programs also preserve and enhance the generally high quality of the Suffolk County environment. The major programs of the Division of Environmental Quality are groundwater and drinking water protection, wastewater management, toxic and hazardous materials pollution control, monitoring and laboratory analyses, enforcement of regulations, and environmental management studies and programs for groundwater and surface waters, including related ecological issues. These programs are managed through the five offices of the division: Water Resources, Pollution Control, Wastewater Management, Ecology, and the Public and Environmental Health Laboratory.
- **Smart911 Registry:** The Smart911 Registry gathers information from Suffolk County Residents for use during emergencies, evacuations and sheltering operations.
- **Suffolk County Coastal Resiliency Initiative:** In 2014, New York State Governor Andrew Cuomo announced state and federal post-Sandy resiliency funding would be made available through the Governor's Office of Storm Recovery (GOSR) to sewer communities in four river corridors in unsewered low-lying areas along Suffolk County's south shore that had been inundated by Superstorm Sandy. At almost \$390 million, the projects mark the largest investment in water quality infrastructure in the County in more than 40 years, and will eliminate nearly 7,000 cesspools and septic systems that have been identified as the single largest source of nitrogen pollution to our region's south shore bays. The extension of sewers to these areas will dramatically jump start a comprehensive effort to reduce nitrogen pollution that adversely affects coastal wetlands which protect communities from damaging storms, and are critical to the region's economic and environmental health. Funding sources include \$243 million in Hazard Mitigation Grant Program funding through the Federal Emergency Management Agency, \$67 million in Community Development Block Grant Disaster Recovery funding from the U.S. Department of Housing and Urban Development, \$59.7m from New York State Water Quality and Capital Programs, \$20.3 million to be financed through low-interest loans from the Clean Water State Revolving Fund administered by the New York State Environmental Facilities Corporation, and \$4 million from the Empire State Development grant program. The individual project descriptions are as follows (Suffolk County 2020):
 - *Forge River Watershed in Mastic, Town of Brookhaven:* An estimated \$191.3 million project would address storm impacts and reduce extensive nitrogen pollution to the Forge River and Great South Bay. The proposed project would: install sewers along Montauk Highway from William Floyd Parkway to the Forge River, install sewers in the residential area south of Montauk Highway west of Forge River. A total of 1,879 residential units and 154 businesses are expected to be connected to a new state-of-the-art treatment facility. Design is underway and construction is expected to begin in 2021.
 - *Carlls River Watershed in North Babylon, West Babylon and Wyandanch, Town of Babylon:* An estimated \$140.2 million project would address storm impacts and reduce nitrogen and pathogen pollution in the Carlls River and Great South Bay. The proposed project would: install sewers in residential areas just west of Straight Path Road and also along Bay Shore Road and residential areas to the north. A total of 2,467 residential units are expected to be



connected and to Suffolk County's Bergen Point Wastewater Treatment Plant. In addition, this project will connect 1,491 unconnected parcels already in the Southwest Sewer District. Design is underway and construction is expected to begin in 2020.

- *Connetquot River Watershed in Oakdale, Town of Islip*: As a result of the defeat of the Great River project, funding for sewer connections has been reallocated to the Oakdale area. The project will connect approximately 420 parcels to Suffolk County's Bergen Point Wastewater Treatment Plant. Preliminary costs are estimated to be about \$31m. Project boundaries and other details have not been finalized.
 - *Patchogue River Watershed in the Village of Patchogue*: An estimated \$29.6 million project would be used to address nitrogen and pathogen pollution in Patchogue River, Patchogue Lake and the Great South Bay. The proposed project would: install sewers south of Main Street between West Avenue and South Ocean Avenue. A total of 513 residential units are expected to be connected to the Village of Patchogue wastewater treatment plant. Design is underway and construction is expected to begin in 2020 (Suffolk County 2020).
- **Stream Maintenance and Stormwater Management Programs:** Through SCDPW and SC Parks Department, the County continues to support stream maintenance and stormwater management programs to mitigate local flooding issues. Specific related mitigation initiatives are included in the County's updated mitigation strategy.
 - **Planning for Coastal Storms:** The County continues to develop and enhance plans to include comprehensive evaluation of coastal storms and the reduction of their impacts at local level and seeks to coordinate all levels of planning in this area. The efforts of the Regional Catastrophic Planning Team and the program are winding down over the next 2 years. Many plans have been completed and are presently being distributed. The RCPT hired a regional field liaison to visit each jurisdiction and advocate and educate for the use of the plans.
 - **Integration of Improved Hazard Information into Existing Emergency Management Plans:** The County continues to develop, enhance and implement existing emergency response plans to utilize new and developing technology/information as it becomes available. Bus Evacuation Plan has been updated to include home pick-ups, a call center, and designated phone number. Fire Island Evacuation and Re-Occupation plans have been completed. Equipment Typing is a work-in-progress, as is the Resource database both of which will continue to be refined as new information and data become available.
 - **Development of Improved Asset Information to support Risk/Vulnerability Assessment and Mitigation Efforts:** The County continues to work to resolve discrepancy between the Real Property Tax Dept. and the Treasurer's Office databases regarding number of tax parcels to support or enhance County-wide risk assessment. Further, through this plan update process, the County continues to enhance the building inventory for all of Suffolk County using latest technology and GIS applications for use within HAZUS-MH for future risk assessment to be performed by Suffolk County, Towns and Villages. These databases are being made available to all plan participants and County stakeholders to support mitigation efforts, including performing Benefit-Cost Analysis for grant applications.
 - **Public Education and Outreach Programs:** SC FRES routinely gives educational presentations to requesting organizations and regular scheduled meetings are held with the Emergency Managers in each of the ten towns within the County. Additional meetings are held with Native American Nations and a variety of safety organizations and forums across the County. SC Ready program flyers produced for information. SC received an HMPG 1692 Grant for Public Education and has



established a website (www.suffolkcountyny.gov/mend) that presents a vast amount of information to the public. In addition, an approved LOI and subsequent HMGP application #1249 under DR 4085 is being submitted on 10/30/13 for expansion of the County Education Program over a three-year period that will address hazards of concern to all County residents.

Presentations made by SC OEM staff to the public and organizations throughout the County have increased the awareness of Hazard Mitigation. The SC HMP website at www.suffolkcountyny.gov/respond has recorded over 19,000 visits since coming on line attesting to its visibility and stakeholder involvement. The current update of the SC HMP has an aggressive program for stakeholder involvement including the use of social media, on-line questionnaires and public meetings.

- **Using Tax-Lien and Open-Space Programs to reduce long term flood vulnerability:** The County continues to curtail floodplain development by transferring flood-prone properties in the Narrows Bay area obtained by Suffolk County through tax lien procedures to the SC Parks, Recreation and Conservation Dept. for open space purposes as per Narrow Bay Floodplain and Mitigation Plan 1997.
- **Addressing Seismic Risk through Integration with Emergency Management Planning:** Enhance the SC Comprehensive Emergency Management Plan (CEMP) to address the earthquake hazard, including the findings, recommendations and specific initiatives identified in this plan update.
- **Integrating Risk Data to support Land Use Planning:** The County continues to inquire about future development in all participating jurisdictions annually, at the annual plan review meeting, and map these locations within GIS/HAZUS to determine if they are/are not located within identified hazard areas. Improvements in the County's GIS capabilities will facilitate this initiative in the future. It is a key discussion point in the Plan update and will be an Agenda item at each annual plan review meeting moving forward.
- **Suffolk County Police Department:** The Suffolk County Police Department responds to various hazard related emergencies. The Department is able to coordinate with various County, state, and federal agencies and has a standalone emergency operations center that coordinates with the County emergency operations center. All Police are trained as EMT's. The Department has numerous sections that are capable of providing response leading up to, during, and following hazard events:
 - **Aviation Section:** The Aviation Section often completes flyovers of the coastline prior to and after coastal storm events to record event damages using the Section's four helicopters.
 - **Marine Bureau:** The Marine Bureau is comprised of a fleet of vessels that patrol County waters 365 days a year. The Fleet includes boats capable of ocean rescue, shallow water rescue, and ice rescue as well as a Dive Team.
 - **Sheltering:** The Police Department provides shelter security for American Red Cross established shelters. The Department also uses the Police Academy to house first responders during hazard events (roughly 200-300 people).
- **Suffolk County Sheriff's Department:** The Suffolk County Sheriff's Department is primarily a response agency. The Department provides security at shelters, aids in evacuations, and provides traffic control. The Department supports agencies such as FRES and DPW in hazard mitigation projects.



- **Suffolk County Department of Information Technology:** The Department of Information Technology supports computer services and applications for Suffolk County's Departments. The Department has supported the recent conversion to socially distanced work environments (VPN, video conferencing, etc.), establishment of a platform for the Department of Health to handle the increased load created by the coronavirus outbreak, and the eventual transfer to the state system. The Department has four staff tasked with cyber security.
- **Soil and Water Conservation District:** 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. The SWCD has recently focused on assisting agricultural producers with improving their property to reduce runoff of pollutants and soil but works on a wide variety of concerns involving natural resources including invasive species, coastal erosion, and reestablishing natural waterways to reduce flooding and improve habitat.
- **Central Pine Barrens Joint Planning & Policy Commission:** The Central Pine Barrens Commission manages land use within the Central Pine Barrens to protect its vital groundwater and surface water and the region's vast and significant natural, agricultural, historical, cultural and recreational resources for current and future Long Island residents. The office has a Compliance and Enforcement Division comprised of three compliance and enforcement coordinators. This unit conducts compliance inspections of Commission-permitted land use activities and development projects to ensure that development does not exceed the scope of permit conditions and coordinates investigations into land use and related violations in the Central Pine Barrens region. The division also coordinates with other involved agencies and councils to research and investigate incidents involving clearing, dumping and other unauthorized disturbances and activities in the Central Pine Barrens.

In addition, the unit acts as a clearinghouse for complaints about potential violations, prepares initial reports about potential violation incidents and refers cases to other agencies for investigation and processing. The unit assists other agencies in the investigation of violations in the Central Pine Barrens and follows up on incidents referred to other agencies and tracks incidents.

The division works with the Commission's Law Enforcement Council on multi-jurisdictional environmental compliance issues, such as all-terrain vehicle enforcement, as well as legislation to create or improve existing environmental enforcement regulations. The division also conducts monitoring and enforcement of conservation easements resulting from the Pine Barrens Credit Program.

Opportunities for Future Integration

- **County-Wide Housing Location/Relocation Planning Initiative for Disaster Displaced Residents and Structures (2020-Suffolk County-005):** The County needs to develop plans for short and long term Temporary Housing sites and locations, as well as areas to relocate flood vulnerable housing, within Suffolk County, its Towns and Villages and potentially across multi-jurisdictional borders. SCFRES will work with municipalities to identify open space for temporary housing units (FEMA trailers) that have access to utilities. Must keep in mind of accessibility and social distancing. Must work cooperatively with municipalities that have been unable to identify their own temporary housing spaces.



- **County Guidance for Retrofit and Acquisition of Repetitive Loss Structures (2020-Suffolk County-045):** The County has a high number of repetitive loss properties. The Planning Commission will develop guidelines to be used in Suffolk County to address repetitive loss.
- **Suffolk County Coastal Erosion and Sea Level Rise Task Force Comprehensive Study (2020-Suffolk County-060):** Sea level rise has led to accelerated coastal erosion worldwide and is of particular concern to Long Island, with threats of destruction to Suffolk County’s 980 miles of coastline. The Task Force will complete a comprehensive study on the challenges created by sea level rise and issue a written report recommending regional coastal resiliency policies that will help protect the county’s coastlines and to assist municipalities with decision-making.
- **Expand the Community Wildfire Protection Plan and Update the Fire Management Plan (2020-Suffolk County-063):** The Community Wildfire Protection Plan could be expanded to include additional communities. The Fire Management Plan is in need of update to adequately plan for prescribed burns and other mitigation. The Central Pine Barrens Joint Planning and Policy Commission will work to include additional communities in the CWPP and update the Fire Management Plan.

9.1.6 Evacuation, Sheltering, Temporary Housing, and Permanent Housing

Evacuation routes, sheltering measures, temporary housing, and permanent housing must all be in place and available for public awareness to protect residents, mitigate risk, and relocate residents, if necessary, to maintain post-disaster social and economic stability.

Evacuation Routes

Evacuation decisions are made through cooperative discussions with state and county agencies. Evacuation Routes for Suffolk County are identified in the map below.



Coastal Evacuation Routes - Suffolk County



If residents require assistance during an evacuation, they can register with the Suffolk County Emergency Preparedness Registry.

Sheltering

Sheltering in Suffolk County is achieved through an agreement with the American Red Cross.

Suffolk County has established a Shelter and Storm Surge Zone Mapping Tool. This interactive tool is provided for public information and use to assist with personal preparedness when emergency situations, storm flooding conditions or potential evacuations may occur. The Storm Surge Zone and Mapping Tool is now mobile compatible and it will work on cellphones and tablets. The map identifies:

- address locations
- the specific types of shelters available within Suffolk County (i.e. General Population, Pet Friendly, Special Needs, Functional Needs)
- the location, capabilities and pertinent information about each shelter
- which shelters are currently open in actual emergency situations
- a mapping feature for driving directions to shelters
- Storm Surge Zones showing potential flood areas from different strength hurricanes

Suffolk County will provide Pet Friendly shelters where the public and their pets can go in the event of an Evacuation or Emergency. The Suffolk County Office of Emergency Management has identified the following facilities to serve as Pet Friendly Shelters during times of emergency:

- Suffolk County Fire Academy: Maple Avenue Yaphank, NY 11980
- The Islip/Brentwood Recreation Center: 99 3rd Avenue Brentwood, NY 11751
- Suffolk County Community College--Eastern Campus, Woodlands and Corchaug Buildings 121 Speonk-Riverhead Road Riverhead, NY 11901

Suffolk County is working to identify additional facilities to serve as Pet Friendly Shelters. As agreements are entered into, those facilities will be listed on the County website.

Temporary Housing

The County is working to assist local jurisdictions with the identification of temporary housing locations (2020-Suffolk County-005).

Permanent Housing

In situations where permanent housing locations need to be identified as homes are moved out of high-risk areas of the floodplain, the County can assist local jurisdictions with identifying appropriate locations.

9.1.7 Hazard Event History Specific to Suffolk County

Suffolk County has a history of hazard events, as detailed in Volume I, Section 4 (Risk Assessment) of this plan.

9.1.8 Hazard Ranking and Jurisdiction-Specific Vulnerabilities

The hazard profiles in Section 5.0 (Risk Assessment) of this plan have detailed information regarding each plan participant's vulnerability to the identified hazards. The following summarizes Suffolk County's risk



assessment results and data used to determine the hazard ranking. For additional vulnerability information, refer to Section 5.

A gradient of certainty was developed to summarize the confidence level regarding the input used to populate the hazard ranking. A certainty factor of high, medium or low was selected and assigned to each hazard to provide a level of transparency and create increased understanding of the data used to support the resulting ranking. The following scale was used to assign a certainty factor to each hazard:

- High—Defined scenario/event to evaluate; probability calculated; evidenced-based/quantitative assessment to estimate potential impacts through hazard modeling.
- Moderate—Defined scenario/event or only a hazard area to evaluate; estimated probability; combination of quantitative (exposure analysis, no hazard modeling) and qualitative data to estimate potential impacts.
- Low—Scenario or hazard area is undefined; there is a degree of uncertainty regarding event probability; majority of potential impacts are qualitative.

Critical Facilities

New York Department of Environmental Conservation (DEC) Statute 6 CRR-NY 502.4 sets forth floodplain management criteria for State projects located in flood hazard areas. The law states that no such projects related to critical facilities shall be undertaken in a Special Flood Hazard Area (SFHA) unless constructed according to specific mitigation specifications, including being raised 2' above the Base Flood Elevation (BFE). This statute is outlined at <http://tinyurl.com/6-CRR-NY-502-4>. While all vulnerabilities should be assessed and documented, the State places a high priority on exposure to flooding. Critical facilities located in an SFHA, or having ever sustained previous flooding, must be protected to the 500-year flood event, or worst damage scenario. For those that do not meet these criteria, the jurisdiction must identify an action to achieve this level of protection (NYS DHSES 2017).

The table below identifies critical facilities and community lifelines located in the 1-percent and 0.2-percent floodplain. It also summarizes if the facility is already mitigated in compliance with NYS standards (i.e., to the 0.2-percent annual chance event or worse-case scenario), or if a new mitigation action is proposed in the plan update.

Table 9.1-10. Potential Flood Losses to Critical Facilities

Name	Type	Exposure			Complies with NYS Standards	Addressed by Proposed Action
		1% Event		0.2% Event		
		A-Zone	V-Zone			
DPW HIGHWAY MAINTENANCE*	County Building	-	-	X	Yes	-
SEWAGE LIFT STATION*	County Building	X	-	X	Unknown	2020-Suffolk County-065
DPW PUMP HOUSE*	County Building	X	-	X	Unknown	2020-Suffolk County-065
HYDRO GATE PUMP*	County Building	X	-	X	Unknown	2020-Suffolk County-065
GARAGE*	County Building	X	-	X	Unknown	2020-Suffolk County-065



Name	Type	Exposure			Complies with NYS Standards	Addressed by Proposed Action
		1% Event		0.2% Event		
		A-Zone	V-Zone			
LOCK TENDER HOUSE*	County Building	X	-	X	Unknown	2020-Suffolk County-065
HYDRO GATE PUMP*	County Building	X	-	X	Unknown	2020-Suffolk County-065
PUMP HOUSE*	County Building	X	-	X	Unknown	2020-Suffolk County-065
PUMPING STATION*	County Building	X	-	X	Unknown	2020-Suffolk County-065
JESSUP LANE BRIDGE OPERATOR*	County Building	X	-	X	Unknown	2020-Suffolk County-065
POST LANE BRIDGE MACHINE TOWER*	County Building	X	-	X	Unknown	2020-Suffolk County-065
POST LANE BRIDGE OPERATOR*	County Building	X	-	X	Unknown	2020-Suffolk County-065
BEACH LANE BRIDGE OPERATOR*	County Building	X	-	X	Unknown	2020-Suffolk County-065
BEACH LANE BRIDGE MACHINE TOWER*	County Building	X	-	X	Unknown	2020-Suffolk County-065
BEACH LANE BRIDGE N STORAGE*	County Building	X	-	X	Unknown	2020-Suffolk County-065
BEACH LANE BRIDGE S STORAGE*	County Building	X	-	X	Unknown	2020-Suffolk County-065
MARINE SCIENCE TECH CENTER*	County Building	-	-	X	Yes	-
SALT SHED*	County Building	-	-	X	Yes	-
MAINTENANCE/OFFICE - BERGEN POINT COUNTY GOLF COURSE*	County Building	X	-	X	Unknown	2020-Suffolk County-065
BUTLER BUILDING - BERGEN POINT COUNTY GOLF COURSE*	County Building	X	-	X	Unknown	2020-Suffolk County-065
NEW CLUB HOUSE RESTAURANT - BERGEN POINT COUNTY GOLF COURSE*	County Building	X	-	X	Unknown	2020-Suffolk County-065
ENTRY BOOTH*	County Building	X	-	X	Unknown	2020-Suffolk County-065



Name	Type	Exposure			Complies with NYS Standards	Addressed by Proposed Action
		1% Event		0.2% Event		
		A-Zone	V-Zone			
BOATHOUSE - COINDRE HALL*	County Building	X	-	X	Unknown	2020-Suffolk County-065
LAKE HOUSE-PECONIC DUNES CO PARK*	County Building	X	-	X	Unknown	2020-Suffolk County-065
INFIRMARY*	County Building	X	-	X	Unknown	2020-Suffolk County-065
GIRLS CABIN ½*	County Building	X	-	X	Unknown	2020-Suffolk County-065
GIRLS CABIN ¾*	County Building	X	-	X	Unknown	2020-Suffolk County-065
GIRLS CABIN 5/6*	County Building	X	-	X	Unknown	2020-Suffolk County-065
COTTAGE #1 - SMITHERS STABLES*	County Building	-	-	X	Yes	-
COTTAGE #2 - SMITHERS STABLES*	County Building	-	-	X	Yes	-
COTTAGE #3 - SMITHERS STABLES*	County Building	-	-	X	Yes	-
COTTAGE #4-SMITHERS STABLES*	County Building	-	-	X	Yes	-
COTTAGE #5 - SMITHERS STABLES*	County Building	-	-	X	Yes	-
COTTAGE #6 - SMITHERS STABLES*	County Building	-	-	X	Yes	-
BROODERS HOUSE(SIGN SHOP)-SMITHERS STABLES*	County Building	-	-	X	Yes	-
SPORTS SHED - PECONIC DUNES CO PARK*	County Building	X	-	X	Unknown	2020-Suffolk County-065
CAMP STORE*	County Building	X	-	X	Unknown	2020-Suffolk County-065
COOK SHED*	County Building	X	-	X	Unknown	2020-Suffolk County-065
MAIN HOUSE - SMITHERS STABLES*	County Building	-	-	X	Yes	-
KITCHEN SHED*	County	X	-	X	Unknown	2020-Suffolk



Name	Type	Exposure			Complies with NYS Standards	Addressed by Proposed Action
		1% Event		0.2% Event		
		A-Zone	V-Zone			
	Building					County-065
JUDGES OSHRIN/MAZZEI*	County Building	X	-	X	Unknown	2020-Suffolk County-065
JACKSON MARINA MAST CRANE FACILITY*	County Building	X	-	X	Unknown	2020-Suffolk County-065
LEGISLATORS WILLIAM JONES & GEORGE GULDI*	County Building	-	-	X	Yes	-
TEMPORARY 5TH POLICE* PRECINCT*	County Building	X	-	X	Unknown	2020-Suffolk County-065
VECTOR CONTROL STORAGE GARAGE*	County Building	X	-	X	Unknown	2020-Suffolk County-065
RADIO TOWER*	County Building	-	-	X	Yes	-
UV ELECTRICAL & STORAGE*	County Building	X	-	X	Unknown	2020-Suffolk County-065
SMELC SHELLFISH HATCHERY*	County Building	-	-	X	Yes	-
SMELC SPAT GARAGE*	County Building	-	-	X	Yes	-
SDRLS PS-1 PUMP STATION CENTER DRIVE*	County Building	X	-	X	Unknown	2020-Suffolk County-065
SD3 PS-9 PUMP STATION RICHMOND AVE*	County Building	X	-	X	Unknown	2020-Suffolk County-065
SD 3 PS-2 PUMP STATION GIRARD AVE*	County Building	X	-	X	Unknown	2020-Suffolk County-065
SD PS-4 PUMP STATION PROSPECT AVE*	County Building	X	-	X	Unknown	2020-Suffolk County-065
SD3 PS3 PUMP STATION SHORE RD*	County Building	X	-	X	Unknown	2020-Suffolk County-065
DPW HIGHWAY MAINTENANCE*	County Building	-	-	X	Yes	-
MAIN PAVILLION*	County Building	X	X	X	Unknown	2020-Suffolk County-065
MAIN HOUSE (BLACK DUCK LODGE)*	County Building	-	-	X	Yes	-



Name	Type	Exposure			Complies with NYS Standards	Addressed by Proposed Action
		1% Event		0.2% Event		
		A-Zone	V-Zone			
ISLAND EAST PROMANADE*	County Building	-	-	X	Yes	-
OUT HOUSE STORAGE AREA*	County Building	-	-	X	Yes	-
INVENTORY STORAGE BUILDING*	County Building	-	-	X	Yes	-
RANGER STATION/PARK OFFICE*	County Building	-	-	X	Yes	-
MAIN PAVILLION*	County Building	-	-	X	Yes	-
FLOATING DOCKS*	County Building	-	-	X	Yes	-
RESIDENCE PARK FOREMAN*	County Building	X	X	X	Unknown	2020-Suffolk County-065
ENTRY BOOTH*	County Building	-	-	X	Yes	-
SERVICE BUILDING*	County Building	-	-	X	Yes	-
OLD TICKET BOOTH*	County Building	X	X	X		
STORAGE SHED*	County Building	-	-	X	Yes	-
MAINTENANCE SHED "A"*	County Building	-	-	X	Yes	-
MAINTENANCE SHED "B"*	County Building	-	-	X	Yes	-
MAINTENANCE SHED "D"*	County Building	-	-	X	Yes	-
NEW BOAT HOUSE*	County Building	-	-	X	Yes	-
ELECTRICAL / UTILITY SHED*	County Building	-	-	X	Yes	-
BAND SHELL*	County Building	-	-	X	Yes	-
EMT/LIFEGUARD STATION*	County	-	-	X	Yes	-



Name	Type	Exposure			Complies with NYS Standards	Addressed by Proposed Action
		1% Event		0.2% Event		
		A-Zone	V-Zone			
	Building					
New Campground Check-in Station*	County Building	-	-	X	Yes	-
UTILITY MOUNT - CAMP GROUND AREA 3*	County Building	-	-	X	Yes	-
UTILITY MOUNT - CAMP GROUND AREA 1*	County Building	-	-	X	Yes	-
POLICE BOOTH*	County Building	X	-	X	Unknown	2020-Suffolk County-065
LEGISLATORS JONES/THIELE*	County Building	X	-	X	Unknown	2020-Suffolk County-065
JUDGES CHAMBERS – HURLEY*	County Building	-	-	X	Yes	-
POLICE BOOTH*	County Building	X	-	X	Unknown	2020-Suffolk County-065

Source: Suffolk County 2020; FEMA 2009

Notes: X = Facility is located in the floodplain boundary.

*Community Lifeline

Hazard Ranking

This section provides the community specific identification of the primary hazard concerns based on identified problems, impacts and the results of the risk assessment as presented in Section 5 (Risk Assessment) of the plan. The ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and the economy as well as community capability and changing future climate conditions. This input supports the mitigation action development to target those hazards with highest level of concern.

As discussed in Section 5.3 (Hazard Ranking), each participating jurisdiction may have differing degrees of risk exposure and vulnerability compared to Suffolk County as a whole. Therefore, each municipality ranked the degree of risk to each hazard as it pertains to their community. The table below summarizes the hazard risk/vulnerability rankings of potential hazards for Suffolk County. The County has reviewed the county hazard risk/vulnerability risk ranking table and provided input to its individual results to reflect the relative risk of the hazards of concern to the community.

During the review of the hazard/vulnerability risk ranking, Suffolk County indicated the following:

- The County changed the hazard ranking of coastal erosion from medium to high due to the frequency of events.
- The County changed the hazard ranking of flood from medium to high due to the frequency of events and the impacts of sea level rise on coastal flooding.
- The County changed the hazard ranking for drought from low to medium due to the impact of high temperatures on increased impacts drought.





- The County changed the hazard ranking for earthquake from medium to low, due to modern building codes and low frequency of events.
- The County changed the hazard ranking for groundwater contamination from medium to high due to the variety of potential contamination sources identified through stormwater management planning.
- The County changed the hazard ranking for severe storm from medium to high due to the frequency and past damages from severe storm events.
- The County agreed with the remainder of the calculated hazard rankings.

Table 9.1-11. Hazard Ranking

Coastal Erosion High	Cyber Security Medium	Disease Outbreak Medium	Drought Medium	Earthquake Low	Expansive Soils Low
Extreme Temperature Medium	Flood High	Groundwater Contamination High	Hurricane High	Infestation and Invasive Species Medium	Nor'Easter High
	Severe Storm High	Severe Winter Storm Medium	Shallow Groundwater Medium	Wildfire Medium	

Identified Issues

The County has identified the following vulnerabilities within their community:

- Coastal erosion monitoring and coordinated responses to coastal issues are needed from village, town, county, and state agencies.
- Bergen Point Sewer Plant in Babylon and the road leading to it “Bergen Avenue” are floodprone. The Sewer Plant is the largest in the county.
- The end of the North Fork and South Fork are dependent on hazard prone roadways and bridges that should be surveyed for hazard exposure and safety.
 - Bridges above Shinnecock Canal
 - County Road 25 and County Road 48 at Hashamomuck Pond
 - County Road 25 at Dam Pond
- Many culverts on town roadways are the responsibility of the Suffolk County Department of Public Works
- Several dams are in need of safety upgrades.
- The Department of Health Services may require support for future disease outbreak response in the form of facilities, refrigeration of medication/vaccines, equipment, and staffing.

9.1.9 Mitigation Strategy and Prioritization

This section discusses past mitigations actions and status, describes proposed hazard mitigation initiatives, and their prioritization.

Past Mitigation Initiative Status

The following table indicates progress on the community’s mitigation strategy identified in the 2014 HMP. Actions that are carried forward as part of this plan update are included in the updated mitigation strategy table (Table 9.1-13). Previous actions that are now on-going programs and capabilities are indicated as such in the following table and may also be found under ‘Capability Assessment’ presented previously in this annex.



Table 9.1-12. Status of Previous Mitigation Actions

Project #	Project Name	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem and the Solution (Project)	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if complete)		Next Steps 1. Project to be included in 2020 HMP or Discontinue 2. If including action in the 2020 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
						Cost	Damages Avoided; Evidence of Success	
SCED P - 1	Ecological Restoration of the Stream Corridor and Floodplain in Mud Creek County Park, Suffolk County, NY	Flooding (riverine); groundwater contamination; shallow groundwater.	Suffolk County Dept. of Parks, Recreation & Conservation has jurisdiction.		In Progress; Have secured 100% funding	Cost		1. Include in 2020 HMP 2. 3.
						Level of Protection		
						Damages Avoided; Evidence of Success		
SCED P- 2	Acquisition of Properties within Coastal Flood Hazard Areas in Suffolk County, New York	Coastal Erosion, Flooding (all), Hurricane, Nor'easters, Shallow Groundwater	Suffolk County Dept. of Economic Development and Planning		In Progress	Cost		1. Include in 2020 HMP 2. 3.
						Level of Protection		
						Damages Avoided; Evidence of Success		
SCED P- 3	Bus Rapid Transit Demonstration Project	Hurricane (tropical cyclones, including tropical storms, and tropical depressions), Nor'Easters (extra-tropical cyclones, including severe winter low-pressure systems), Severe Storms (windstorms, thunderstorms, hail, lightning,	Suffolk County		In Progress; in preliminary engineering	Cost		1. Include in 2020 HMP 2. 3.
						Level of Protection		
						Damages Avoided; Evidence of Success		



Project #	Project Name	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem and the Solution (Project)	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if complete)		Next Steps 1. Project to be included in 2020 HMP or Discontinue 2. If including action in the 2020 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.	
		and tornados), Sever Winter Storm (heavy snow, blizzards, ice storms)							
SCED P- 4	A pilot program to upgrade wastewater infrastructure in flood prone coastal communities in Suffolk County	Flooding/Hurricane: Impacted wetlands damaged by excessive nitrogen loading from septic/cesspools	Suffolk County		In Progress; Between 2014 and 2018, Suffolk County has piloted 16 advanced wastewater treatment technologies in 45 homes that were awarded free wastewater treatment systems. In 2017, the County Legislature approved the Septic Improvement Program (SIP) which provides grants to make voluntary replacement of cesspools and septic systems with new innovative alternative technologies	Cost	Level of Protection	Damages Avoided; Evidence of Success	<ol style="list-style-type: none"> 1. Include in 2020 HMP 2. The County is undertaking a Countywide Wastewater District Feasibility Study with funding from New York State and the Long Island Regional Planning Council. Also, the County is undertaking a real estate valuation study of advanced wastewater treatment and sewers. 3.



Project #	Project Name	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem and the Solution (Project)	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if complete)	Next Steps 1. Project to be included in 2020 HMP or Discontinue 2. If including action in the 2020 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
					<p>affordable for homeowners. As of May 2019, more than 1,681 homeowners had registered for the program, 481 had completed grant applications, 358 have active grant certificates and 218 have been installed or are ready to be installed. In early 2018, the State awarded the County \$10.025 million in Septic System Replacement Funds towards the grant program. In December 2017, the Legislature approved changes to the Sanitary Code to ban in-kind replacement of cesspools effective July</p>		



Project #	Project Name	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem and the Solution (Project)	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if complete)		Next Steps 1. Project to be included in 2020 HMP or Discontinue 2. If including action in the 2020 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
					1, 2019. The County is undertaking a Countywide Wastewater District Feasibility Study with funding from New York State and the Long Island Regional Planning Council. Also, the County is undertaking a real estate valuation study of advanced wastewater treatment and sewers.			
SCED P- 5 (Sandy HMFP LOI #1291)	Tidal Wetland Restoration at Smith Point County Park to Improve Protection against Flooding and Storm Damage	Coastal Erosion, Flood, Hurricane, Nor'Easters, Severe Storms, Severe Winter Storms	Suffolk County Department of Economic Development and Planning; Frank Castelli, Environmental Projects Coordinator		In Progress: Field work started in the fall of 2019 to restore approximately 77 acres of tidal salt marsh that protect both private homes and public infrastructure from waves	Cost		1. Include in 2020 HMP 2. 3.
						Level of Protection		
						Damages Avoided; Evidence of Success		



Project #	Project Name	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem and the Solution (Project)	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if complete)		Next Steps 1. Project to be included in 2020 HMP or Discontinue 2. If including action in the 2020 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
					and storm surge at Smith Point			
SCFR ES – 1	Build Local Floodplain Management and Disaster Recovery Capabilities	Coastal Erosion, Flooding, Hurricane, Nor'Easters, Shallow Groundwater	Suffolk County Dept of Fire, Rescue and Emergency Services		No Progress; Applied for FMA grant in FY2018, did not receive an award. Will include as a mitigation action in the new plan and apply for in FY 2021.	Cost		1. Include in 2020 HMP 2. 3.
SCFR ES – 2	Jurisdictional Knowledge of Mitigation Needs of Property Owners	All	Suffolk County Department of Fire, Rescue and Emergency Services working with Local Jurisdictions in cooperation with State and Federal Agencies. FRES Commissioner Joseph Williams, Tel # 631-852-4900		No Progress	Cost		1. Include in 2020 HMP 2. Currently, there is no method in place for data collection of private property mitigation projects. There may be many mitigation opportunities that are eligible for funding that go unreported to the local jurisdictions resulting in costly recovery dollars. Action or Project Intended for Implementation: A digital form on the Suffolk County Hazard Mitigation Website that will allow residents to complete and submit mitigation project ideas. Public education and outreach to help residents understand the various categories of mitigation funding and eligible projects. Printed materials and workshops for residents.
						Level of Protection		
						Damages Avoided; Evidence of Success		
						Level of Protection		
						Damages Avoided; Evidence of Success		



Project #	Project Name	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem and the Solution (Project)	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if complete)		Next Steps 1. Project to be included in 2020 HMP or Discontinue 2. If including action in the 2020 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
								3.
SCFR ES – 3 (former SC-1)	Countywide Debris Management Plan	All except Drought, Shallow Groundwater, and Groundwater Contamination	Suffolk County Departments of Fire, Rescue and Emergency Services (FRES) and Public Works (DPW) FRES Commissioner Joseph Williams, Tel # 631-852-4900		Complete	Cost		1. Discontinue
						Level of Protection		2.
						Damages Avoided; Evidence of Success		3. Complete
SCFR ES – 4	Create a Multi-Jurisdictional Seismic Safety Committee in Suffolk County	Earthquake	SC FRES with cooperation from SC Departments FRES Commissioner Joseph Williams, Tel # 631-852-4900		No Progress	Cost		1. Include in 2020 HMP
						Level of Protection		2. Should be added - Create a multi-jurisdictional Seismic Safety Committee and Plan. The County would apply for a PDM grant to fund a consultant to run analyses and make mitigation project suggestions. Look into update local building codes/requirements to go above and beyond "normal" building code.
						Damages Avoided; Evidence of Success		3.
SCFR ES – 5	Alignment of Mitigation through All Level of Authority	All	Suffolk County Department of Fire, Rescue and Emergency Services FRES Commissioner Joseph Williams, Tel #		Ongoing Capability	Cost		1. Discontinue
						Level of Protection		2.
						Damages Avoided; Evidence of		3. Ongoing Capability



Project #	Project Name	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem and the Solution (Project)	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if complete)		Next Steps 1. Project to be included in 2020 HMP or Discontinue 2. If including action in the 2020 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
			631-852-4900			Success		
SCFR ES – 6 (former SC-9)	Mitigation Education for Natural Disasters.	All	Suffolk County Dept of Fire, Rescue and Emergency Services: Joseph F. Williams, Commissioner, Suffolk County Dept of Fire, Rescue and Emergency Services		Ongoing Capability	Cost		1. Discontinue 2. 3. Ongoing Capability
						Level of Protection		
						Damages Avoided; Evidence of Success		
SCFR ES – 7	County-Wide Housing Location/Relocation Planning Initiative for Disaster Displaced Residents and Structures	Flooding, Hurricane, Nor'easters, Severe Storms, Severe Winter Storms, Wildfire, Coastal Erosion, and Shallow Groundwater	SC FRES in conjunction with other SC Departments having specific expertise in required areas of housing and planning (i.e. Real Estate, Social Services, Economic Development and Planning, etc.) SC FRES Commissioner Joseph		No Progress	Cost		1. Include in 2020 HMP 2. SCFRES needs to identify open spaced for temporary housing units (FEMA trailers) that have access to utilities. Must keep in mind of accessibility and social distancing. Must work cooperatively with municipalities that have been unable to identify their own temporary housing spaces. 3.
						Level of Protection		
						Damages Avoided; Evidence of Success		



Project #	Project Name	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem and the Solution (Project)	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if complete)		Next Steps 1. Project to be included in 2020 HMP or Discontinue 2. If including action in the 2020 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
			Williams, Tel. # 631-852-4900					
SCDP W-1 (Sandy HMGP LOI #280)	Restoration of Bulkheading throughout Suffolk County.	Nor' Easter, Flooding (Coastal), Hurricane	Suffolk County Department of Public Works: Bridges & Structures		Complete; Restored in 2017 by CP 5377	Cost		1. Discontinue 2. 3. Complete
SCDP W-2 (Sandy HMGP LOI #292)	Reconstruction of Shinnecock Canal Jetties and Bulkheads.	Flooding (Coastal), Hurricane	Suffolk County Department of Public Works: Bridges and Structures		In Progress	Cost		1. Include in 2020 HMP 2. Bulkhead replacement at Shinnecock Marina 3.
SCDP W-3 (Sandy HMGP LOI #302)	CP 5116, Safety and Drainage Improvements to the Center Medians on CR46, William Floyd Parkway, from Coraci Blvd. to Smith Point.				In Progress; CP 5116 is in final design and will be constructed after the Sunrise Wind Farm installs the necessary conduit and cable on CR 46 from the landing at	Cost		1. Include in 2020 HMP 2. 3.
						Level of Protection		
						Damages Avoided; Evidence of Success		
						Level of Protection		
						Damages Avoided; Evidence of Success		



Project #	Project Name	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem and the Solution (Project)	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if complete)		Next Steps 1. Project to be included in 2020 HMP or Discontinue 2. If including action in the 2020 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
					Smith Point Park			
SCDP W-4 (Sandy HMGP LOI #306)	Weatherproofing PDHQ Building for Hurricane	Flooding, Hurricane, Nor'Easters, Severe Storms, Severe Winter Storms	Suffolk County Department of Public Works: Paul McMahon, Principal Civil Engineer, Project Manager – paul.mcmahon@suffolkcountyny.gov		No Progress	Cost		1. Include in 2020 HMP
						Level of Protection		2.
						Damages Avoided; Evidence of Success		3.
SCDP W-5 (Sandy HMGP LOI #310)	CP 8710, Northeast Branch Nissequogue River Restoration Project, from the vicinity of Clearbrook Drive to Miller's Pond.	Shallow groundwater	Suffolk County Department of Public Works: Paul McMahon, Principal Civil Engineer		Complete	Cost		1. Discontinue
						Level of Protection		2.
						Damages Avoided; Evidence of Success		3. Complete
SCDP W-6 (Sandy HMGP LOIs #315, #350)	CP No: 5005 Project Title: Improvements to CR38, North Sea Road, from CR39, North road to vicinity of Noyack Road .	Flooding	Suffolk County Department of Public Works: Erik Bergey, P.E., Senior Civil Engineer		In Progress; CP 5505 in final design with a letting scheduled in 2024	Cost		1. Include in 2020 HMP
						Level of Protection		2.
						Damages Avoided; Evidence of		3.



Project #	Project Name	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem and the Solution (Project)	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if complete)		Next Steps 1. Project to be included in 2020 HMP or Discontinue 2. If including action in the 2020 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
						Cost	Damages Avoided; Evidence of Success	
						Success		
SCDP W-7 (Sandy HMGP LOI #329)	CP 5583, Improvements to CR79, Sag Harbor/Bridgehampton Turnpike, from Brick Kiln Road to NYS Rt. 27, Montauk Highway.	Flooding	Suffolk County Department of Public Works: Joni Rivera, Jr. Civil Engineer		In Progress; Some improvements completed already, the remainder will be completed by two projects. One scheduled to be let in 2021 and the last in 2024	Cost		1. Include in 2020 HMP 2. 3.
						Level of Protection		
						Damages Avoided; Evidence of Success		
SCDP W-8 (Sandy HMGP LOI #347)	Improvements to County Road 39, North Road/Flying Point Road.	Flooding	Suffolk County Department of Public Works: Joni Rivera, Jr Civil Engineer		In Progress; Three separate projects are being progressed for this under CP 5528. Lettings scheduled for 2023, 2024 & 2026	Cost		1. Include in 2020 HMP 2. 3.
						Level of Protection		
						Damages Avoided; Evidence of Success		
SCDP W-9 (Sandy HMGP LOI #366)	Suffolk County Sewer District No.3 - Southwest - Infiltration/inflow.	Flooding	Suffolk County Department of Public Works: Gilbert Anderson, P.E., Commissioner		No Progress	Cost		1. Include in 2020 HMP 2. 3.
						Level of Protection		
						Damages Avoided; Evidence of Success		



Project #	Project Name	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem and the Solution (Project)	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if complete)		Next Steps 1. Project to be included in 2020 HMP or Discontinue 2. If including action in the 2020 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
SCDP W-10 (Sandy HMGP LOI # 373)	Suffolk County Sewer District No. 1 - Port Jefferson - Sewage Pump Station and Force Main.	Hurricane, Nor'Easters, Severe Storms, Severe Winter Storms	Suffolk County Department of Public Works: Gilbert Anderson, P.E., Commissioner		No Progress	Cost		1. Discontinue 2. 3. Per Sanitation, the project is small and may not be needed in the near future.
						Level of Protection		
						Damages Avoided; Evidence of Success		
SCDP W-11 (Sandy HMGP LOI #378)	Suffolk County Sewer District No. 6 - Outfall Rehabilitation.	Flooding, Hurricane, Nor'Easters, Severe Storms, Severe Winter Storm	Suffolk County Department of Public Works: Gilbert Anderson, P.E., Commissioner		No Progress	Cost		1. Discontinue 2. 3. Per Sanitation, the project is small and may not be needed in the near future.
						Level of Protection		
						Damages Avoided; Evidence of Success		
SCDP W-12 (Sandy HMGP LOI #382)	Suffolk County Sewer Districts Emergency Electric Generators.	Hurricane, Nor'Easter, Severe Storm, Severe Winter Storm, Earthquake	Suffolk County Department of Public Works: John Donovan, P.E., Chief Engineer		No Progress	Cost		1. Include in 2020 HMP 2. 3.
						Level of Protection		
						Damages Avoided; Evidence of Success		
SCDP W-13 (Sandy HMGP LOI #391)	Suffolk County Sewer District No. 3 - Southwest - Pumping Stations 9 & 10.	Flooding; Severe Storm	Suffolk County Department of Public Works: Gilbert Anderson, P.E., Commissioner		No Progress	Cost		1. Discontinue 2. Per Sanitation, the project is small and may not be needed in the near future.
						Level of Protection		
						Damages Avoided; Evidence of		



Project #	Project Name	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem and the Solution (Project)	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if complete)		Next Steps 1. Project to be included in 2020 HMP or Discontinue 2. If including action in the 2020 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
						Cost	Damages Avoided; Evidence of Success	
SCDP W-14 (Sandy HMGP LOI #395)	Suffolk County Sewer District No. 3 - Southwest - Electrical Substation.	Flooding	Suffolk County Department of Public Works: Gilbert Anderson, P.E., Commissioner		No Progress	Cost		1. Discontinue 2. Per Sanitation, the project is small and may not be needed in the near future.
SCDP W-15 (Sandy HMGP LOI #399)	Suffolk County Sewer District No. 3 - Southwest - Perimeter Wall.	Flooding	Suffolk County Department of Public Works: Gilbert Anderson, P.E., Commissioner		No Progress	Cost		1. Include in 2020 HMP 2. 3.
SCDP W-16 (Sandy HMGP LOI #426)	Suffolk County Sewer District No.3 - Southwest - Ocean Outfall.	Flooding, Hurricane, Nor'Easters	Suffolk County Department of Public Works: Gilbert Anderson, Commissioner		No Progress	Cost		1. Include in 2020 HMP 2. 3.
SCDP W-17 (Sandy HMGP)	Suffolk County Sewer District No. 3 - Southwest - Co-generation.	Severe storm, Nor'Easter, Severe Winter Storm	Suffolk County Department of Public Works: Gilbert Anderson, P.E.,		No Progress	Cost		1. Include in 2020 HMP 2.



Project #	Project Name	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem and the Solution (Project)	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if complete)		Next Steps 1. Project to be included in 2020 HMP or Discontinue 2. If including action in the 2020 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
LOI #1129			Commissioner			Damages Avoided; Evidence of Success		3.
SCDP W-18 (Sandy HMGP LOI #403)	Suffolk County Sewer Districts Vulnerability Analyses	Flooding, Severe Storms, Hurricane, Nor'Easter	Suffolk County Department of Public Works: John Donovan, P.E., Chief Engineer		No Progress	Cost		1. Include in 2020 HMP
						Level of Protection		2.
						Damages Avoided; Evidence of Success		3.
SCPD - 1	Radio Tower Infrastructure Retrofit.	Nor'Easters, Hurricanes, Severe Storms, Severe Winter Storms	Suffolk County Police Department: Lisa Santeramo, Assistant Deputy County Executive, Suffolk County		In Progress; SCDPW replaced generator. SCPD should now be the lead agency.	Cost		1. Include in 2020 HMP
						Level of Protection		2.
						Damages Avoided; Evidence of Success		3.
SCPD - 2	Marine Bureau Fuel Supply Protection Project.	Flooding, Hurricanes, Nor'Easters	Suffolk County Police Department: Lisa Santeramo, Assistant Deputy County Executive		No Progress; Pumps still need to be raised.	Cost		1. Include in 2020 HMP
						Level of Protection		2.
						Damages Avoided; Evidence of Success		3.
SCPD - 3	Marine Bureau Shop Damage Mitigation	Flooding, Hurricanes,	Suffolk County Police		In Progress; Doors have	Cost		1. Include in 2020 HMP



Project #	Project Name	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem and the Solution (Project)	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if complete)		Next Steps 1. Project to be included in 2020 HMP or Discontinue 2. If including action in the 2020 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
						Level of Protection	Damages Avoided; Evidence of Success	
	Project.	Nor'Easters, Severe Storms	Department: Lisa Santeramo, Assistant Deputy County Executive		been replaced. Capital funding requested for concrete floor repair. No longer planning to raise equipment areas.	Level of Protection		2. 3.
SCPD - 4	Permanent Generator Installation- 911 Backup Center.	Hurricanes, Nor'Easters, Severe Storms, Severe Winter Storms	Suffolk County Police Department: Lisa Santeramo, Assistant Deputy County Executive		Complete	Cost		
						Level of Protection		
						Damages Avoided; Evidence of Success		
SCPD - 5	Permanent Generator Installation- Aviation East Hanger.	Hurricane, Nor'Easters, Severe Storms, Severe Winter Storms	Suffolk County Police Department: Lisa Santeramo, Assistant Deputy County Executive		Complete	Cost		
						Level of Protection		
						Damages Avoided; Evidence of Success		
SCPD - 6	Permanent Generator Installation- Police Academy Emergency Work Shelter.	Hurricanes, Nor'Easters, Severe Storms, Severe Winter	Suffolk County Police Department: Lisa Santeramo,		In Progress; Federal surplus generator received and awaiting	Cost		1. Include in 2020 HMP
						Level of Protection		2.



Project #	Project Name	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem and the Solution (Project)	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if complete)		Next Steps 1. Project to be included in 2020 HMP or Discontinue 2. If including action in the 2020 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
		Storms	Assistant Deputy County Executive		installation.	Damages Avoided; Evidence of Success		3.
SCPD - 7	Permanent Generator Installation- Special Patrol Bureau.	Hurricanes, Nor'Easters, Severe Storms, Severe Winter Storms	Suffolk County Police Department: Lisa Santeramo, Assistant Deputy County Executive		In Progress. Capital funding being used to install generator. Concrete pad and ballards have been installed.	Cost		1. Include in 2020 HMP
						Level of Protection		2.
						Damages Avoided; Evidence of Success		3.
Sandy HMGP LOI #1845	Permanent Generator Installation- Marine Bureau.		Currently being addressed by DPW as part of a 406 funded project.		In Progress; Currently being addressed by DPW as part of a 406 funded project.	Cost		1. Include in 2020 HMP
						Level of Protection		2.
						Damages Avoided; Evidence of Success		3.
SCSW CD-1	Drainage Deflection Maintenance to Protect Public and Private Property on Eastern Suffolk	Flooding issues	USDA Natural Resources Conservation Service, Town of Southold		Ongoing Capability	Cost		1. Discontinue
						Level of Protection		2.
						Damages Avoided; Evidence of Success		3. Ongoing Capability
SCDH S-1	Suffolk County DSS Emergency Generators	All	Suffolk County Department of		Complete; The installation	Cost		1. Discontinue



Project #	Project Name	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem and the Solution (Project)	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if complete)		Next Steps 1. Project to be included in 2020 HMP or Discontinue 2. If including action in the 2020 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
						Level of Protection	Damages Avoided; Evidence of Success	
	Countywide.		Health Services: Gary T. Amato, Accountant & Linda Suntup, Asst. Facilities Space Manager		was completed in 2018. A County Executive decision was made to install only one generator at the Tri Community Health Center in Amityville. The secondary generator at the Shirley Health Center was tabled.	Level of Protection		2. 3. Complete
SCDS S-1	Suffolk County DSS Emergency Generators Countywide.	Hurricanes, Nor'Easters, Severe Storms, Severe Winter Storms	Suffolk County Department of Social Services: Kenneth Knappe, Principal Management Analyst		Complete; The installation was completed in 2018. A County Executive decision was made to install only one generator at the Tri Community Health Center in Amityville. The secondary generator at the Shirley Health Center was tabled.	Cost		1. Discontinue 2. 3. Complete
						Level of Protection		
						Damages Avoided; Evidence of Success		



Project #	Project Name	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem and the Solution (Project)	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if complete)		Next Steps 1. Project to be included in 2020 HMP or Discontinue 2. If including action in the 2020 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
						Cost	Level of Protection	
SCParks - 1	Meschutt Beach County Park: Develop "engineered beach"	Coastal erosion, hurricane, nor'easters, severe storms, severe winter storm	Project to be completed by DPW staff with assistance from Parks staff		Ongoing Capability; SC will nourish the beach to design profile and periodically re-nourish in order to develop an 'Engineered Beach'.	Cost		1. Discontinue 2. 3. Ongoing Capability
						Level of Protection		
						Damages Avoided; Evidence of Success		
SCParks - 3	Orient Point County Park - Infrastructure protection and erosion control measures	Coastal erosion, hurricane, nor'easters, severe storms, severe winter storm	SC Parks / SC DPW		Complete	Cost		1. Discontinue 2. 3. Complete
						Level of Protection		
						Damages Avoided; Evidence of Success		
SCParks - 4	Indian Island County Park: Infrastructure protection & erosion control measures for the "bluff"	Coastal erosion, hurricane, nor'easters, severe storms, severe winter storm	SC Parks and/or DPW		In Progress; In final design with expected submittal to NYS DEC in 2020.	Cost		1. Include in 2020 HMP 2. 3.
						Level of Protection		
						Damages Avoided; Evidence of Success		
SCParks - 5	Indian Island Golf Course: Erosion control measure to protect Hole #5	Coastal erosion, hurricane, nor'easters, severe storms, severe winter	SC Parks Department and SC DPW		Complete	Cost		1. Discontinue 2.
						Level of Protection		



Project #	Project Name	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem and the Solution (Project)	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if complete)		Next Steps 1. Project to be included in 2020 HMP or Discontinue 2. If including action in the 2020 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
		storm				Damages Avoided; Evidence of Success		3. Complete
SCParks - 6	Cedar Point Lighthouse: Reinforce Structural Integrity to protect against storm activity	Hurricane, nor'easters, severe storms, severe winter storm	SC Parks and DPW will oversee and administer project		In Progress; Interior scaffolding/bracing installed in March 2020 as phase 1.	Cost		1. Include in 2020 HMP 2. 3.
						Level of Protection		
						Damages Avoided; Evidence of Success		
SCParks - 7	Long Island Maritime Museum: Historic buildings - Raise historic structures (Oyster House, Penny Boat Bldg.) to protect against storm surges.	Coastal erosion, hurricanes, nor'easters, severe storms, severe winter storm	SC Parks Department and DPW		No Progress	Cost		1. Include in 2020 HMP 2. 3.
						Level of Protection		
						Damages Avoided; Evidence of Success		
SCParks - 8	Timber Point Golf Course: erosion control measures - The areas along the Great South Bay (Blue Course holes 5 & 6 and "Gibraltar") could be protected against erosion and storm surges by the installation of rip rap up the slope of Gibraltar and the installation of a protective, vegetated berm along the fairways of Holes 5 & 6.	Coastal erosion, hurricanes, nor'easters, severe storms, severe winter storm	SC Parks Department and DPW		In Progress; 'Gibraltar' and Gabion wall along the fairways for holes 5 & 6 were reconstructed. However, additional rip rap has not been installed yet.	Cost		1. Include in 2020 HMP 2. 3.
						Level of Protection		
						Damages Avoided; Evidence of Success		



Project #	Project Name	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem and the Solution (Project)	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if complete)		Next Steps 1. Project to be included in 2020 HMP or Discontinue 2. If including action in the 2020 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
						Cost		
SCPark s-9 (Sandy HMGP LOI #242)	Coindre Hall Boat House Complex Stabilization & Restoration.	Hurricane, Nor'easters, Severe Storms	Suffolk County Parks Department: Terry Maccarrone, Coordinator of Community Based Programs		No Progress	Cost		1. Include in 2020 HMP 2. 3.
						Level of Protection		
						Damages Avoided; Evidence of Success		
SC-2	Stormwater Management – Nissequogue River and Lake Ronkonkoma areas – enhance stormwater conveyance capability in areas contributing to shallow groundwater.	All except Wildfire, Earthquake, Infestation and Drought	SC Parks Dept.		Complete	Cost		1. Discontinue 2. 3. Complete
						Level of Protection		
						Damages Avoided; Evidence of Success		
SC-5	Provide backup power sources at vital critical facilities where necessary. Specific facilities have been identified in this strategy.	All	SC FRES		Ongoing Capability	Cost		1. Discontinue 2. 3. Ongoing Capability
						Level of Protection		
						Damages Avoided; Evidence of Success		
SC-6	Continue to support actions of the Wild Fire Task Force.	Wildfire	SC FRES		Ongoing Capability	Cost		1. Discontinue 2. 3. Ongoing Capability
						Level of Protection		
						Damages Avoided; Evidence of		



Project #	Project Name	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem and the Solution (Project)	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if complete)		Next Steps 1. Project to be included in 2020 HMP or Discontinue 2. If including action in the 2020 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
						Cost	Level of Protection	
						Success		
SC-10	Continue/enhance existing beach nourishment plans, and the development of engineered beaches where appropriate.	Hurricane, Nor'Easter, Coastal Erosion, Severe Storm, Flood, and Severe Winter Storm	SC Parks Dept.		Ongoing Capability	Cost		1. Discontinue
						Level of Protection		2.
						Damages Avoided; Evidence of Success		3. Ongoing Capability
SC-12	Enhance operation of the Suffolk County Emergency Operations Center (EOC) through improvements in facilities/hardware/technology and information as it becomes available	All	SC FRES - OEM		No Progress	Cost		1. Include in 2020 HMP
						Level of Protection		2.
						Damages Avoided; Evidence of Success		3.
SC-13	Enhance functionality of Points of Distribution (PODs).	All	SC FRES		No Progress	Cost		1. Discontinue
						Level of Protection		2.
						Damages Avoided; Evidence of Success		3. Per Sanitation, the project is small and may not be needed in the near future.
SC-14	Continue to expand and enhance SC Emergency Preparedness Registry (formerly known as the Joint Emergency	All except Shallow Groundwater, Groundwater Contamination	SC FRES		Complete; JEEP was replaced by Suffolk County Code	Cost		1. Discontinue
						Level of Protection		2.



Project #	Project Name	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem and the Solution (Project)	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if complete)		Next Steps 1. Project to be included in 2020 HMP or Discontinue 2. If including action in the 2020 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	Evacuation Program - JEEP) program through improvements to technology and information as it becomes available.	and Infestation			Red and Smart 911	Damages Avoided; Evidence of Success		3. Complete
SC-15	Resolve discrepancy between the Real Property Tax Dept. and the Treasurer's Office databases regarding number of tax parcels to support or enhance County-wide risk assessment	All	SC Treasurer's Office and Real Property Dept with assistance from SC IT and/or SC GIS		In Progress	Cost		1. Include in 2020 HMP
						Level of Protection		2.
						Damages Avoided; Evidence of Success		3.
SC-16	Cap Budget # 1729 Implement the Suffolk County Information Technology Disaster Recovery Plan	All	SC Information Technology		In Progress	Cost		1. Include in 2020 HMP
						Level of Protection		2. Include Coronavirus lessons learned
						Damages Avoided; Evidence of Success		3.
SC-17	Cap Budget # 3230 Establishment of a Backup Fire Rescue Communications Facility	All	SC FRES		Complete; A backup communications facility was established in Coram, NY	Cost		1. Discontinue
						Level of Protection		2.
						Damages Avoided; Evidence of Success		3. Complete
SC-18	Cap Budget # 3418 Improvements to the	All	SC FRES -		No Progress	Cost		1. Discontinue



Project #	Project Name	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem and the Solution (Project)	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if complete)		Next Steps 1. Project to be included in 2020 HMP or Discontinue 2. If including action in the 2020 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	Suffolk County Emergency Operations Center (EOC)		OEM			Level of Protection		2. 3. Project duplicates a previous action
						Damages Avoided; Evidence of Success		
SC-19	Enhance emergency preparedness awareness by active participation in training exercises at both the county and local levels	All	SC FRES – OEM		Ongoing Capability	Cost		1. Discontinue
						Level of Protection		2.
						Damages Avoided; Evidence of Success		3. Ongoing Capability
SC-20	Curtail floodplain development by transferring flood-prone properties in the Narrows Bay area obtained by Suffolk County through tax lien procedures to the SC Parks, Recreation and Conservation Dept. for open space purposes as per Narrow Bay Floodplain and Mitigation Plan 1997	Hurricane, Nor'Easter, Coastal Erosion, Severe Storm, Flood, and Severe Winter Storm	SC Planning Dept.		In Progress	Cost		1. Discontinue
						Level of Protection		2.
						Damages Avoided; Evidence of Success		3. Addressed through Mastic Beach project. Duplicative.
receSC - 21 (and former SC-22)	Where appropriate, support retrofitting, acquisition and/or relocation of structures located in flood-prone areas to protect structures from future damage, especially those known to be identified as 'repetitive	Hurricane, Nor'Easter, Coastal Erosion, Severe Storm, Flood, Shallow Groundwater, and Severe Winter	SC Planning Dept		In Progress	Cost		1. Discontinue
						Level of Protection		2.
						Damages Avoided; Evidence of		3. To be addressed at local jurisdiction level.



Project #	Project Name	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem and the Solution (Project)	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if complete)		Next Steps 1. Project to be included in 2020 HMP or Discontinue 2. If including action in the 2020 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
						Cost	Damages Avoided; Evidence of Success	
	loss".	Storm				Success		
SC-23	Maintain ocean inlets at current locations and configurations. Close new inlets if they develop.	Hurricane, Nor'Easter, Coastal Erosion, Severe Storm, Flood, and Severe Winter Storm	USACE and SC Planning Dept.		Ongoing Capability	Cost		1. Discontinue 2. 3. Ongoing Capability
						Level of Protection		
						Damages Avoided; Evidence of Success		
SC-24	Through a regularly scheduled sand by-passing operation, stabilize ocean inlet channels for navigation and maintain the long-shore transport of sand across the inlets.	Hurricane, Nor'Easter, Coastal Erosion, Severe Storm, Flood, and Severe Winter Storm	USACE and SC Planning Dept.		Ongoing Capability	Cost		1. Discontinue 2. 3. Ongoing Capability
						Level of Protection		
						Damages Avoided; Evidence of Success		
SC-26	Ensure that all appropriate county employees are NIMS trained and qualified	All	SC FRES		No Progress	Cost		1. Include in 2020 HMP 2. Implement a standardized emergency management training for all SC employees. Training should be easy to understand and be aligned with the current FEMA NIMS. Training should be easy to access and preferably web-based. 3.
						Level of Protection		
						Damages Avoided; Evidence of Success		
SC-29	Develop and/or enhance the current stormwater management system to be in compliance with federal	All except Earthquake, Wildfire, Infestation and	SC DPW		Ongoing Capability; improvements and additions	Cost		1. Discontinue
						Level of		



Project #	Project Name	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem and the Solution (Project)	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if complete)		Next Steps 1. Project to be included in 2020 HMP or Discontinue 2. If including action in the 2020 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	and state regulations such that there will be a net reduction in the flood risk caused by stormwater impacts	Drought			to the system are kept in compliance.	Protection		2. 3. Ongoing Capability.
SC-30	Enhance the building inventory for all of Suffolk County using latest technology and GIS applications for use within HAZUS-MH for future risk assessment to be performed by Suffolk County, Towns and Villages	All	SC FRES with assistance from SC GIS and Town and Village GIS staffs		Ongoing Capability	Cost		1. Discontinue 2. 3. Ongoing Capability
SC-32	Retrofit critical facilities and infrastructure vulnerable to natural hazards. Specifically identified are the following facilities: <ul style="list-style-type: none"> Enhance the flood protection at the Suffolk County Maximum Security Facility Jail (former SC-27) Enhance the flood and shoreline protection at the Bergen Point Sewage Treatment Plant (former 	All except Infestation, Natural Groundwater Contamination and Drought	Owners of critical facilities and infrastructure		In Progress	Cost		1. Discontinue 2. 3. Included in Action IDs 2754, 2755 and 2757. Action should be deleted
						Level of Protection		
						Damages Avoided; Evidence of Success		



Project #	Project Name	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem and the Solution (Project)	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if complete)		Next Steps 1. Project to be included in 2020 HMP or Discontinue 2. If including action in the 2020 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	SC-28) <ul style="list-style-type: none"> Continue to develop, enhance and implement plans to protect the 6 ½ mile Bergen Point Sewage Treatment Plant Ocean Outfall Pipe from damage during coastal or other hazard events (former SC-31) 							
SC-34	Enhance the SC Comprehensive Emergency Management Plan (CEMP) to address hazards from earthquakes. Implementation of this initiative will be supported by the development of the countywide Seismic Task Force (new Initiative SCFRES-4)	Earthquake	SC FRES - OEM		Complete; The Suffolk County CEMP has been approved and adopted.	Cost		1. Discontinue
						Level of Protection		2.
						Damages Avoided; Evidence of Success		3. Complete
SC-35	Inquire about future development in all participating jurisdictions annually, at the annual plan review meeting, and map these locations within GIS/HAZUS to determine if they are/are not located within identified hazard areas. Update the plan with these findings.	All	SC FRES - OEM		Ongoing Capability	Cost		1. Discontinue
						Level of Protection		2.
						Damages Avoided; Evidence of Success		3. Ongoing Capability



Completed Mitigation Initiatives Not Identified in the Previous Mitigation Strategy

Suffolk County has identified the following mitigation projects/activities that have also been completed but were not identified in the previous mitigation strategy in the 2014 HMP:

- The County secured a vendor and held a cyber security table-top exercise with department heads across the county. As a result of this effort, a working group on cyber security was established.
- The County had a vulnerability test administered for cyber security.
- All County staff (roughly 10,000) underwent a cyber security online training. Once training took place, a phishing email was used to review the success of the training.
- The Suffolk County Parks Department rebuilt the Woods Hole dam in Riverhead which was damaged in Superstorm Sandy in 2012. The Department is now working to install a fish passage system for the dam.
- The Suffolk County Parks Department has taken down thousands of trees that were infested with Southern Pine Beetle.
- The County IT Department has worked to transfer firewalls, VPN, gateways, and endpoint protection under a single service provider to allow for more efficient administration of cyber security protection programs.
- The County IT Department balances new software acquisitions and decisions on use of a cloud system with temperature management.

Proposed Hazard Mitigation Initiatives for the HMP Update

Suffolk County participated in a mitigation action workshop in June 2020 and was provided the following FEMA publications to use as a resource as part of their comprehensive review of all possible activities and mitigation measures to address their hazards: FEMA 551 ‘Selecting Appropriate Mitigation Measures for Floodprone Structures’ (March 2007) and FEMA ‘Mitigation Ideas – A Resource for Reducing Risk to Natural Hazards’ (January 2013).

Table 9.1-13 summarizes the comprehensive-range of specific mitigation initiatives Suffolk County would like to pursue in the future to reduce the effects of hazards. Some of these initiatives may be previous actions carried forward for this plan update. These initiatives are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities. Both the four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table below to further demonstrate the wide-range of activities and mitigation measures selected.

As discussed in Section 6 (Mitigation Strategy), fourteen criteria are used to evaluate and prioritize each proposed mitigation action. A numeric factor is assigned (-1, 0, or 1) to each criterion to provide a relative indication of the opportunities and constraints of each action. A numerical sum of the input provides the basis of the prioritization of actions wherein each action is assigned a category of Low, Medium, or High to indicate an implementation hierarchy. A High priority action indicates the jurisdiction will prioritize its implementation and apply for funding, if needed, as opportunities become available during the plan period of performance. This does not prevent the jurisdiction from implementing other ranked actions; however, this provides a snapshot of implementation priority at the time of this plan update.

Table 9.1-14 provides a summary of the evaluation and prioritization for each proposed mitigation initiative. Refer to the action worksheets at the end of this annex for more details on the high-ranked hazards identified first for implementation.



Table 9.1-13. Proposed Hazard Mitigation Initiatives

Project Number	Project Name	Goals Met	Hazard(s) to be Mitigated	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Estimated Timeline	Lead Agency	Estimated Costs	Estimated Benefits	Potential Funding Sources	Priority	Mitigation Category	CRS Category
2020-Suffolk County-001	Bus Rapid Transit Demonstration Project	7	Hurricane, Nor'Easter, Severe Storm, Severe Winter Storm	<p>Problem: A lack of access to mass transportation during and immediately following extreme weather events and associated economic impacts.</p> <p>Solution: Implement Bus Rapid Transit along key north-south corridors to increase access to mass transit during and after severe weather events.</p>	No	None	Within 5 years	SC DPW	High	Recent Damages: \$65. 1M - \$98. 1M per severe weather event	FTA, SC Capital Program	Medium	SIP	ES
2020-Suffolk County-002	Build Local Floodplain Management and Disaster Recovery Capabilities	1, 2, 7	Coastal Erosion, Flood, Hurricane, Nor'Easter	<p>Problem: Federal policies regarding floodplain management and disaster recovery continue to evolve. In response, local government officials are being tasked with responsibilities related to these areas, which are outside their traditional scope of work and knowledge.</p> <p>Solution: Facilitate Workshops and Seminars to build local capabilities in floodplain management and disaster recovery:</p> <ul style="list-style-type: none"> •NFIP Community Rating System (CRS) •Benefit-Cost Analysis (BCA) •Substantial Damage Estimating (SDE) •NFIP Elevation Certificates (EC) •Certified Floodplain Manager (CFM) Training and Certification 	No	None	Within 1 year	SC FRES/OEM	\$100,000	High	FEMA - FMA	High	EAP	PI
2020-	Jurisdictional	6	All Hazards	Problem: Currently, there	No	None	Within 2	SC FRES/	\$20,000	\$1,000,000	HMGP	Low	EAP	PI





Table 9.1-13. Proposed Hazard Mitigation Initiatives

Project Number	Project Name	Goals Met	Hazard(s) to be Mitigated	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Estimated Timeline	Lead Agency	Estimated Costs	Estimated Benefits	Potential Funding Sources	Priority	Mitigation Category	CRS Category
Suffolk County-003	Knowledge of Mitigation Needs of Property Owners			<p>is no method in place for data collection of private property mitigation projects. There may be many mitigation opportunities that are eligible for funding that go unreported to the local jurisdictions resulting in costly recovery dollars.</p> <p>Solution: A digital form on the Suffolk County Hazard Mitigation Website that will allow residents to complete and submit mitigation project ideas. Public education and outreach to help residents understand the various categories of mitigation funding and eligible projects. Printed materials and workshops for residents.</p>			years	OEM			with required local match, other Federal Grant Program (i.e. UASI, SHSP, etc.), Operating Budgets or Operating Budgets for local match			
2020-Suffolk County-004	Create a Multi-Jurisdictional Seismic Safety Committee	1, 2, 6	Earthquake	<p>Problem: The occurrence of earthquakes affecting Suffolk County is rare. Because of this, the awareness of earthquakes and the extent of potential damages are largely unknown to many jurisdictions that can benefit by an assessment.</p> <p>Solution: Suffolk County would like to facilitate and participate in a Multi-Jurisdictional Seismic Safety Committee with the ten Towns in the County to assess local earthquake</p>	No	None	Within 2 years	SC FRES with cooperation from SC Departments	Medium	High	County budget	High	LPR	PR





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				awareness, evaluate existing conditions versus current standards, identify areas for improvement and provide recommendations as needed. The goal of the Committee will be to provide annual improvements and education in the area of earthquake preparedness. The assistance of a consultant may be beneficial for comprehensive assessments. The County will apply for a PDM grant to fund a consultant to run analyses and make mitigation project suggestions and look into update local building codes/requirements to go above and beyond "normal" building code.										
2020-Suffolk County-005	County-Wide Housing Location/Relocation Planning Initiative for Disaster Displaced Residents and Structures	1, 7, 8	Flood, Hurricane, Nor'Easter, Severe Storm, Severe Winter Storm, Wildfire, Coastal Erosion, Shallow Groundwater Flooding	<p>Problem: The County needs to develop plans for short and long term Temporary Housing sites and locations, as well as areas to relocate flood vulnerable housing, within Suffolk County, its Towns and Villages and potentially across multi-jurisdictional borders.</p> <p>Solution: SCFRES will work with municipalities to identify open space for temporary housing units (FEMA trailers) that have</p>	No	None	Within 1 year	SC FRES in conjunction with other SC Departments having specific expertise in required areas of housing and planning (i.e. Real Estate, Social Services, Economic	Medium	High	HMGP with required local match, other federal grant programs (PDM, UASI, SHSP, etc.) Operating Budgets or	High	LPR	ES



Table 9.1-13. Proposed Hazard Mitigation Initiatives

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				access to utilities. Must keep in mind of accessibility and social distancing. Must work cooperatively with municipalities that have been unable to identify their own temporary housing spaces.				Development and Planning, etc.)			Operating Budgets for Local Match.			
2020-Suffolk County-006	CP 5116, Safety and Drainage Improvements to the Center Medians on CR46, William Floyd Parkway, from Coraci Blvd. to Smith Point.	1, 2, 7	Severe Storm, Flood	<p>Problem: During severe rain events (such as Superstorm Sandy), the roadway experiences localized Flood, and facilities and property damage due to inadequate drainage system, facilities. Additionally, the roadway becomes impassable, therefor compromising emergency rescue and evacuation efforts. This problem has existed since the roadway was originally constructed in the early 1930's.</p> <p>Solution: The proposed project will reconstruct the existing drainage system/swale located in the center median of CR46, William Floyd Parkway. The drainage system will be rebuilt employing the latest and most appropriate Best Management Practice (BMP) to remediate stormwater discharge runoff prior to discharge into local waterways. In addition, the project will</p>	No	None	Within 2 years	SC DPW	High	The drainage improvements will reduce the roadway Flood and improve safety throughout the corridor. In addition, the project will eliminate the need to provide emergency rescue services, flood insurance, and federal disaster assistance.	HMGP, BRIC, County budget	Medium	SIP	SP





Table 9.1-13. Proposed Hazard Mitigation Initiatives

Project Number	Project Name	Goals Met	Hazard(s) to be Mitigated	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Estimated Timeline	Lead Agency	Estimated Costs	Estimated Benefits	Potential Funding Sources	Priority	Mitigation Category	CRS Category
				also include shoulder and swale regarding, curb and gutter installation, and spot drainage improvements at localized flooding areas. This work is required after the drainage system is installed. CP 5116 is in final design and will be constructed after the Sunrise Wind Farm installs the necessary conduit and cable on CR 46 from the landing at Smith Point Park										
2020-Suffolk County-007	Weatherproofing PDHQ Building for Hurricane	2, 7	Hurricane	Problem: Existing Suffolk County PDHQ building Envelope is not resistant to Category 3 Hurricane Solution: Removal and Replacement of Aluminum Curtain Wall System and Doors and Roof at SCPD HQ	Yes	No	Within 2 years	SC DPW	Medium	High	Capital budget	Low	SIP	PP
2020-Suffolk County-008	CP No: 5005 Project Title: Improvements to CR38, North Sea Road, from CR39, North road to vicinity of Noyack Road	1, 2, 7	Severe Storm, Nor'Easter, Hurricane, Flood	Problem: During severe rain events (such as Superstorm Sandy), the roadway experiences localized Flood, and adjacent facilities and properties sustain damage due to inadequate drainage system, facilities. Additionally, the roadway becomes impassable, therefore compromising emergency rescue and evacuation efforts. This problem has existed since the roadway was originally	No	None	4 years	SC DPW	High	The drainage improvements will reduce the roadway Flood and improve safety throughout the corridor. In addition, the project will eliminate	HMGP, BRIC, County budget	High	SIP	SP



Table 9.1-13. Proposed Hazard Mitigation Initiatives

Project Number	Project Name	Goals Met	Hazard(s) to be Mitigated	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Estimated Timeline	Lead Agency	Estimated Costs	Estimated Benefits	Potential Funding Sources	Priority	Mitigation Category	CRS Category
				<p>constructed in the early 1930's.</p> <p>Solution: The proposed project will rehabilitate/reconstruct the existing drainage system/ which is not adequate to handle the watershed area. The drainage system will be rebuilt employing the latest and most appropriate Best Management Practice (BMP) to remediate stormwater discharge runoff prior to discharge into local waterways/ recharge basins. In addition, the project will also include pavement rehabilitation and resurfacing, shoulder and swale regrading, curb, sidewalk and gutter installation, and spot drainage improvements at localized flooding areas. The roadway will need to be reconstructed after the drainage system is installed. Project is in final design.</p>						the need to provide emergency rescue services, flood insurance, and federal disaster assistance in the area.				
2020-Suffolk County-009	CP 5583, Improvements to CR79, Sag Harbor/ Bridgehampton Turnpike, from Brick Kiln Road to NYS Rt. 27, Montauk Highway.	1, 2, 7	Severe Storm, Nor'Easter, Hurricane, Flood	<p>Problem: During severe rain events (such as Superstorm Sandy), the roadway experiences localized Flood, and facilities and property damage due to inadequate drainage system, facilities. Additionally, the roadway becomes impassable,</p>	No	None	Some improvements completed. The remainder will be completed by two projects. One scheduled to	SC DPW	High	Recent Damages: \$4,999,997	HMGP, BRIC, County budget	Medium	SIP	SP





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				<p>therefore compromising emergency rescue and evacuation efforts. This problem has existed since the roadway was originally constructed in the early 1930's. Average annual costs are estimated to be approximately \$ 3, 10 1, 10 1. The drainage improvements will reduce the roadway Flood and improve safety throughout the corridor. In addition, the project will eliminate the need to provide emergency rescue services, flood insurance, and federal disaster assistance in the area. No studies have been performed to date.</p> <p>Solution: The proposed project will rehabilitate/ reconstruct the existing drainage system/ culvert system which is not adequate to handle the watershed area. The drainage system and culverts will be rebuilt employing the latest and most appropriate Best Management Practice (BMP) to remediate stormwater discharge runoff prior to discharge into local waterways/ recharge basins. In addition, the project will also include pavement</p>			be let in 2021 and the last in 2024.								





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				rehabilitation and resurfacing, shoulder and swale regrading, curb, sidewalk and gutter installation, and spot drainage improvements at localized flooding areas. The roadway will need to be reconstructed after the drainage system is installed.										
2020-Suffolk County-010	Improvements to County Road 39, North Road/ Flying Point Road.	1, 2	Flood, Severe Storm	<p>Problem: This portion of CR 39 experiences Flood conditions due to old and insufficient drainage that caused the deterioration of the existing concrete panels and adjacent asphalt shoulders. The panels are cracking and the joints between the panels are open allowing water to drain to the roadway’s subbase, which accelerates roadway deterioration. This has been an ongoing problem for several years. The average annual cost is \$ 251,101. No studies have been performed to date.</p> <p>Solution: This project will rehabilitate the existing roadway before it deteriorates to the point that a more costly full reconstruction will be required. There are two (2) roadways that cross the Shinnecock Canal and can be utilized to evacuate the</p>	No	None	Three separate projects are being progressed for this under CP 5528. Lettings scheduled for 2023, 2024 & 2026	SC DPW	High	High	HMGP, BRIC, County budget	Medium	SIP	SP



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				<p>South fork of Long Island. One is NYS Rte 27, Sunrise Highway (Coastal Evacuation Route) and the other is County Road 80, Montauk Highway. County Road 39 parallels both of these roadways and both roadways are accessible by County Road 39. CR 39 will operate as a part of the Coastal Evacuation Route especially if one of the other roadways will not be accessible.</p> <p>This project involves installation of stormwater treatment units and leaching basins, catch basins, reinforced concrete pipe, pavement repair, seeding and planting on disturbed areas during construction.</p>										
2020-Suffolk County-011	Suffolk County Sewer District No.3 - Southwest - Infiltration/inflow.	2, 8	Flood, Severe Storm, Hurricane, Nor'Easter	<p>Problem: Sewer District No.3 - Southwest is located in the southwestern quadrant along the Great South Bay. During significant storms, the additional clean water that enters the collection system from adjacent surface waters or as a relief of homeowners utilizing sump pumps for flooded basements consumes capacity in the sewer system and treatment plant. Under</p>	Yes	None	4 years	SC DPW	High	High	75% HMGP, 25% match from Capital Budget Funds.	Medium	SIP	SP



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				<p>these conditions, treatment could be inadequate and sanitary sewer overflows have occurred.</p> <p>Solution: Implement the collection system rehabilitation program to reduce the impact of infiltration and inflow (I/I) on the plant capacity, the system and the environment.</p> <p>Reducing I/I avoids overburdening the collection system and treatment plants which limits their capacity during extreme events. Reducing I/I will decrease the number of sanitary sewer overflows which may occur during major wet weather events.</p> <p>Suffolk County Department of Public Works is currently conducting the Inflow and Infiltration study in the three district study areas within the Sewer District No. 3 - Southwest located south of Montauk Highway (see attached map). The study is expected to be completed in June 2014 and will result in recommendations to rehabilitate sewer system to significantly</p>											



Table 9.1-13. Proposed Hazard Mitigation Initiatives

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				decrease the amount of inflow and infiltration. These recommendations will be the basis for the design and appropriate limited construction to rehabilitate the collection system.										
2020-Suffolk County-012	Suffolk County Sewer District No. 3 - Southwest - Perimeter Wall.	2, 8	Flood	<p>Problem: The Bergen Point Wastewater Treatment facility is located on the Great South Bay. The facility is installed at an elevation that is subject to Flood which could be more severe in the future rendering the treatment process inadequate to handle the flows and provide adequate treatment. If the facility is inundated, the majority of equipment and a portion of the infrastructure would require replacement at a cost of over \$240 million, exclusive of months of inadequate treatment and associated economic and environmental loss. Historical data estimates that the value of the Bay far exceeds \$15 million annually relative to economic, recreational, environmental as well as collated benefits to the entire area</p> <p>Solution: Install a flood wall around the entire</p>	Yes	None	Within 2 years	SC DPW	\$2 million	High	75% HMGP, 25% match from Capital Budget Funds.	High	SIP	SP





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2020-Suffolk County-013	Suffolk County Sewer District No.3 - Southwest - Ocean Outfall.	2	Flooding, Hurricane, Nor'Easters	<p>Bergen Point site which is approximately 5,000 feet at an appropriate elevation to eliminate the flooding and potential disastrous impact such as Storm Sandy. The site varies in elevation from 10 to 15 and has experienced flood damage numerous times.</p> <p>Problem: As Severe Storm impact the flow and capacity at the Bergen Point Wastewater Treatment facility, the pumping system that must be used for high flow conditions feeds the ocean outfall under increased pressures. The outfall has been defined as being in a failed state where increased pressures could create a loss of discharge to the ocean and instead place treated effluent within the Great South Bay. The replacement outfall is a tunnel beneath the Bay thus eliminating any environmental issues. Damage to the Bay has significant economic loss and environmental impact well beyond the cost of the pipeline. Historical data estimates that the value of the Bay far exceeds \$15 million annually relative to economic, recreational, environmental as well as</p>	Yes	None	Within 2 years	SC DPW	\$242 million	There are no direct monetary losses associated with the pipe. However, damage to the pipe would result in major potential damage to the environmental and recreational uses of the Great South Bay	75% HMGP, 25% match from Capital Budget Funds.	High	SIP	PP





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				collated benefits to the entire area Solution: The ocean outfall section which is beneath the Great South Bay is under design for a replacement such that high pressures and the type of pipe would not cause any concerns or failure and impact the Great South Bay. The current 72 inch diameter is to be replaced by a minimum 120 inch diameter with an improved pipe material at less pressure.										
2020-Suffolk County-014	Suffolk County Sewer District No. 3 - Southwest - Co-generation.	1, 2	Hurricane, Nor'Easter, Severe Storm, Severe Winter Storm	Problem: During extreme weather events, the electric service providing power for the Bergen Point Wastewater Treatment Plant is prone to failure. Regardless of the emergency electric generator on-site, the loss of power during storm events have caused concerns regarding the reliability of the system. The most feasible alternative is to provide a co-generation facility that would utilize natural gas that currently serves the site in order to create steam and, therefore, electricity in sufficient capacity to power essential components of the wastewater treatment	Yes	None	5 years	SC DPW	\$20 million	Losses associated with loss of power to the plant will be avoided	75% HMGP, 25% match from Capital Budget Funds.	High	SIP	PP, ES





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				<p>plant.</p> <p>Solution: Build a co-generation facility operating of natural gas which is currently available at the necessary capacities at the site. Following an evaluation of utilization of the more reliable and efficient back-up system, design and construction of the facility will follow.</p>										
2020-Suffolk County-015	Suffolk County Sewer Districts Vulnerability Analyses	2, 8	Flooding, Severe Storms, Hurricane, Nor'Easter	<p>Problem: Although steps has been identified to ensure that extreme weather events will have reduced impact on the sewer system infrastructure, a detailed qualification of risks and vulnerability for entire sewer infrastructure is necessary to provide full preparedness to additional extreme events. The project area includes 23 wastewater treatment plants and 103 pump stations.</p> <p>Solution: Have an experienced consulting firm provide a vulnerability analysis for the 103 pumping stations and 23 wastewater treatment facilities. A thorough evaluation and identification of risks lead to enhanced protection of sewer infrastructure and</p>	Yes	None	2 years	SC DPW	\$250,000	Recent damages: \$370,000	75% HMGP, 25% match from Capital Budget Funds.	High	LPR	PP



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				<p>sewer system customers. The goal of this project is to identify critical elements of the wastewater infrastructure that must be protected and to identify and recommend smart risk reduction-based investments to safeguard them. The vulnerability analyses will take into account the 2080 Sea Level Rise projections for Long Island in the NYS Sea Level Rise Task Force Report.</p> <p>The vulnerability assessment of the wastewater infrastructure will include:</p> <ol style="list-style-type: none"> 1) Identify the wastewater infrastructure areas and facilities (including chemical and fuel facilities) with highest risk of flooding and inundation 2) Recommend structural and non-structural options to protect facilities 3) Include additional options to protect electrical equipment 4) Identify additional infrastructure modifications to pump stations and wastewater treatment facilities with the goal of maintaining uninterrupted power supply and operations 											



Table 9.1-13. Proposed Hazard Mitigation Initiatives

Project Number	Project Name	Goals Met	Hazard(s) to be Mitigated	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Estimated Timeline	Lead Agency	Estimated Costs	Estimated Benefits	Potential Funding Sources	Priority	Mitigation Category	CRS Category
				during flooding, loss of grid-sourced power and/or high flows to the plant 5) Develop implementation plan to carry out the actions identified by the vulnerability assessment										
2020-Suffolk County-016	Radio Tower Infrastructure Retrofit.	1, 2, 7	Nor'Easters, Hurricanes, Severe Storms, Severe Winter Storms	<p>Problem: Radio Towers and Microwave System need to withstand damage and potential catastrophic failure due to hurricane force winds. SC DPW replaced the generator on site.</p> <p>Solution: Project will reduce risk by bringing towers into compliance with the current Telecommunications Industry Association wind standard # 222.</p>	Yes	None	Within 2 years	SC PD	\$708,840	Recent Damages: -physical property damage and loss of function	\$531,630 HMGP, \$177,210 for Local Match	High	SIP	PP
2020-Suffolk County-017	Permanent Generator Installation- Marine Bureau.	1, 2	All hazards	<p>Problem: The Marine Bureau lacks a permanent generator.</p> <p>Solution: Install a permanent generator and necessary electrical components. Currently being addressed by DPW as part of a 406 funded project.</p>	Yes	None	Within 2 years	SC DPW	Medium	High	406 funded	Medium	SIP	PP, ES
2020-Suffolk County-018	Indian Island County Park: Infrastructure protection & erosion control measures for the "bluff"	3, 4, 5	Coastal Erosion, Hurricane, Nor'Easter, Severe Storm, Severe Winter Storm	<p>Problem: Infrastructure protection, erosion control measures for the "bluff" at Indian Island County Park.</p> <p>Solution: Design and complete erosion control measures. In final design with expected submittal to</p>	No	May require permitting	Within 2 years	SC Parks, SC DPW	High	Recent Damages: damages from Superstorm Sandy were incurred to the utility	HMGP, Capital Budget to be used for Local Match	High	SIP	PP



Table 9.1-13. Proposed Hazard Mitigation Initiatives

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				NYS DEC in 2020.						systems at the point				
2020-Suffolk County-019	Cedar Point Lighthouse: Reinforce Structural Integrity to protect against storm activity	2	Coastal Erosion, Hurricane, Nor'Easter, Severe Storm, Severe Winter Storm	<p>Problem: Cedar Point needs to be protected from storm damages.</p> <p>Solution: Reinforce Structural Integrity to protect against storm activity. Interior scaffolding/ bracing installed in March 2020 as phase 1.</p>	Yes	None	Within 2 years	SC Park, SC DPW	\$5,000,000	High	HMGP, Capital Program, CP 7166, for Local Match	High	SIP	PP
2020-Suffolk County-020	Long Island Maritime Museum: Historic buildings - Raise historic structures to protect against storm surges.	2	Coastal Erosion, Hurricane, Nor'Easter, Severe Storm, Severe Winter Storm	<p>Problem: Historic structures (Oyster House, Penny Boat Bldg.) need to be protected against storm surges.</p> <p>Solution: Raise historic structures (Oyster House, Penny Boat Bldg.) to protect against storm surges.</p>	Yes	None	Within 2 years	SC Parks, SC DPW	Medium	High	HMGP, Capital Program, CP 7165, to be used for Local Match	High	SIP	PP
2020-Suffolk County-021	Timber Point Golf Course: erosion control measures	3, 4, 5	Coastal Erosion, Hurricane, Nor'Easter, Severe Storm, Severe Winter Storm	<p>Problem: The areas along the Great South Bay (Blue Course holes 5, 6 and "Gibraltar") could be protected against erosion and storm surges.</p> <p>Solution: The areas along the Great South Bay (Blue Course holes 5, 6 and "Gibraltar") could be protected against erosion and storm surges by the installation of rip rap up the slope of Gibraltar and the installation of a protective, vegetated berm along the fairways of Holes 5, 6, 'Gibraltar' and Gabion wall along the</p>	No	May require permitting	Within 2 years	SC Park, SC DPW	Medium	Recent Damages: DR4020, PW3257 - \$92,970, DR4020, PW3264 - \$10,346, DR4085, PW1470 - \$182,604,	HMGP, Capital Program, CP 7166, to be used for Local Match	High	SIP	PP



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				fairways for holes 5 & 6 were reconstructed. However, additional rip rap has not been installed yet.										
2020-Suffolk County-022	Enhance operation of the Suffolk County Emergency Operations Center (EOC)	1, 7	Disease Outbreak	<p>Problem: The EOC requires enhancements to address disease outbreak.</p> <p>Solution: Enhance the operations of the SC EOC and address vulnerabilities to respiratory disease spread. Increase stock pile of disinfectants for EOC equipment, purchase new furniture to allow for social distancing, purchase thermal readers for staff entering EOC and purchase UV disinfectant equipment for shared EOC equipment.</p>	High	None	Within 2 years	SC FRES, SC OEM	High	High (enhanced emergency management function, life safety)	County Operating Budget, Capital Budget	High	SIP	PP
2020-Suffolk County-023	Ensure that all appropriate county employees are NIMS trained and qualified	6	All Hazards	<p>Problem: Employees require proper training.</p> <p>Solution: Implement a standardized emergency management training for all SC employees. Training should be easy to understand and be aligned with the current FEMA NIMS. Training should be easy to access and preferably web-based.</p>	No	None	5 years	SC FRES	High	High	County Operating Budget	Medium	LPR	ES
2020-Suffolk County-024	Marine Bureau Fuel Supply Protection Project.	2	Flood	<p>Problem: Fuel pumps at the Marine Bureau Fuel Supply are flood prone.</p> <p>Solution: Raise pumps at Marine Bureau Fuel Supply area.</p>	Yes	None	Within 5 years	SC Police Department	Medium	Reduction in future storm damages	HMGP, BRIC, Capital funding	Medium	SIP	PP



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2020-Suffolk County-025	Marine Bureau Shop Damage Mitigation Project.	2	Flood	<p>Problem: The Marine Bureau Shop concrete floor was damaged during Sandy.</p> <p>Solution: The County will repair the floor and strengthen it to prevent future damages. Replacement/repair of the bulkhead supporting the boat lift, replacement of main bay shop overhead door, new exterior lighting and perimeter security fencing.</p>	Yes	None	Within 5 years	SC Police Department	\$650,000	Reduction in future storm damages	Capital funding	Medium	SIP	PP
2020-Suffolk County-026	Permanent Generator Installation- Police Academy Emergency Work Shelter.	1, 2, 7	All hazards	<p>Problem: The Police Academy is also used as an emergency work shelter. The facility lacks backup power.</p> <p>Solution: The County will install a received federal surplus generator.</p>	Yes	None	1 year	SC Police Department	\$5,000	Continuity of operations	County budget	High	SIP	ES
2020-Suffolk County-027	Permanent Generator Installation- Special Patrol Bureau.	1, 2, 7	All hazards	<p>Problem: The Special Patrol Bureau lacks backup power.</p> <p>Solution: The County will complete installation of a backup generator. A concrete pad and ballards have been installed at the site.</p>	Yes	None	1 year	SC Police Department	\$2,000	Continuity of operations	Capital budget	High	SIP	ES
2020-Suffolk County-028	Bulkhead replacement at Shinnecock Marina	2	Flood, Coastal Erosion	<p>Problem: The bulkhead at the Shinnecock marina is failing. This is leading to subsidence issues and could cause large scale coastal erosion. The Suffolk County Parks Department is currently in the permitting phase for</p>	No	May require permitting	1 year	Suffolk County Parks Department	\$2.5M	Flood and coastal erosion risk reduced, water access maintained	HMGP, PDM, FMA, BRIC, County budget	High	SIP	PP





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Project Number	Project Name	Goals Met	Hazard(s) to be Mitigated	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Estimated Timeline	Lead Agency	Estimated Costs	Estimated Benefits	Potential Funding Sources	Priority	Mitigation Category	CRS Category
				replacement. Solution: The Parks Department will replace the degraded bulkhead at Shinnecock Marina.										
2020-Suffolk County-029	Bulkhead replacement at Smith Point Marina	2	Flood, Coastal Erosion	Problem: The bulkhead at the Smith Point Marina is failing. This could cause large scale coastal erosion. Solution: The Parks Department will replace the degraded bulkhead at Smith Point Marina. Scheduling may be impacted by bridge reconstruction.	No	May require permitting	Within 5 years	Suffolk County Parks Department	\$1 Million to replace existing; \$2 - \$3M to completely encircle inlet	Flood and coastal erosion risk reduced, water access maintained	HMGP, PDM, FMA, BRIC, County budget	Medium	SIP	PP
2020-Suffolk County-030	Bulkhead replacement at Long Island Maritime Museum, West Sayville	2	Flood, Coastal Erosion	Problem: The bulkhead at the Long Island Maritime Museum in West Sayville is failing. This could cause large scale coastal erosion and loss of adjacent historical structures. Solution: The Parks Department will replace the degraded bulkhead at Long Island Maritime Museum.	No	May require permitting	Within 5 years	Suffolk County Parks Department	\$3-\$4M	Flood and coastal erosion risk reduced, historic structures maintained	HMGP, PDM, FMA, BRIC, County budget	Medium	SIP	PP
2020-Suffolk County-031	Automated flood gate for Millers Pond	2, 7	Flood	Problem: Flooding can occur if Millers Pond is not lowered prior to major rainfall events. This requires staff to monitor the condition of the lake, weather events, and respond accordingly. Solution: The Parks Department will conduct a feasibility assessment to	No	None	Within 5 years	Suffolk County Parks Department	\$20,000	Flood risk reduced	HMGP, PDM, FMA, BRIC, County budget	High	SIP	SP



Table 9.1-13. Proposed Hazard Mitigation Initiatives

Project Number	Project Name	Goals Met	Hazard(s) to be Mitigated	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Estimated Timeline	Lead Agency	Estimated Costs	Estimated Benefits	Potential Funding Sources	Priority	Mitigation Category	CRS Category
				determine the cause of flooding of homes. Based upon the results of the assessment, the Department will upgrade the spillway and weir to install a remotely controlled gate to allow for remote lowering of the gate in advance of storm events.										
2020-Suffolk County-032	Suffolk County Correctional Facility	1, 7	All Hazards	<p>Problem: The Suffolk County Correctional Facility (100 Center Street River Head, NY 11901-3307) is located along the Pequanock River. The Facility houses the following:</p> <ul style="list-style-type: none"> •Maximum facility jail (with several hundred prisoners) •Sheriff's Office main administrative offices •Sheriff's Office main communications facilities •Sheriff's Office fleet management <p>The Facility's backup power is supplied by generators at the end of their usable life. These generators are located in the Facility's basement and could be vulnerable to flooding in a large flood event.</p> <p>Solution: The Sheriff's Office will work with the County Department of Public Works to replace</p>	Yes	None	Within 5 years	Sheriff's Office, County DPW	\$150,000	Ensures continuity of operations	FEMA HMGP and PDM, USDA Community Facilities Grant Program, Emergency Management Performance Grants (EMPG) Program, Village Budget	High	SIP	ES





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				the generators at the Correctional Facility and relocated the generators out of the basement to prevent flooding risk.										
2020-Suffolk County-033	Repair of Southaven Dam	2	Flood	<p>Problem: Southaven Dam is in need of substantial repairs and upgrades to provide protection from dam failure. The dam itself is in fair condition but the spillway and top course are in need of replacement. The repair of the dam is currently in design phase.</p> <p>Solution: The Suffolk County Parks Department will complete the design phase and implement the designed repairs/improvements. It is assumed the Parks Department will replace the spillway and top course on the Southaven Dam.</p>	Yes	None	2 years	Suffolk County Parks Department	\$800,000	Dam failure avoided, flood risk reduced	HMGP, PDM, FMA, BRIC, County budget	High	SIP	SP
2020-Suffolk County-034	Repair of Spillway at Stump Pond	2	Flood	<p>Problem: The Suffolk County Parks Department is planning a historic restoration of the Millworks and water wheel at Stump Pond. The spillway at Stump Pond is degraded.</p> <p>Solution: The Parks Department will conduct a feasibility assessment to determine if the spillway is in need of repair or a full replacement. During restoration of the</p>	No	None	2 years	Suffolk County Parks Department	\$800,000	Dam failure avoided, flood risk reduced	HMGP, PDM, FMA, BRIC, County budget	High	SIP	SP





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				Millworks and water wheel, the Suffolk County Parks Department will complete a replace/repair of the spillway at Stump Pond based on the results of the feasibility assessment.										
2020-Suffolk County-035	Coastal Erosion Monitoring Program	1, 2, 3, 5	Coastal Erosion	<p>Problem: The County is exposed to coastal erosion on the shorelines of the Atlantic Ocean, Long Island Sound, and inland waterways. Erosion monitoring has been sporadic and often lacks the detail to determine the changes a shoreline has experienced in both shoreline retreat and beach face volume loss. The lack of detailed data makes grant applications for federal aid to rebuild beaches difficult.</p> <p>Solution: The Suffolk County Soil and Water Conservation District will develop an erosion monitoring program that will be able to service participating municipalities in Suffolk County. This program will employ state of the art monitoring techniques to keep detailed information on the County's shorelines which will be available for the development of grant applications for mitigation</p>	No	None	1 year	SC SCWD	High	Data available to support grants, reporting, and decision making.	County budget, SWCD, USACE	High	LPR	PR



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				projects, reporting to the USACE, and informing municipal land use decisions.										
2020-Suffolk County-036	Guiding Development to Low Risk Areas	4	All Hazards	<p>Problem: Development in the County must be appropriate for the risks in the area.</p> <p>Solution: Use proposed expansion of LIRR and ancillary mass transportation methods to encourage growth and development in areas at lesser risk for environmental hazards, particularly flooding. The County will also work to ensure that the development of affordable housing units is done in areas that will not be subject to increasing hazards, particularly flooding.</p>	No	None	2 years	Economic Development and Planning	Staff time	Considers the wise uses of land in known or identified hazard areas.	County budget	High	LPR	PR
2020-Suffolk County-037	Protect Agriculture and Aquaculture from Impacts of Climate Change	3, 5	Drought, Groundwater Contamination, Infestation and Invasive Species	<p>Problem: Agriculture and aquaculture are important economic sectors in Suffolk County and could be vulnerable to climate change impacts.</p> <p>Solution: Consider the economic effects of climate change on agriculture and aquaculture, particularly drought, groundwater contamination, and infestation and invasive species.</p>	No	None	Within 2 years	Economic Development and Planning, SCWD	Staff time	Protection of agriculture and aquaculture	County budget	High	LPR	PR



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2020-Suffolk County-038	Ecological Restoration of the Stream Corridor and Floodplain in Mud Creek County Park	3	Coastal Erosion, Flood, Groundwater Contamination, Shallow Groundwater Flooding, Invasive Species	<p>Problem: Wetland and stream habitat conditions were extensively degraded by the operation of a former duck farm located on a 45.8-acre site in East Patchogue, Town of Brookhaven that is now Suffolk County parkland.</p> <p>Solution: The overall goal is to implement a final, feasible, permitted plan of action to improve wetland and stream habitat conditions. The project will complement the protection and management of the entire Mud Creek Watershed north of Montauk Highway. The primary focus will be restoration of fish and wildlife habitat within the 1.75 mile-long, riparian (stream floodplain) corridor of the East Branch of Mud Creek, as well as the freshwater wetland and upland habitats on the former Gallo Duck Farm. This project includes structure demolition and debris clean-up, landform alteration, restoration of hydrological connections and invasive vegetation control for the freshwater wetland and riparian habitats of the East Branch of Mud Creek, as well as</p>	No	May require permitting	Within 5 years	Suffolk County Dept. of Parks, Recreation, Conservation	High	hazardous conditions at the site will no longer pose a liability threat to the County; stream channel hydraulic connections will be restored to support expansion of the heritage brook trout population in the East Branch of Mud Creek; native vegetation plantings will enhance wetland and upland habitats and increase biodiversity ; and a community park with trails meandering through open space and	HMGP, BRIC, Environmental restoration grants, County budget	High	NSP, SIP	NR, SP





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				<p>management strategies for the upland grassland and woodland habitats. Specific restoration actions to occur in Mud Creek County Park include:</p> <ul style="list-style-type: none"> •Removal of all dilapidated buildings, debris, and abandoned equipment; • Removal of +/- 16,000 cubic yards (cy) of accumulated organic sediments and invasive plant rhizomes from the floodplain area; •Creation of +/- 2,300 linear feet (lf) of new coastal plain stream; •Restoration of 6.4 acres of floodplain with forested wetlands and 14.4 acres of oak forests and meadows; •Installation of stormwater management structures at Gazzola Drive and Montauk Highway; •Installation of an ecologically-friendly culvert at Gazzola Drive; •Construction of new driveway, parking facility, and 650 lf of ADA compliant trail; and •Construction of 1.3 miles of nature trail, elevated boardwalks, signage and benches 						improved freshwater habitats will be established for the public to enjoy and learn about our natural resources and the legacy of Long Island duck farming.				
2020-	Acquisition of Properties	1, 2,	Flood	Problem: Properties in	No	None	Within 5	Suffolk	High	High	HMGP,	1	SIP,	PP,





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Suffolk County-039	within Coastal Flood Hazard Areas	4, 5		low lying areas of coastal floodplains are at high risk to flood damages. Solution: Reduce development potential within flood hazard areas through the acquisition of properties within environmentally sensitive areas such as wetlands and watersheds.			years	County Dept. of Economic Development and Planning			FMA, BRIC, open space acquisition grant programs, County budget		NSP	NR
2020-Suffolk County-040	Continue Upgrade Wastewater Infrastructure in Floodprone Coastal Communities	2, 4, 5	Flood, Coastal Erosion	Problem: Rising nitrogen pollution fed from failing septic and cesspools along river corridors into our bays has caused not only a water quality crisis, but eroded our coastal wetlands to the point of failure. Solution: The County is undertaking a Countywide Wastewater District Feasibility Study with funding from New York State and the Long Island Regional Planning Council. Also, the County is undertaking a real estate valuation study of advanced wastewater treatment and sewers.	No	None	Within 5 years	Suffolk County Dept. of Economic Development and Planning	High	High	New York State and the Long Island Regional Planning Council, County budget	High	LPR	PR



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2020-Suffolk County-041	Suffolk County Coastal Resiliency Initiative	2, 4, 5	Flood, Severe Storm, Groundwater Contamination	Problem: Four river corridors in unsewered low-lying areas along Suffolk County's south shore were inundated by Superstorm Sandy.	No	None	Within 5 years	Suffolk County Dept. of Economic Development and Planning	\$243 million in Hazard Mitigation Grant Program funding through the Federal Emergency Management Agency, \$67 million in Community Development Block Grant Disaster Recovery funding from the U.S. Department of Housing and Urban Developme	Reduction in flood damage, contamination, and nitrogen loading	HMGP, CDBG Disaster Recovery, New York State Water Quality and Capital Programs, Clean Water State Revolving Fund administered by the New York State Environmental Facilities Corporation, and Empire State	High	NSP, SIP	NR, SP



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				<p>Solution: Eliminate nearly 7,000 cesspools and septic systems that have been identified as the single largest source of nitrogen pollution to our region's south shore bays through connection to sewers. The extension of sewers to these areas will dramatically jump start a comprehensive effort to reduce nitrogen pollution that adversely affects coastal wetlands which protect communities from damaging storms and are critical to the region's economic and environmental health. The project focuses on the Carlls River, Forge River, and Oakdale areas.</p>					nt, \$59.7m from New York State Water Quality and Capital Programs, \$20.3 million to be financed through low-interest loans from the Clean Water State Revolving Fund administered by the New York State Environmental Facilities Corporation, and \$4 million from the Empire State Development grant program.		Development grant program.			
2020-Suffolk County-042	Tidal Wetland Restoration at Smith Point County Park	3, 5	Coastal Erosion, Flood, Hurricane, Nor'Easter, Severe Storm, Severe Winter Storm, Invasive Species	<p>Problem: Smith Point County Park is located between the Fire Island national Seashore and the hamlets of Shirley and Mastic Beach, NY. This area was heavily affected by Super Storm Sandy in October 2012. The</p>	No	May require permitting	Within 5 years	Suffolk County Department of Economic Development and Planning	\$564,000	The restoration of the tidal marshes within Smith Point County Park will enhance the	FEMA	High	NSP	NR





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				<p>degraded conditions of the tidal marshes within the County Park are not the best to ensure the widely recognized socioeconomic and environmental services from a healthy tidal marsh in regards to reduction of storm damage and Flood risks to the surrounding populated area as well to the coastal environment. Currently, these marshes are being subject to erosive processes, pan formation, and degradation of the network of linear mosquito ditches, therefore the buffering capacity of these marshes against Flood and high intensity storm has been undermined. The damage caused by Super Storm Sandy in October of 2012, resulted on high costs on private homes, infrastructure, public services, affected evacuation routes, and the long lasting recovery of the local economy and houses. The estimated inundation over the Mastic Beach area was 3.9 feet with an estimated 5.68 feet of storm tide. Therefore, in order to improve protection against storm damage and Flood, it is</p>						<p>natural protection against storm damage and Flood to the already affected population of the hamlets of Shirley and Mastic Beach, and it will also mitigate the costs and the extent of damages from possible storms.</p>				



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				<p>necessary to ensure that tidal marshes are in proper conditions to support and diminish the effect of high intensity storms.</p> <p>Solution: This proposal is for a tidal wetland restoration project within Smith Point County Park North for the enhancement of marsh functions for coastal protection against flood and storm damage. Restoration of proper sedimentation processes will allow the marsh to be sustainable and resilient to sea level rise, acting as a natural buffer to neighboring communities. The project area is owned by the County of Suffolk, NY - Parks Department and protected in perpetuity as natural parkland. The project will use Integrated Marsh Management practices to address the degraded network of existing linear mosquito ditches through establishment of naturalized hydrologic features including tidal channels, ponds, and tidal connectors. The new naturalized design seeks to: (1) improve tidal regime and flux between</p>										



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				<p>estuary and marsh, (2) enhance sedimentation processes for proper marsh accretion and resilience to sea level rise and enhance the marsh buffer action against high intensity storms and flooding, (3) provide high quality habitat for salt marsh biota while also enabling biological control of larval salt marsh mosquitoes and of the invasive common reed <i>Phragmites australis</i>, and, (4) to increase public awareness of the estuarine environmental issues by creating an interpretive trail. The expected beneficial outcomes for salt marsh socioeconomic and environmental services include: improved sedimentation processes leading to marsh sustainability and resilience to sea level rise, improved protection against high intensity storms and reduction of flooding risk to the surrounded areas, and restored habitat for estuarine and marsh biology. The proposed project addresses restoration needs identified by the United States Army Corps of Engineers as a strategic</p>											



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				area for storm and flooding damage protection, and also by the New York State South Shore Estuary Reserve Comprehensive Management Plan to improve water quality and living resources. The project will increase coordination among agencies, creating public awareness of environmental issues, and will improve the cost-effectiveness of restoration efforts.										
2020-Suffolk County-043	Suffolk County Sewer Districts Emergency Electric Generators	1, 2, 7	All Hazards	Problem: Although all 103 pumping stations and 23 treatment plants have emergency electric generators, there is the likelihood that a number will fail during a storm condition and/or extended use. During Storm Sandy, the systems operated continuously for over two weeks. With limited mobile units to support failed generators, redundancy is needed. The size and electrical characteristics determine the supplemental systems to be available. Many units are adjacent to homes or wetland/surface waters.	Yes	None	Within 5 years	Suffolk County Department of Public Works	High	Recent damages: \$200,000 Continuity of service, reduction in chance of back-up/overflow	75% HMGP, 25% match from Capital Budget Funds	High	SIP	ES



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				<p>Solution: Suffolk County Sewer Districts Emergency Electric Generators: The purchase of additional mobile electric generators of variable sizes would be used for any failed units at the 103 pumping stations and 23 treatment plant sites. The plan is to purchase five to seven units in the 100 kw to 750 kw range depending on fuel tank capacity. Without pumping capacity, sewage cannot be conveyed for treatment and back-ups or overflows can occur.</p>										
2020-Suffolk County-044	Curtail Floodplain Development by Transferring Flood-prone Properties to County Open Space	3, 4, 5	Hurricane, Nor'Easter, Coastal Erosion, Severe Storm, Flood, and Severe Winter Storm	<p>Problem: Flood-prone properties in the Narrows Bay and Mastic Beach areas are hazard-prone. Many properties have not paid taxes.</p> <p>Solution: Curtail floodplain development by transferring flood-prone properties in the Narrows Bay area obtained by Suffolk County through tax lien procedures to the SC Parks, Recreation and Conservation Dept. for open space purposes as per Narrow Bay Floodplain and Mitigation Plan 1997. Suffolk County Landbank is acquiring bank foreclosed homes in the</p>	No	None	Within 5 years	Suffolk County Department of Economic Development and Planning, Suffolk County Landbank	\$0	Increase in natural floodplain function	Non-payment of taxes	High	LPR, NSP	PR, NR





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				Mastic Shirley Conservation Area and transferring them for floodplain restoration.										
2020-Suffolk County-045	County Guidance for Retrofit and Acquisition of Repetitive Loss Structures	2, 6	Flood	<p>Problem: The County has a high number of repetitive loss properties.</p> <p>Solution: The Planning Commission will develop guidelines to be used in Suffolk County to address repetitive loss.</p>	No	None	Within 2 years	Planning Commission	Staff time	Municipalities have guidance to	County budget	High	LPR	PR
2020-Suffolk County-046	Map Appropriate Areas for Living Shoreline Projects	3, 4, 5, 6	Coastal Erosion, Flood	<p>Problem: Coastal erosion impacts shorelines throughout the County. Many areas have been protected by bulkheading or may become bulkheaded in the future. The use of bulkheading reduces natural ecosystem services of natural shorelines. Living shorelines have been successfully used in the past in the County but appropriate locations for living shorelines need to be identified.</p> <p>Solution: The County will work with the Peconic Estuary Program to map shorelines that are appropriate for living shoreline projects. This mapping will be used to inform shoreline protection mitigation decisions. Erosion information could be provided by SWCD</p>	No	None	Within 5 years	Suffolk County Department of Economic Development and Planning, Peconic Estuary Partnership, SWCD	Medium	Locations appropriate for living shorelines identified, potentially providing alternative from hard shoreline stabilization that is more cost effective and environmentally beneficial	Peconic Estuary Program, County budget	Medium	LPR, NSP	PR, NR



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2020-Suffolk County-047	Incorporate Fish Passage Upgrades Where Necessary During Dam and Culvert Upgrades	3, 4, 5	Flood, Severe Storm, Invasive Species	<p>Problem: The County works to repair and upgrade dams and culverts as necessary. Some culverts and dams have prevented the passage of diadromous fish species. Some dam and culverts in the County have been identified for inclusion of fish passage improvements during structural improvements including Wood Hole Dam and the Upper Mills Dam.</p> <p>Solution: The County will work with the Peconic Estuary Program to identify dams and culverts which currently restrict fish passage. The County will then work with the Peconic Estuary Program to implement fish passage upgrades during culvert and dam repair projects where appropriate.</p>	No	None	Within 5 years	Suffolk County DPW, Suffolk County Highway, Suffolk County Parks Department, PSEG Long Island, Peconic Estuary Partnership	Low for identification of projects, Medium to High for project implementation	Natural systems restored during structural improvements to dams and culverts	County budget, Peconic Estuary Program	Medium	NSP, SIP	NR, SP
2020-Suffolk County-048	County Road 96, Bergen Avenue, at Bergen Point	2, 8	Hurricane, Severe Storm, Nor'Easter, Flood, Coastal Erosion	<p>Problem: CR 96, Bergen Ave is the only vehicular access route for the Bergen Point Wastewater Treatment Plant, which services a densely populated 57 square mile area in southwest Suffolk County and processes up to 30 million gallons of effluent per day. Based on the NOAA Sea Level Rise</p>	Yes	None	Within 5 years	Department of Public Works	High – approximately \$2M per foot of increased height	Ability for plant to be accessed by personnel during an event; preventing untreated effluent from being discharged or backing	HMGP, BRIC, County Capital Improvements Program	High	SIP	PP





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				Viewer, the south end of Bergen Ave, where the only plant access is located, would be inundated at approximately 3' above MHHW. Solution: The bulkhead elevation will be increased to a height above an expected storm surge height as deemed reasonable and appropriate and roadway will be raised.						up into sewer system				
2020-Suffolk County-049	Improvements to CR 60, Noyack Long Beach Road	1, 2, 7	Hurricane, Severe Storm, Nor'Easter, Flood, Coastal Erosion	Problem: During a severe storm event this roadway would be inundated at approximately 5' above MHHW. The only routes out of the hamlet of North Haven are through CR 60 on the west and CR 79 on the east. The southbound Shelter Island ferry lands in North Haven causing even more citizens to have to traverse through CR 60 or CR 79. It is crucial to keep this road functional in the event of an extreme storm.	No	None	Within 5 years	Department of Public Works	High	Life safety, property protection	HMGP, BRIC, County Capital Improvement Program	Medium	SIP	PP



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				Solution: Reconstruction and raising of the roadway although very costly seems to be the best alternative. The ~1.5 mile length of road from Noyack Road to CR 114 needs to be raised about 3'-4' throughout the section to avoid getting inundated by a severe storm event.										
2020-Suffolk County-050	Restoration of Bulkheading throughout Suffolk County	2	Coastal Erosion, Nor' Easter, Flood, Hurricane	<p>Problem: During severe storm surge events, the bulkheads are unable to stop the excess water. This excess water is then able to overtop or flow around these structures causing flooding to areas behind. Rehabilitation will prevent overflow around and over the bulkhead in trouble areas causing fewer flood issues in the watershed area.</p> <p>Solution: Bulkheading adjacent to bridges and culverts will be rehabilitated to protect adjacent roadways from being washed out and flooded. Bulkheads will be extended (where feasible) and height extended.</p>	Yes	None	3 years	Department of Public Works	\$50,000,000	\$3,000,000,000, Reduces the flooding on the public roads and streets within the community.	HMGP, BRIC, County budget	Medium	SIP	PP
2020-Suffolk County-051	Back-bay Shoreline Erosion Mitigation at Cupsogue County Park	2, 3, 4, 5	Coastal Erosion, Flood, Nor'Easters, Severe Storms,	Problem: The northern shoreline on the bay side of the park is eroding at a high rate which is causing	No	May require permitting	1 year	USACE, Suffolk County	High; Varies by site and deficit of	Property and natural systems protected	USACE, HMGP, BRIC, County	High	NSP	NR





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			Severe Winter Storms, Hurricanes	<p>the barrier island to narrow and has significantly impacted a public access road and campground area. Recent indications of the severity of erosion are the loss of trailer camping sites and the access road is in imminent danger of being undermined and lost. The access road is the primary pathway to Moriches Inlet that is important for emergency personnel. The Army Corps tentative plan (FIMP) proposes to periodically nourish ocean beach areas that they have engineered but this back-bay area is excluded. The causes of erosion at this site are not fully understood and simple replenishment of sand to the area may not be the most economic solution.</p> <p>Solution: The Army Corps plan to investigate the erosion of this area in 2021 and develop a Regional Sediment Management Plan. This study will result in a recommended stabilization plan for local stakeholders. The forthcoming stabilization plan can be the guiding document to guide shoreline repairs in this area. At this time the</p>					sand	from erosion and storm damages	budget			





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				costs of stabilization efforts would not be from a federal source and local level funding sources are needed.										
2020-Suffolk County-052	Suffolk County Traffic Signal Management System Communications Enhancement	7, 8	Cyber Security	<p>Problem: The Suffolk County Traffic Signal Management System utilizes multiple cable modems and the internet as the communications infrastructure from the field equipment to the central servers in Yaphank. The existing internet/ cable based backbone is unstable and, though security is in place, an improvement would be beneficial.</p> <p>Solution: Design, construct, implement and maintain a more robust and secure communication backbone. Possibilities include 5G radios or a dedicated radio frequency. Project would be limited to County operated traffic signals.</p>	No	None	Within 5 years	Suffolk County Department of Public Works	TBD	Continuity of traffic services	FHWA	Medium	SIP	ES
2020-Suffolk County-053	County Road 48 at Hashamomuck Beach Storm Hardening	1, 2	Hurricane, Severe Storm, Nor'Easter, Flood, Coastal Erosion	<p>Problem: CR 48, North Road, and SR 25, Main Road, are the only evacuation routes for the east end of the north fork of Long Island, including the Village of Greenport and the hamlets of East Marion and Orient. One of two Shelter Island Ferries docks in</p>	No	None	Within 5 years	Department of Public Works	\$9.7 million	With proper planning and design, project could be constructed with minimal impact to the	HMGP, BRIC, County Capital Improvements Program	High	SIP	PP





Table 9.1-13. Proposed Hazard Mitigation Initiatives

Project Number	Project Name	Goals Met	Hazard(s) to be Mitigated	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Estimated Timeline	Lead Agency	Estimated Costs	Estimated Benefits	Potential Funding Sources	Priority	Mitigation Category	CRS Category
				<p>Greenport. Based on the NOAA Sea Level Rise Viewer, SR 25 and CR 48 would both be inundated at approximately 6' above MHHW.</p> <p>Solution: Hardening of this critical evacuation route can be achieved by increasing the elevation of approximately 900 linear feet of roadway by an approximate maximum of 2' at the lowest point, and integrating this new low point elevation into the existing grade of the road at higher elevations.</p>						surrounding community, and would provide added resilience to critical evacuation route infrastructure				
2020-Suffolk County-054	Reconstruction of Shinnecock Canal Locks System, Jetties and Bulkheads	2, 8	Nor' Easter, Flooding (Coastal), Hurricane	<p>Problem: During severe storm surge events, the Shinnecock canal lock system and the adjacent bulkheading and jetties are unable prevent excess water from entering the electrical and mechanical systems of the locks and would render the system unusable. This excess water is then able to overtop or flow around these structures causing flooding to areas upland. Reconstruction will prevent overflow around and over the lock/tide gates system, bulkheading and jetties in the surrounding area. The Shinnecock Canal Tide Gates & Lock Gates and</p>	Yes	None	5 years	Department of Public Works	\$200,000,000	Avoided losses of \$5,000,000,000	FEMA HMGP, BRIC, County, NYS Canal Authority	High	SIP	PP





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				<p>the Mechanical and Electrical systems are needed for the locks to operate efficiently and to allow the Coast Guard and pleasure craft to traverse the canal safely.</p> <p>Solution: The Shinnecock Canal Lock/Tide System will be replaced with a new sustainable system that will be constructed at an elevation that will prevent storm surge from the 500 year flood event from rendering the system unusable. In addition, the bulkheading and jetties will be raised (height extended) to prevent flooding to the surrounding areas that would further damage the lock system and adjacent roadways and home/businesses.</p>											
2020-Suffolk County-055	Restoration of Culverts throughout Suffolk County	2	Nor' Easter, Flooding, Severe Storm, Hurricane	Problem: During severe storm surge events, the culverts are unable to accommodate the excess water flow due to debris blockage, partial or full collapse or inadequate culvert size, which causes flooding to surrounding areas including County roadways. Restoration will provide new culverts or cleaning of existing culverts that can accommodate excess flow	Yes	None	5 years	Department of Public Works	\$20,000,000	\$5,000,000,000 in losses avoided	HMGP, BRIC, County	High	SIP	SP	





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				<p>in trouble areas causing fewer flood issues in the watershed area.</p> <p>Solution: Culvert reconstruction/replacement and/or cleaning to allow water to flow freely thereby reducing time for water to retreat or eliminating flooding altogether. Culverts will be upsized as necessary.</p>										
2020-Suffolk County-056	Coastline Resilience of South Shore Ocean Front and Back Bay Shorelines	1, 2, 3, 4, 5	Coastal Erosion, Flooding, Nor'Easters, Severe Storms, Severe Winter Storms, Hurricanes	<p>Problem: A reliable and immediate source of funds for repair of eroded beach and dune systems is needed to be implemented when the erosion conditions don't qualify for other funding sources but are still in need of nourishment to mitigate costly damages. The USACE has engineered several beaches on the south shore of the county from Fire Island to Montauk. This geographic range includes many residential, commercial, and parkland properties. Specific project area names are Fire Island Inlet to Moriches Inlet, Smith Point County Park, Cupsogue County Park, Westhampton Dunes, County Park West of Shinnecock Inlet, and Downtown Montauk. These reaches of beach</p>	Yes	None	On-going, Immediately after hazard event, Project work will need to be bid on and then scheduled with contractor	USACE, Suffolk County DPW	High; Varies by site and deficit of sand	Prevention of storm damages	Federal-PL-113-2 Federal-PL 84-99	High	NSP	NR



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				<p>experience continuous erosion and are extremely vulnerable to the hazards of concern. It has been documented that half of the sand along the south shore Atlantic coast was eroded by Hurricane Sandy and it has not rebuilt by natural processes since. Although the USACE has an emergency funding source for repair of coastal erosion (PL 84-99), it is not guaranteed that the county receives such funds. For example, in October 2019 a Nor'easter caused severe erosion and over-washing at Fire Island effecting several communities including their respective critical facilities. Despite severe loss of an already undernourished protective beach system, an after storm survey indicated that the project area did not qualify for emergency funding.</p> <p>Solution: The beach berm and dune has specific specifications that are designed to absorb the wave energy and offer resiliency to flooding/erosion. This protects property and life landward of the beach and</p>											



Table 9.1-13. Proposed Hazard Mitigation Initiatives

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				minimizes breach potential. Once the beach specifications fall below the design template, a nourishment event should occur as recommended by the US Army Corps. It is a great challenge and very costly to periodically nourish the dynamic ocean and back bay shorelines, and hazardous weather events are likely to occur. Pumping sand from offshore borrow areas with a dredge is the most cost effective method. Local government needs to react fast to restore the resiliency of the beach system and financial resources are needed to be available for replacing sand immediately after a major erosion event occurs.										
2020-Suffolk County-057	Restoration of Boathouse at Suffolk County Vanderbilt Museum, Centerport	2	Coastal Erosion, Flood, Hurricane, Nor'Easter	<p>Problem: The boathouse is on the National Historic Registry as part of the Vanderbilt Estate Museum and is in poor condition requiring restoration. Its location fronting Northport Harbor makes it susceptible to storms, coastal erosion and floods.</p> <p>Solution: Anticipated improvements will stabilize and restore the building preserving the historic fabric of the</p>	No	None	Within 2 years	Vanderbilt Museum, Planning overseen by Suffolk DPW	\$2.5 million	Historic structure restored and protected	County bonds, historical preservation grants	Medium	SIP	PP





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				structure for public exhibit.										
2020-Suffolk County-058	Stabilization of Historic Seaplane Hangar at Suffolk County Vanderbilt Museum, Centerport	2	Coastal Erosion, Flood, Hurricane, Nor'Easter	<p>Problem: The former seaplane hangar and pilot's residence is on the National Historic Registry as part of the Vanderbilt Estate Museum and is in poor condition requiring restoration. Its location fronting Northport Harbor makes it susceptible to storms, coastal erosion and floods.</p> <p>Solution: Anticipated improvements will stabilize and restore the building preserving the historic fabric of the structure for public exhibit. Removal of the ramp remnants will provide a safe beach condition.</p>	No	None	Within 2 years	Vanderbilt Museum, Planning overseen by Suffolk DPW	\$5 million	Historic structure restored and protected	County bonds, historical preservation grants	Medium	SIP	PP
2020-Suffolk County-059	Restoration of West Neck Farm (Coindre Hall), Huntington	2	Coastal Erosion, Flood, Hurricane, Nor'Easter	<p>Problem: Restoration of Seawall and Boathouse fronting Huntington Harbor involves historic structures on the National Historic Registry which are subject to severe storms, hurricanes and flooding. Current conditions are poor which could lead to eventual collapse and loss of a significant property if left to further decay.</p>	No	None	Within 6 months	Suffolk County Parks	\$5 million	Historic structure restored and protected	County bonds, historical preservation grants	Medium	SIP	PP



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				<p>Solution: Current plans for Phase I improvements include the restoration of the seawall and stabilization of Boathouse foundations utilizing micropiles and new reinforced floor slabs. Phase II Improvements will restore the building and pier for use by community rowing clubs and other public uses.</p>										
2020-Suffolk County-060	Suffolk County Coastal Erosion and Sea Level Rise Task Force Comprehensive Study	1, 2, 3, 4, 5, 6, 7	Coastal Erosion, Flood	<p>Problem: Sea level rise has led to accelerated coastal erosion worldwide and is of particular concern to Long Island, with threats of destruction to Suffolk County's 980 miles of coastline</p> <p>Solution: Complete a comprehensive study on the challenges created by sea level rise and issue a written report recommending regional coastal resiliency policies that will help protect the county's coastlines and to assist municipalities with decision-making.</p>	No	None	1 year	Suffolk County Coastal Erosion and Sea Level Rise Task Force	Low	Identified actions to address sea level rise and climate change	County and municipal budgets	High	LPR	PR
2020-Suffolk County-061	Resolve discrepancy between the Real Property Tax Dept. and the Treasurer's Office databases	6	All hazards	<p>Problem: A discrepancy exists between the Real Property Tax Dept. and the Treasurer's Office databases regarding number of tax parcels.</p>	No	None	Within 1 year	SC Treasurer's Office and Real Property Dept with assistance	Staff time	Data available to support or enhance County-wide risk assessment.	County budget	High	LPR	PR



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				Solution: Resolve discrepancy to support or enhance County-wide risk assessment.				from SC IT and/or SC GIS						
2020-Suffolk County-062	Implement the Suffolk County Information Technology Disaster Recovery Plan	7	All Hazards	Problem: The County’s Information Technology Disaster Recovery Plan needs to be implemented. Solution: The County will implement the plan and determine if additional improvements are necessary to include lessons learned from the coronavirus pandemic.	No	None	Within 5 years	SC IT	Medium	Disaster response capabilities improved	County Budget	High	LPR	ES
2020-Suffolk County-063	Expand the Community Wildfire Protection Plan and Update the Fire Management Plan	1, 2, 3, 4, 5	Wildfire	Problem: The Community Wildfire Protection Plan could be expanded to include additional communities. The Fire Management Plan is in need of update to adequately plan for prescribed burns and other mitigation. Solution: The Commission will work to include additional communities in the CWPP and update the Fire Management Plan.	No	None	Within 2 years	Central Pine Barrens Joint Planning and Policy Commission	Medium	Additional high risk areas identified, mitigation actions identified	BRIC, Central Pine Barrens Joint Planning and Policy Commission budget	High	LPR, NSP	NR
2020-Suffolk County-064	Type 6 Fire Engine	1, 2, 3, 4, 5	Wildfire	Problem: The Central Pine Barrens Joint Planning and Policy Commission requires a	No	None	Within 1 year	Central Pine Barrens Joint Planning and Policy	\$105,000	Emergency response capabilities increased	Previously allocated NYS DEC	High	SIP, NSP	PP, NR, ES





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				Type 6 Fire Engine to address wildfire and conduct prescribed burns. Solution: The Commission will purchase and outfit a Type 6 Fire Engine.				Commission		for wildfire. Ability to safely conduct prescribed burns established.	grant funding, BRIC			
2020-Suffolk County-065	Critical Facilities Flood Exposure	1, 2, 7	Flood	Problem: The County has numerous critical facilities within the 100-year floodplain for which the elevation in relation to the 500-year floodplain has not been identified. Critical facilities should be protected to the 500-year flood level. Solution: The County will conduct surveys of critical facilities where the elevation of the facility in relation to the 500-year flood level is unknown. Once flood exposure is determined, the County will conduct engineering studies for each facility that is not protected from flooding to the 500-year flood level to determine the most cost-effective mitigation action(s) are for each facility. The County will then carry out the identified mitigation actions.	Yes ●	None	5 years	Engineering	High	Flood risk identified, mitigation actions identified and implemented	HMGP, BRIC, County budget	High	SIP	PP
SBU-001	Negative Pressure Machine Acquisition	1, 7	Disease Outbreak	Problem: In a pandemic with respiratory component there is a need to retrofit existing patient	Yes	None	Within 5 years	Stonybrook University Hospital	\$10,000 estimated cost per room,	Ability to treat and isolate patients	BRIC, Stonybrook budget	High	SIP	ES





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				rooms to negative pressure Solution: Retrofit up to 400 patient rooms with negative pressure machines and filtration					\$4,000,000 for 400 rooms	impacted by disease outbreak				
SBU-002	Telehealth Infrastructure Improvement Program	1, 7	Disease Outbreak	Problem: Outpatient services were negatively impacted by pandemic response due to social distancing requirements. In-hospital infection control measures need to increase social distancing capabilities for protection of health care staff and patients Solution: Enterprise telehealth platform, equipment, and supplies to support outpatient services, remote patient monitoring and hospital-based care.	Yes	None	Within 5 years	Stonybrook University Hospital	>\$500,000 startup plus annual fees	Ability to treat and isolate patients impacted by disease outbreak	BRIC, Stonybrook budget	High	LPR	ES
SBU-003	Pre-Hospital Triage and Treatment Annex	1, 7	Disease Outbreak	Problem: There is no permanent pre-hospital emergency triage facility for a pandemic, mass casualty, hazardous materials/contagion event Solution: Evaluate sites and design a pre-hospital emergency triage and patient annex; if sites unavailable establish a mobile facility	Yes	No	Within 5 years	Stonybrook University Hospital	TBD based on design	Ability to treat and isolate patients impacted by disease outbreak, hazardous materials, etc.	BRIC, Stonybrook budget	High	SIP	ES
SBU-004	Curtain Wall	2	Hurricane, Nor'Easter, Severe Storm, Severe Winter Storm	Problem: Stony Brook University Hospital currently requires the structural retrofitting of the hospital curtain wall (the glass exterior	Yes	No	4 years	Stonybrook University Hospital	\$65-\$75 Million	Protection of facility from storm damage	HMGP, BRIC, Stonybrook budget	High	SIP	PP





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				covering of the hospital towers) to bring it up to current New York State building code requirements, as well as the ASTM "Standard Specification for Performance of Exterior Windows, Curtain Walls, Door, and Impact Protective Systems Impacted by Windborne Debris in Hurricanes" (ASTM E1996-12a). Solution: Replace hospital curtain wall.										
SBU-005	Biocontainment/Special Hazard Containment Unit	1, 7	Disease Outbreak	Problem: Existing Emerging Infectious Disease (EIDS) facility is not equipped for mass decontamination capacity Solution: Design and implement renovations required to provide decontamination corridor in existing EIDS unit	Yes	No	Within 5 years	Stonybrook University Hospital	TBD based on design	Ability to treat and isolate patients impacted by disease outbreak	BRIC, Stonybrook budget	High	SIP	PP
SBU-006	Command Center	7	Severe Storm, Disease Outbreak	Problem: Existing spaces used as a command center require upgrades to add capacity and resources to support sustained operations Solution: Investigate available spaces, design and implement dedicated command center	Yes	No	Within 5 years	Stonybrook University Hospital	TBD based on design	Continuity of operations	HMGP, BRIC, Stonybrook budget	High	SIP	ES
SBU-007	Enhancement of Back-up Power	2	Extreme Temperature, Severe Storm, Severe Winter Storm	Problem: Existing generators are not sized to support cooling Solution: Design and	Yes	No	Within 5 years	Stonybrook University Hospital	TBD based on design	Continuity of operations	HMGP, BRIC, Stonybrook budget	High	SIP	ES



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				implement upgrades to add chillers to backup power for physical plant. Existing capacity for targeted spaces are as follows: Ambulatory Surgery Center (2000 kW), Pharmacy Compound Room (150kW), Data Center (900kW), Operating Rooms 1-23 (900kW).										
SBU-008	Enhancement of Physical Plant Cybersecurity	1	Flood, Wildfire, Severe Storm, Cybersecurity	<p>Problem: The Stony Brook University Hospital Data Center is vulnerable to catastrophic damage from various physical threats (flood, fire, and others form of outside interference).</p> <p>Solution: Stony Brook University Hospital needs to build alternate communication paths that would be located at a different physical site. The University's Medical and Research Translation (MART) building has been identified as an optimal site for this redundant communications hub that would essentially be a smaller scale Data Center. This would allow the hospital and its affiliates to continue to access Cerner, our electronic medical records and other critical systems and thus prevent</p>	Yes	No	Within 5 years	Stonybrook University Hospital	Estimated \$2.5 million	Protection from cybercrimimals	BRIC, Stonybrook budget	High	LPR	PR





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				the hospital from having to shut its doors if the Data Center is seriously damaged.										
SBU-009	Data Loss Prevention	1, 7	Cybersecurity	<p>Problem: Stony Brook University Hospital's information systems and software are vulnerable to cybercriminals seeking to enter the network. This could jeopardize patient safety, confidentiality, hospital financial operations, and subject the hospital to theft and data loss. Existing capabilities require enhancement to prevent data loss by securing sensitive data from unauthorized exfiltration</p> <p>Solution: Design and implement solution(s) for Identifying, classifying, and securing sensitive data: Installation of a data identification / access control software: (ex. Varonis, Sperion, etc.) tool to assist in the scanning, data classification and access restriction of SBM sensitive data. Security: Palo End-Point Security Expansion/Cortex - ELIH (Rename - Vectra)</p>	Yes	No	Within 5 years	Stonybrook University Hospital	Installation of a data identification/access control software: tool-\$50,000/annual Security: Palo End-Point Security Expansion/Cortex - ELIH (Rename - Vectra)-90,000/annual	Protection from cybercriminals	BRIC, Stonybrook budget	High	LPR	PR
SBU-010	IT Security Enhancements	1, 7	Cybersecurity	<p>Problem: Stony Brook University Hospital's information systems and software are vulnerable to</p>	Yes	No	Within 5 years	Stonybrook University Hospital	\$31,000/annual for 9,000 user licenses	Protection from cybercriminals	BRIC, Stonybrook budget	High	LPR	PR





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				<p>cybercriminals seeking to enter the network. This could jeopardize patient safety, confidentiality, hospital financial operations, and subject the hospital to theft and data loss. Measures are required to reduce IT security problems of social engineer, spear phishing and ransomware attacks.</p> <p>Solution: Design and implement comprehensive security awareness / phishing program Install and rollout out KnowBe4 across all SBM assets to conduct targeting phishing campaigns and educational modules</p>										
SBU-011	Vulnerability/Penetration Testing	1, 7	Cybersecurity	<p>Problem: Stony Brook University Hospital's information systems and software are vulnerable to cybercriminals seeking to enter the network. This could jeopardize patient safety, confidentiality, hospital financial operations, and subject the hospital to theft and data loss. There is a need for increased capacity around classifying, remediating, and mitigating software and infrastructure vulnerabilities including the discovery, reporting, and response process before the vulnerabilities</p>	Yes	No	Within 5 years	Stony Brook University Hospital	Internal Penetration Test Expansion: \$13,000 Contract Vendor for External Penetration: \$15,000	Protection from cybercriminals	BRIC, Stony Brook budget	High	LPR	PR





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				can be exploited. Solution: Contract external vendor to assist in the scoping and execution of regular External penetration testing, reporting and remediation. Interview and contract vendors for penetration testing Expansion of Internal penetration testing to include both critical and non-critical SBM assets.										
SBU-012	Implementation of Interoperable Clinical Information Technology	7	Cybersecurity	Problem: Existing health emergency response data reporting processes are manually performed and provide limited actionable data. Solution: Robust regional platform for sharing of real-time, actionable pandemic or other emergency health data is needed to support trending and resource allocation	Yes	No	Within 5 years	Stonybrook University Hospital	Regional	Sharing of data to support response	BRIC, Stonybrook budget	High	LPR	ES
SBSH-001	Construction of Replacement Hospital	1, 2	Hurricane, Severe Storm	Problem: Stony Brook Southampton Hospital plans to build a replacement hospital on the grounds of the Stony Brook Southampton Campus. The proposed new location between Montauk Highway and County Road 39 will provide more favorable access/egress options relative to the existing location in Southampton	Yes	No	Within 5 years	Stonybrook University Hospital	\$300 million +	Reduction in risk to hospital	BRIC, Stonybrook budget	High	SIP	PP





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				Village Solution: Design and construct replacement Hospital										
SBSH-002	Construction of New LIRR Overpass	1, 7	Hurricane, Severe Storm	Problem: The proposed new location for Stony Brook Southampton Hospital is vulnerable to access/egress limitations due to location of Long Island Railroad tracks that traverse access road. Obstructions may occur due to rail crossings or damage from a hazardous event. Solution: Design and construct LIRR overpass	Yes	No	Within 5 years	Stonybrook University Hospital	TBD based on design	Access maintained	HMGP, BRIC, Stonybrook budget	High	SIP	PP
SBSH-003	Backup Power Upgrades - Hospital	2	Hurricane, Severe Storm, Severe Winter Storm, Extreme Temperature	Problem: Existing generators do not support HVAC for cooling. Solution: Replace two existing 800 kW generators with two 2-Megawatt generators to support HVAC for cooling	Yes	No	Within 5 years	Stonybrook University Hospital	Estimated \$10M	Continuity of operations	HMGP, BRIC, Stonybrook budget	High	SIP	ES
SBSH-004	Backup Power Upgrades – Cancer Center	2	Hurricane, Severe Storm, Extreme Temperature	Problem: Existing generators do not support HVAC for cooling. Solution: Replace two existing 35 kW generators with two 600kW generators to support HVAC for cooling	Yes	No	Within 5 years	Stonybrook University Hospital	Estimated \$5M	Continuity of operations	HMGP, BRIC, Stonybrook budget	High	SIP	ES
SBSH-005	Backup Power Upgrades – East Hampton Freestanding ED	2	Hurricane, Severe Storm, Extreme Temperature	Problem: Existing generators do not support HVAC for cooling. Solution: Revise facility design, which currently calls for a 600kW	Yes	No	Within 5 years	Stonybrook University Hospital	TBD Based on Design	Continuity of operations	HMGP, BRIC, Stonybrook budget	High	SIP	ES



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				generator, to a 1600kW generator, to support cooling										
SBSH-006	Relocation of Telephone Room	2	Severe Storms	Problem: Existing telephone room is located in the lower level and is vulnerable to flood hazard. Solution: Design and implement relocation of telephone room above the lower level	Yes	No	Within 5 years	Stonybrook University Hospital	TBD Based on Design	Continuity of operations during flood event	HMGP, BRIC, Stonybrook budget	High	SIP	PP
SBSH-007	Fix Decontamination Unit	1, 7	Disease Outbreak	Problem: The facility lacks mass decontamination capacity Solution: Design and implement a fixed decontamination unit with decontamination corridor	Yes	No	Within 5 years	Stonybrook University Hospital	Estimated \$75,000-\$100,000	Ability to treat disease outbreak/hazmat	BRIC, Stonybrook budget	High	SIP	ES
SBSH-008	Replace Electrical Distribution System	2	Severe Storm, Flood	Problem: Existing electrical distribution system is below sea level and subject to flood damage. An uncontrollable flood would result in total shutdown of power to the entire hospital facility. Solution: Design and implement project to relocate electrical distribution system above sea level.	Yes	No	Within 5 years	Stonybrook University Hospital	Phase 1 design services estimated at \$80,000. Subsequent phases TBD based on design.	Electrical system protected from flooding	HMPG, BRIC, Stonybrook budget	High	SIP	PP
SBSH-009	Lower Level Flood Prevention System	2	Flood, Severe Storm	Problem: The lower level of the hospital facility is below sea level and subject to flood damage. Frequency of flooding is 6-10 times per year with duration 2-3 days. Solution: Design and install flood prevention	Yes	No	Within 5 years	Stonybrook University Hospital	Estimated \$75,000-\$100,000	Protection from flooding	HMGP, BRIC, Stonybrook budget	High	SIP	PP



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				system in hospital lower level										

Notes:

Not all acronyms and abbreviations defined below are included in the table.

Acronyms and Abbreviations:

- CAV Community Assistance Visit
- CRS Community Rating System
- DPW Department of Public Works
- EHP Environmental Planning and Historic Preservation
- FEMA Federal Emergency Management Agency
- FPA Floodplain Administrator
- HMA Hazard Mitigation Assistance
- N/A Not applicable
- NFIP National Flood Insurance Program
- OEM Office of Emergency Management

Potential FEMA HMA Funding Sources:

- FMA Flood Mitigation Assistance Grant Program
- HMGP Hazard Mitigation Grant Program
- PDM Pre-Disaster Mitigation Grant Program

Timeline:

The time required for completion of the project upon implementation

Cost:

The estimated cost for implementation.

Benefits:

A description of the estimated benefits, either quantitative and/or qualitative.

Critical Facility:

Yes Critical Facility located in 1% floodplain

Mitigation Category:

- Local Plans and Regulations (LPR) – These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.
- Structure and Infrastructure Project (SIP) - 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 (NSP) – These are actions that minimize damage and losses, and also preserve or restore the functions of natural systems.
- Education and Awareness Programs (EAP) – 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 StormReady and Firewise Communities

CRS Category:

- Preventative Measures (PR) - Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.
- Property Protection (PP) - These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.





- *Public Information (PI) - Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.*
- *Natural Resource Protection (NR) - Actions that minimize hazard loss and also preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.*
- *Structural Flood Control Projects (SP) - Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.*
- *Emergency Services (ES) - Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities*



Table 9.1-14. Summary of Prioritization of Actions

Project Number	Project Name	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
2020-Suffolk County-001	Bus Rapid Transit Demonstration Project	1	0	1	1	1	0	1	-1	1	0	1	0	1	0	9	
2020-Suffolk County-002	Build Local Floodplain Management and Disaster Recovery Capabilities	1	1	1	1	1	1	0	1	1	0	1	1	1	1	12	High
2020-Suffolk County-003	Jurisdictional Knowledge of Mitigation Needs of Property Owners	1	1	1	1	1	1	0	1	1	1	1	1	1	1	13	High
2020-Suffolk County-004	Create a Multi-Jurisdictional Seismic Safety Committee	1	1	0	0	1	1	1	1	1	1	0	1	1	1	11	High
2020-Suffolk County-005	County-Wide Housing Location/Relocation Planning Initiative for Disaster Displaced Residents and Structures	1	0	1	1	1	1	1	1	1	1	1	1	1	1	13	High
2020-Suffolk County-006	CP 5116, Safety and Drainage Improvements to the Center Medians on CR46, William Floyd Parkway, from Coraci Blvd. to Smith Point.	1	1	1	1	1	1	0	1	1	1	1	1	1	1	13	High
2020-Suffolk County-007	Weatherproofing PDHQ Building for Hurricane	0	1	1	1	1	1	1	1	1	1	0	1	1	1	12	High
2020-Suffolk County-008	CP No: 5005 Project Title: Improvements to CR38, North Sea Road, from CR39, North road to vicinity of Noyack Road .	1	1	1	1	1	1	0	1	1	1	1	1	1	1	13	High
2020-Suffolk County-009	CP 5583, Improvements to CR79, Sag Harbor/ Bridgehampton Turnpike, from Brick Kiln Road to NYS Rt. 27, Montauk Highway.	1	1	1	1	1	1	0	1	1	1	1	1	1	1	13	High
2020-Suffolk County-010	Improvements to County Road 39, North Road/	1	1	1	1	1	1	0	1	1	1	1	1	1	1	13	High



Table 9.1-14. Summary of Prioritization of Actions

Project Number	Project Name	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
	Flying Point Road.																
2020-Suffolk County-011	Suffolk County Sewer District No.3 - Southwest - Infiltration/inflow.	0	1	0	1	1	1	0	1	1	1	1	0	1	1	10	High
2020-Suffolk County-012	Suffolk County Sewer District No. 3 - Southwest - Perimeter Wall.	0	1	1	1	0	1	0	1	1	1	0	1	1	1	10	High
2020-Suffolk County-013	Suffolk County Sewer District No.3 - Southwest - Ocean Outfall.	0	1	1	1	1	1	0	1	1	1	1	1	1	1	12	High
2020-Suffolk County-014	Suffolk County Sewer District No. 3 - Southwest - Co-generation.	0	1	1	1	1	1	0	-1	1	1	1	-1	1	1	10	High
2020-Suffolk County-015	Suffolk County Sewer Districts Vulnerability Analyses	0	1	0	1	1	1	0	1	1	1	1	1	1	1	11	High
2020-Suffolk County-016	Radio Tower Infrastructure Retrofit.	1	1	1	1	1	1	0	1	1	1	1	1	1	1	13	High
2020-Suffolk County-017	Permanent Generator Installation- Marine Bureau.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
2020-Suffolk County-018	Indian Island County Park: Infrastructure protection & erosion control measures for the "bluff"	0	1	1	1	1	0	0	1	1	1	1	1	1	1	11	High
2020-Suffolk County-019	Cedar Point Lighthouse: Reinforce Structural Integrity to protect against storm activity	0	1	1	1	1	1	0	1	1	1	1	1	1	1	12	High
2020-Suffolk County-020	Long Island Maritime Museum: Historic buildings - Raise historic structures to protect against storm surges.	0	1	1	1	1	1	0	1	1	1	1	1	1	1	12	High



Table 9.1-14. Summary of Prioritization of Actions

Project Number	Project Name	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
2020-Suffolk County-021	Timber Point Golf Course: erosion control measures	0	1	1	1	1	0	0	1	1	1	1	1	1	1	11	High
2020-Suffolk County-022	Enhance operation of the Suffolk County Emergency Operations Center (EOC)	1	0	1	1	1	1	1	1	1	1	0	1	1	1	12	High
2020-Suffolk County-023	Ensure that all appropriate county employees are NIMS trained and qualified	0	0	0	0	1	1	1	0	1	1	1	0	1	1	6	Medium
2020-Suffolk County-024	Marine Bureau Fuel Supply Protection Project.	0	1	0	1	0	1	0	1	1	1	1	0	1	0	8	Medium
2020-Suffolk County-025	Marine Bureau Shop Damage Mitigation Project.	0	1	0	1	0	1	0	1	1	1	1	0	1	0	8	Medium
2020-Suffolk County-026	Permanent Generator Installation- Police Academy Emergency Work Shelter.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
2020-Suffolk County-027	Permanent Generator Installation- Special Patrol Bureau.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
2020-Suffolk County-028	Bulkhead replacement at Shinnecock Marina	1	1	1	1	1	1	0	0	1	1	1	1	1	1	12	High
2020-Suffolk County-029	Bulkhead replacement at Smith Point Marina	1	1	0	1	1	1	-1	0	1	1	1	0	1	0	8	Medium
2020-Suffolk County-030	Bulkhead replacement at Long Island Maritime Museum, West Sayville	1	1	0	1	1	1	-1	0	1	1	1	0	1	0	8	Medium
2020-Suffolk County-031	Automated flood gate for Millers Pond	1	1	0	1	1	1	0	0	0	1	0	0	1	1	8	Medium
2020-Suffolk County-032	Suffolk County Correctional Facility	1	1	1	1	1	1	0	1	1	1	1	0	1	1	12	High
2020-Suffolk County-033	Repair of Southaven Dam	1	1	1	1	1	1	1	1	1	1	0	0	1	1	12	High
2020-Suffolk County-034	Repair of Spillway at Stump Pond	1	1	1	1	1	1	1	1	1	1	0	0	1	1	12	High
2020-Suffolk	Coastal Erosion	0	1	1	1	1	1	0	1	1	1	0	1	1	1	11	High





Table 9.1-14. Summary of Prioritization of Actions

Project Number	Project Name	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
County-035	Monitoring Program																
2020-Suffolk County-036	Guiding Development to Low Risk Areas	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
2020-Suffolk County-037	Protect Agriculture and Aquaculture from Impacts of Climate Change	0	1	1	1	1	1	1	1	1	1	1	1	1	1	13	High
2020-Suffolk County-038	Ecological Restoration of the Stream Corridor and Floodplain in Mud Creek County Park	0	1	0	1	1	0	0	1	1	1	1	0	1	1	9	High
2020-Suffolk County-039	Acquisition of Properties within Coastal Flood Hazard Areas	1	1	1	1	1	1	1	1	1	1	0	0	1	1	12	High
2020-Suffolk County-040	Continue Upgrade Wastewater Infrastructure in Floodprone Coastal Communities	0	1	1	1	1	1	1	1	1	1	1	0	1	1	12	High
2020-Suffolk County-041	Suffolk County Coastal Resiliency Initiative	0	1	1	1	1	1	1	1	1	1	1	0	1	1	12	High
2020-Suffolk County-042	Tidal Wetland Restoration at Smith Point County Park	0	1	0	1	1	0	0	1	1	1	1	0	1	1	9	High
2020-Suffolk County-043	Suffolk County Sewer Districts Emergency Electric Generators	1	1	1	1	1	1	0	1	1	1	1	0	1	1	12	High
2020-Suffolk County-044	Curtail Floodplain Development by Transferring Flood-prone Properties to County Open Space	1	1	1	1	0	1	0	1	-1	1	1	0	1	1	10	High
2020-Suffolk County-045	County Guidance for Retrofit and Acquisition of Repetitive Loss Structures	1	1	1	1	1	1	1	1	1	1	0	1	1	1	13	High
2020-Suffolk County-046	Map Appropriate Areas for Living Shoreline Projects	0	1	0	0	0	1	0	1	1	1	1	0	1	1	8	Medium
2020-Suffolk	Incorporate Fish Passage	0	0	0	1	0	1	0	1	1	1	1	0	1	1	8	Medium



Table 9.1-14. Summary of Prioritization of Actions

Project Number	Project Name	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
County-047	Upgrades Where Necessary During Dam and Culvert Upgrades																
2020-Suffolk County-048	County Road 96, Bergen Avenue, at Bergen Point	1	1	0	1	1	1	0	1	1	0	1	0	1	0	9	High
2020-Suffolk County-049	Improvements to CR 60, Noyack Long Beach Road	1	1	0	1	1	1	0	0	0	1	1	0	1	0	8	Medium
2020-Suffolk County-050	Restoration of Bulkheading throughout Suffolk County	1	1	1	0	0	1	1	1	1	-1	1	0	1	0	8	Medium
2020-Suffolk County-051	Back-bay Shoreline Erosion Mitigation at Cupsogue County Park	1	1	0	1	1	1	1	1	1	-1	1	0	1	1	10	High
2020-Suffolk County-052	Suffolk County Traffic Signal Management System Communications Enhancement	1	0	0	1	1	0	-1	1	1	0	1	0	1	1	6	Medium
2020-Suffolk County-053	County Road 48 at Hashamomuck Beach Storm Hardening	1	1	0	1	1	1	0	1	1	0	1	0	0	1	9	High
2020-Suffolk County-054	Reconstruction of Shinnecock Canal Locks System, Jetties and Bulkheads	1	1	1	0	1	1	1	1	1	-1	1	0	1	1	10	High
2020-Suffolk County-055	Restoration of Culverts throughout Suffolk County	1	1	1	0	1	1	1	1	1	-1	1	0	1	1	10	High
2020-Suffolk County-056	Coastline Resilience of South Shore Ocean and Back Bay Shorelines	1	1	1	1	1	1	1	1	1	-1	1	1	1	1	12	High
2020-Suffolk County-057	Restoration of Boathouse at Suffolk County Vanderbilt Museum, Centerport	1	1	1	0	1	0	-1	1	1	0	1	1	0	1	8	Medium
2020-Suffolk County-058	Stabilization of Historic Seaplane Hangar at Suffolk County Vanderbilt Museum, Centerport	1	1	1	0	1	0	-1	1	1	0	1	1	0	1	8	Medium





Table 9.1-14. Summary of Prioritization of Actions

Project Number	Project Name	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
2020-Suffolk County-059	Restoration of West Neck Farm (Coindre Hall), Huntington	1	1	1	0	1	0	-1	1	1	0	1	1	0	1	8	Medium
2020-Suffolk County-060	Suffolk County Coastal Erosion and Sea Level Rise Task Force Comprehensive Study	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
2020-Suffolk County-061	Resolve discrepancy between the Real Property Tax Dept. and the Treasurer's Office databases	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
2020-Suffolk County-062	Implement the Suffolk County Information Technology Disaster Recovery Plan	1	0	1	1	1	1	1	1	1	1	1	0	1	1	12	High
2020-Suffolk County-063	Expand the Community Wildfire Protection Plan and update the Fire Management Plan	1	1	1	1	1	1	1	1	1	1	0	1	1	1	13	High
2020-Suffolk County-064	Type 6 Fire Engine	1	1	1	1	1	1	0	1	1	1	0	1	1	1	12	High
2020-Suffolk County-065	Critical Facilities Flood Exposure	1	1	1	1	1	1	0	1	1	1	0	0	1	1	11	High
SBU-001	Negative Pressure Machine Acquisition	1	0	0	1	1	1	0	1	1	1	0	0	1	1	9	High
SBU-002	Telehealth Infrastructure Improvement Program	1	0	1	1	1	1	0	1	1	1	0	0	1	1	10	High
SBU-003	Pre-Hospital Triage and Treatment Annex	1	0	1	1	1	1	0	1	1	1	0	0	1	1	10	High
SBU-004	Curtain Wall	1	1	1	1	1	1	0	1	1	1	1	0	1	1	12	High
SBU-005	Biocontainment/Special Hazard Containment Unit	1	1	1	1	1	1	0	1	1	1	0	0	1	1	11	High
SBU-006	Command Center	1	0	1	1	1	1	0	1	1	1	1	0	1	1	11	High
SBU-007	Enhancement of Back-up Power	1	0	1	1	1	1	0	1	1	1	1	0	1	1	11	High
SBU-008	Enhancement of Physical Plant Cybersecurity	1	0	1	1	1	1	0	1	1	1	1	0	1	1	11	High



Table 9.1-14. Summary of Prioritization of Actions

Project Number	Project Name	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
SBU-009	Data Loss Prevention	1	0	1	1	1	1	0	1	1	1	0	0	1	1	10	High
SBU-010	IT Security Enhancements	1	0	1	1	1	1	0	1	1	1	0	0	1	1	10	High
SBU-011	Vulnerability/Penetration Testing	1	0	1	1	1	1	0	1	1	1	0	0	1	1	10	High
SBU-012	Implementation of Interoperable Clinical Information Technology	1	0	1	1	1	1	0	1	1	1	0	0	1	1	10	High
SBSH-001	Construction of Replacement Hospital	1	0	1	1	1	1	0	1	1	1	1	0	1	1	11	High
SBSH-002	Construction of New LIRR Overpass	1	0	1	1	1	1	0	1	1	1	1	0	1	1	11	High
SBSH-003	Backup Power Upgrades - Hospital	1	0	1	1	1	1	0	1	1	1	1	0	1	1	11	High
SBSH-004	Backup Power Upgrades - Cancer Center	1	0	1	1	1	1	0	1	1	1	1	0	1	1	11	High
SBSH-005	Backup Power Upgrades - East Hampton Freestanding ED	1	0	1	1	1	1	0	1	1	1	1	0	1	1	11	High
SBSH-006	Relocation of Telephone Room	1	1	1	1	1	1	0	1	1	1	0	0	1	1	11	High
SBSH-007	Fix Decontamination Unit	1	0	1	1	1	1	0	1	1	1	0	0	1	1	10	High
SBSH-008	Replace Electrical Distribution System	1	1	1	1	1	1	0	1	1	1	1	0	1	1	12	High
SBSH-009	Lower Level Flood Prevention System	1	1	1	1	1	1	0	1	1	1	1	0	1	1	12	High

Note: Refer to Section 6, which conveys guidance on prioritizing mitigation actions. Low (0-4), Medium (5-8), High (9-14).



9.1.10 Proposed Mitigation Action Types

The table below indicates the range of proposed mitigation action categories.

Table 9.1-15. Analysis of Mitigation Actions by Hazard and Category

Hazard	FEMA				CRS						
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES	
Coastal Erosion	2020-Suffolk County-005, 2020-Suffolk County-023, 2020-Suffolk County-035, 2020-Suffolk County-036, 2020-Suffolk County-040, 2020-Suffolk County-044, 2020-Suffolk County-046, 2020-Suffolk County-060, 2020-Suffolk County-061, 2020-Suffolk County-062	2020-Suffolk County-017, 2020-Suffolk County-018, 2020-Suffolk County-019, 2020-Suffolk County-020, 2020-Suffolk County-021, 2020-Suffolk County-026, 2020-Suffolk County-027, 2020-Suffolk County-028, 2020-Suffolk County-029, 2020-Suffolk County-030, 2020-Suffolk County-032, 2020-Suffolk County-038, 2020-Suffolk County-043, 2020-Suffolk County-048, 2020-Suffolk County-049,	2020-Suffolk County-038, 2020-Suffolk County-044, 2020-Suffolk County-046, 2020-Suffolk County-051, 2020-Suffolk County-056	2020-Suffolk County-002, 2020-Suffolk County-003,	2020-Suffolk County-035, 2020-Suffolk County-036, 2020-Suffolk County-040, 2020-Suffolk County-044, 2020-Suffolk County-046, 2020-Suffolk County-061	2020-Suffolk County-017, 2020-Suffolk County-018, 2020-Suffolk County-019, 2020-Suffolk County-020, 2020-Suffolk County-021, 2020-Suffolk County-028, 2020-Suffolk County-029, 2020-Suffolk County-030, 2020-Suffolk County-038, 2020-Suffolk County-048, 2020-Suffolk County-049, 2020-Suffolk County-050, 2020-Suffolk County-053, 2020-Suffolk County-057, 2020-Suffolk County-058, 2020-Suffolk County-059	2020-Suffolk County-002, 2020-Suffolk County-003	2020-Suffolk County-038, 2020-Suffolk County-044, 2020-Suffolk County-046, 2020-Suffolk County-051, 2020-Suffolk County-056	2020-Suffolk County-038	2020-Suffolk County-038	2020-Suffolk County-005, 2020-Suffolk County-017, 2020-Suffolk County-023, 2020-Suffolk County-026, 2020-Suffolk County-027, 2020-Suffolk County-032, 2020-Suffolk County-043, 2020-Suffolk County-062





Hazard	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
		2020-Suffolk County-050, 2020-Suffolk County-053, 2020-Suffolk County-057, 2020-Suffolk County-058, 2020-Suffolk County-059								
Cyber Security	2020-Suffolk County-023, 2020-Suffolk County-036, 2020-Suffolk County-061, 2020-Suffolk County-062, SBU-008, SBU-009, SBU-010, SBU-011, SBU-012	2020-Suffolk County-017, 2020-Suffolk County-026, 2020-Suffolk County-027, 2020-Suffolk County-032, 2020-Suffolk County-043, 2020-Suffolk County-052		2020-Suffolk County-003	2020-Suffolk County-036, 2020-Suffolk County-061, SBU-008, SBU-009	2020-Suffolk County-017	2020-Suffolk County-003			2020-Suffolk County-017, 2020-Suffolk County-023, 2020-Suffolk County-026, 2020-Suffolk County-027, 2020-Suffolk County-032, 2020-Suffolk County-043, 2020-Suffolk County-052, 2020-Suffolk County-062, SBU-009, SBU-010, SBU-011, SBU-012
Disease Outbreak	2020-Suffolk County-023, 2020-Suffolk County-036, 2020-Suffolk County-	2020-Suffolk County-017, 2020-Suffolk County-022, 2020-Suffolk County-		2020-Suffolk County-003	2020-Suffolk County-036, 2020-Suffolk County-061	2020-Suffolk County-017, 2020-Suffolk County-022, SBU-005	2020-Suffolk County-003			2020-Suffolk County-017, 2020-Suffolk County-023, 2020-Suffolk County-



Hazard	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
	061, 2020-Suffolk County-062, SBU-002	026, 2020-Suffolk County-027, 2020-Suffolk County-032, 2020-Suffolk County-043, SBU-001, SBU-003, SBU-005, SBU-006, SBSH-007								026, 2020-Suffolk County-027, 2020-Suffolk County-032, 2020-Suffolk County-043, 2020-Suffolk County-062, SBU-001, SBU-002, SBU-003, SBU-006, SBSH-007
Drought	2020-Suffolk County-023, 2020-Suffolk County-036, 2020-Suffolk County-037, 2020-Suffolk County-061, 2020-Suffolk County-062	2020-Suffolk County-017, 2020-Suffolk County-026, 2020-Suffolk County-027, 2020-Suffolk County-032, 2020-Suffolk County-043		2020-Suffolk County-003	2020-Suffolk County-036, 2020-Suffolk County-037, 2020-Suffolk County-061	2020-Suffolk County-017	2020-Suffolk County-003			2020-Suffolk County-017, 2020-Suffolk County-023, 2020-Suffolk County-026, 2020-Suffolk County-027, 2020-Suffolk County-032, 2020-Suffolk County-043, 2020-Suffolk County-062
Earthquake	2020-Suffolk County-004, 2020-Suffolk County-023, 2020-Suffolk County-036, 2020-Suffolk	2020-Suffolk County-017, 2020-Suffolk County-026, 2020-Suffolk County-027, 2020-Suffolk		2020-Suffolk County-003	2020-Suffolk County-004, 2020-Suffolk County-036, 2020-Suffolk County-061	2020-Suffolk County-017	2020-Suffolk County-003			2020-Suffolk County-017, 2020-Suffolk County-023, 2020-Suffolk County-026, 2020-Suffolk



Hazard	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
	County-061, 2020-Suffolk County-062	County-032, 2020-Suffolk County-043								County-027, 2020-Suffolk County-032, 2020-Suffolk County-043, 2020-Suffolk County-062
Expansive Soils	2020-Suffolk County-023, 2020-Suffolk County-036, 2020-Suffolk County-061, 2020-Suffolk County-062	2020-Suffolk County-017, 2020-Suffolk County-026, 2020-Suffolk County-027, 2020-Suffolk County-032, 2020-Suffolk County-043,		2020-Suffolk County-003	2020-Suffolk County-036, 2020-Suffolk County-061	2020-Suffolk County-017	2020-Suffolk County-003			2020-Suffolk County-017, 2020-Suffolk County-023, 2020-Suffolk County-026, 2020-Suffolk County-027, 2020-Suffolk County-032, 2020-Suffolk County-043, 2020-Suffolk County-062
Extreme Temperature	2020-Suffolk County-023, 2020-Suffolk County-036, 2020-Suffolk County-061, 2020-Suffolk County-062	2020-Suffolk County-017, 2020-Suffolk County-026, 2020-Suffolk County-027, 2020-Suffolk County-032, 2020-Suffolk County-043, SBU-007, SBSH-003, SBSH-		2020-Suffolk County-003	2020-Suffolk County-036, 2020-Suffolk County-061	2020-Suffolk County-017	2020-Suffolk County-003			2020-Suffolk County-017, 2020-Suffolk County-023, 2020-Suffolk County-026, 2020-Suffolk County-027, 2020-Suffolk County-032, 2020-Suffolk County-043, 2020-



Hazard	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
		004, SBSH-005								Suffolk County-062, SBU-007, SBSH-003, SBSH-004, SBSH-005
Flood	2020-Suffolk County-005, 2020-Suffolk County-015, 2020-Suffolk County-023, 2020-Suffolk County-036, 2020-Suffolk County-040, 2020-Suffolk County-044, 2020-Suffolk County-045, 2020-Suffolk County-046, 2020-Suffolk County-060, 2020-Suffolk County-061, 2020-Suffolk County-062, SBU-008	2020-Suffolk County-006, 2020-Suffolk County-008, 2020-Suffolk County-009, 2020-Suffolk County-010, 2020-Suffolk County-011, 2020-Suffolk County-012, 2020-Suffolk County-013, 2020-Suffolk County-017, 2020-Suffolk County-024, 2020-Suffolk County-025, 2020-Suffolk County-026, 2020-Suffolk County-027, 2020-Suffolk County-028, 2020-Suffolk County-029, 2020-	2020-Suffolk County-038, 2020-Suffolk County-039, 2020-Suffolk County-041, 2020-Suffolk County-042, 2020-Suffolk County-044, 2020-Suffolk County-047, 2020-Suffolk County-051, 2020-Suffolk County-056	2020-Suffolk County-002, 2020-Suffolk County-003	2020-Suffolk County-036, 2020-Suffolk County-040, 2020-Suffolk County-044, 2020-Suffolk County-045, 2020-Suffolk County-046, 2020-Suffolk County-061, SBU-008	2020-Suffolk County-013, 2020-Suffolk County-015, 2020-Suffolk County-017, 2020-Suffolk County-024, 2020-Suffolk County-025, 2020-Suffolk County-028, 2020-Suffolk County-029, 2020-Suffolk County-030, 2020-Suffolk County-039, 2020-Suffolk County-048, 2020-Suffolk County-049, 2020-Suffolk County-050, 2020-Suffolk County-053, 2020-Suffolk County-054, 2020-	2020-Suffolk County-002, 2020-Suffolk County-003	2020-Suffolk County-038, 2020-Suffolk County-039, 2020-Suffolk County-041, 2020-Suffolk County-042, 2020-Suffolk County-044, 2020-Suffolk County-046, 2020-Suffolk County-051, 2020-Suffolk County-056	2020-Suffolk County-006, 2020-Suffolk County-008, 2020-Suffolk County-009, 2020-Suffolk County-010, 2020-Suffolk County-011, 2020-Suffolk County-012, 2020-Suffolk County-031, 2020-Suffolk County-033, 2020-Suffolk County-034, 2020-Suffolk County-038, 2020-Suffolk County-041, 2020-Suffolk County-047, 2020-Suffolk County-055	2020-Suffolk County-005, 2020-Suffolk County-017, 2020-Suffolk County-023, 2020-Suffolk County-026, 2020-Suffolk County-027, 2020-Suffolk County-032, 2020-Suffolk County-043, 2020-Suffolk County-062





Hazard	FEMA				CRS						
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES	
		Suffolk County-030, 2020-Suffolk County-031, 2020-Suffolk County-032, 2020-Suffolk County-033, 2020-Suffolk County-034, 2020-Suffolk County-038, 2020-Suffolk County-039, 2020-Suffolk County-041, 2020-Suffolk County-043, 2020-Suffolk County-047, 2020-Suffolk County-048, 2020-Suffolk County-049, 2020-Suffolk County-050, 2020-Suffolk County-053, 2020-Suffolk County-054, 2020-Suffolk County-055, 2020-Suffolk County-057,					Suffolk County-057, 2020-Suffolk County-058, 2020-Suffolk County-059, 2020-Suffolk County-065, SBSH-008, SBSH-009				



Hazard	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
		2020-Suffolk County-058, 2020-Suffolk County-059, 2020-Suffolk County-065, SBSH-008, SBSH-009								
Groundwater Contamination	2020-Suffolk County-023, 2020-Suffolk County-036, 2020-Suffolk County-037, 2020-Suffolk County-061, 2020-Suffolk County-062	2020-Suffolk County-017, 2020-Suffolk County-026, 2020-Suffolk County-027, 2020-Suffolk County-032, 2020-Suffolk County-038, 2020-Suffolk County-041, 2020-Suffolk County-043	2020-Suffolk County-038, 2020-Suffolk County-041	2020-Suffolk County-003	2020-Suffolk County-036, 2020-Suffolk County-037, 2020-Suffolk County-061	2020-Suffolk County-017	2020-Suffolk County-003	2020-Suffolk County-038, 2020-Suffolk County-041	2020-Suffolk County-038, 2020-Suffolk County-041	2020-Suffolk County-017, 2020-Suffolk County-023, 2020-Suffolk County-026, 2020-Suffolk County-027, 2020-Suffolk County-032, 2020-Suffolk County-033, 2020-Suffolk County-043, 2020-Suffolk County-062
Hurricane	2020-Suffolk County-005, 2020-Suffolk County-015, 2020-Suffolk County-023, 2020-Suffolk County-036, 2020-Suffolk County-044, 2020-Suffolk County-	2020-Suffolk County-001, 2020-Suffolk County-007, 2020-Suffolk County-008, 2020-Suffolk County-009, 2020-Suffolk County-	2020-Suffolk County-042, 2020-Suffolk County-044, 2020-Suffolk County-051, 2020-Suffolk County-056	2020-Suffolk County-002, 2020-Suffolk County-003	2020-Suffolk County-036, 2020-Suffolk County-044, 2020-Suffolk County-061	2020-Suffolk County-007, 2020-Suffolk County-013, 2020-Suffolk County-014, 2020-Suffolk County-015, 2020-Suffolk County-	2020-Suffolk County-002, 2020-Suffolk County-003	2020-Suffolk County-042, 2020-Suffolk County-044, 2020-Suffolk County-051, 2020-Suffolk County-056	2020-Suffolk County-008, 2020-Suffolk County-009, 2020-Suffolk County-011, 2020-Suffolk County-055	2020-Suffolk County-001, 2020-Suffolk County-005, 2020-Suffolk County-014, 2020-Suffolk County-017, 2020-Suffolk County-



Hazard	FEMA				CRS						
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES	
	061, 2020- Suffolk County- 062	013, 2020- Suffolk County- 014, 2020- Suffolk County- 016, 2020- Suffolk County- 017, 2020- Suffolk County- 018, 2020- Suffolk County- 019, 2020- Suffolk County- 020, 2020- Suffolk County- 021, 2020- Suffolk County- 026, 2020- Suffolk County- 027, 2020- Suffolk County- 032, 2020- Suffolk County- 043, 2020- Suffolk County- 048, 2020- Suffolk County- 049, 2020- Suffolk County- 050, 2020- Suffolk County- 053, 2020- Suffolk County- 054, 2020- Suffolk					017, 2020- Suffolk County- 018, 2020- Suffolk County- 019, 2020- Suffolk County- 020, 2020- Suffolk County- 021, 2020- Suffolk County- 048, 2020- Suffolk County- 049, 2020- Suffolk County- 050, 2020- Suffolk County- 053, 2020- Suffolk County- 054, 2020- Suffolk County- 057, 2020- Suffolk County- 058, 2020- Suffolk County- 059, SBU- 004, SBSH- 001, SBSH- 002				026, 2020- Suffolk County- 027, 2020- Suffolk County- 032, 2020- Suffolk County- 043, 2020- Suffolk County- 062, SBSH- 003, SBSH- 004, SBSH- 005



Hazard	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
		County-055, 2020-Suffolk County-057, 2020-Suffolk County-058, 2020-Suffolk County-059, SBU-004, SBSH-001, SBSH-002, SBSH-003, SBSH-004, SBSH-005								
Infestation and Invasive Species	2020-Suffolk County-023, 2020-Suffolk County-036, 2020-Suffolk County-037, 2020-Suffolk County-061, 2020-Suffolk County-062	2020-Suffolk County-017, 2020-Suffolk County-026, 2020-Suffolk County-027, 2020-Suffolk County-032, 2020-Suffolk County-038, 2020-Suffolk County-043, 2020-Suffolk County-047	2020-Suffolk County-038, 2020-Suffolk County-042, 2020-Suffolk County-047	2020-Suffolk County-003	2020-Suffolk County-036, 2020-Suffolk County-037, 2020-Suffolk County-061	2020-Suffolk County-017	2020-Suffolk County-003	2020-Suffolk County-038, 2020-Suffolk County-042, 2020-Suffolk County-047	2020-Suffolk County-038, 2020-Suffolk County-047	2020-Suffolk County-017, 2020-Suffolk County-023, 2020-Suffolk County-026, 2020-Suffolk County-027, 2020-Suffolk County-032, 2020-Suffolk County-043, 2020-Suffolk County-062
Nor'easter	2020-Suffolk County-005, 2020-Suffolk County-015, 2020-Suffolk County-023, 2020-	2020-Suffolk County-001, 2020-Suffolk County-008, 2020-Suffolk County-009, 2020-	2020-Suffolk County-042, 2020-Suffolk County-044, 2020-Suffolk County-051, 2020-	2020-Suffolk County-002, 2020-Suffolk County-003	2020-Suffolk County-036, 2020-Suffolk County-044, 2020-Suffolk County-061	2020-Suffolk County-013, 2020-Suffolk County-014, 2020-Suffolk County-015, 2020-	2020-Suffolk County-002, 2020-Suffolk County-003	2020-Suffolk County-042, 2020-Suffolk County-044, 2020-Suffolk County-051, 2020-	2020-Suffolk County-008, 2020-Suffolk County-009, 2020-Suffolk County-011, 2020-	2020-Suffolk County-001, 2020-Suffolk County-005, 2020-Suffolk County-014, 2020-



Hazard	FEMA				CRS						
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES	
	Suffolk County-036, 2020-Suffolk County-044, 2020-Suffolk County-061, 2020-Suffolk County-062	Suffolk County-011, 2020-Suffolk County-013, 2020-Suffolk County-014, 2020-Suffolk County-016, 2020-Suffolk County-017, 2020-Suffolk County-018, 2020-Suffolk County-019, 2020-Suffolk County-020, 2020-Suffolk County-021, 2020-Suffolk County-026, 2020-Suffolk County-027, 2020-Suffolk County-032, 2020-Suffolk County-043, 2020-Suffolk County-048, 2020-Suffolk County-049, 2020-Suffolk County-050, 2020-Suffolk County-053,	Suffolk County-056			Suffolk County-016, 2020-Suffolk County-017, 2020-Suffolk County-018, 2020-Suffolk County-019, 2020-Suffolk County-020, 2020-Suffolk County-021, 2020-Suffolk County-048, 2020-Suffolk County-049, 2020-Suffolk County-050, 2020-Suffolk County-053, 2020-Suffolk County-054, 2020-Suffolk County-057, 2020-Suffolk County-058, 2020-Suffolk County-059, SBU – 004			Suffolk County-056	Suffolk County-055	Suffolk County-017, 2020-Suffolk County-023, 2020-Suffolk County-026, 2020-Suffolk County-027, 2020-Suffolk County-032, 2020-Suffolk County-043, 2020-Suffolk County-062



Hazard	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
		2020-Suffolk County-054, 2020-Suffolk County-055, 2020-Suffolk County-057, 2020-Suffolk County-058, 2020-Suffolk County-059, SBU – 004								
Severe Storm	2020-Suffolk County-005, 2020-Suffolk County-015, 2020-Suffolk County-023, 2020-Suffolk County-036, 2020-Suffolk County-044, 2020-Suffolk County-061, 2020-Suffolk County-062, SBU-008	2020-Suffolk County-001, 2020-Suffolk County-006, 2020-Suffolk County-008, 2020-Suffolk County-009, 2020-Suffolk County-010, 2020-Suffolk County-011, 2020-Suffolk County-014, 2020-Suffolk County-016, 2020-Suffolk County-017, 2020-Suffolk County-018, 2020-Suffolk County-019, 2020-	2020-Suffolk County-041, 2020-Suffolk County-042, 2020-Suffolk County-044, 2020-Suffolk County-047, 2020-Suffolk County-051, 2020-Suffolk County-056	2020-Suffolk County-003	2020-Suffolk County-036, 2020-Suffolk County-044, 2020-Suffolk County-061, SBU-008	2020-Suffolk County-014, 2020-Suffolk County-015, 2020-Suffolk County-016, 2020-Suffolk County-017, 2020-Suffolk County-018, 2020-Suffolk County-019, 2020-Suffolk County-020, 2020-Suffolk County-021, 2020-Suffolk County-048, 2020-Suffolk County-048, 2020-Suffolk County-049, 2020-	2020-Suffolk County-003	2020-Suffolk County-041, 2020-Suffolk County-042, 2020-Suffolk County-044, 2020-Suffolk County-047, 2020-Suffolk County-056	2020-Suffolk County-006, 2020-Suffolk County-008, 2020-Suffolk County-009, 2020-Suffolk County-010, 2020-Suffolk County-011, 2020-Suffolk County-041, 2020-Suffolk County-047, 2020-Suffolk County-055	2020-Suffolk County-001, 2020-Suffolk County-005, 2020-Suffolk County-014, 2020-Suffolk County-017, 2020-Suffolk County-023, 2020-Suffolk County-026, 2020-Suffolk County-027, 2020-Suffolk County-032, 2020-Suffolk County-043, 2020-Suffolk County-062, SBU-006, SBU-007, SBSH-003, SBSH-



Hazard	FEMA				CRS						
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES	
		Suffolk County-020, 2020-Suffolk County-021, 2020-Suffolk County-026, 2020-Suffolk County-027, 2020-Suffolk County-032, 2020-Suffolk County-041, 2020-Suffolk County-043, 2020-Suffolk County-047, 2020-Suffolk County-048, 2020-Suffolk County-048, 2020-Suffolk County-049, 2020-Suffolk County-053, 2020-Suffolk County-055, SBU-004, SBU-006, SBU-007, SBSH-001, SBSH-002, SBSH-003, SBSH-004, SBSH-005,					Suffolk County-053, SBU-004, SBSH-001, SBSH-002, SBSH-006, SBSH-008, SBSH-009				004, SBSH-005



Hazard	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
		SBSH-006, SBSH-008, SBSH-009								
Severe Winter Storm	2020-Suffolk County-005, 2020-Suffolk County-023, 2020-Suffolk County-036, 2020-Suffolk County-044, 2020-Suffolk County-061, 2020-Suffolk County-062	2020-Suffolk County-001, 2020-Suffolk County-014, 2020-Suffolk County-016, 2020-Suffolk County-017, 2020-Suffolk County-018, 2020-Suffolk County-019, 2020-Suffolk County-020, 2020-Suffolk County-021, 2020-Suffolk County-026, 2020-Suffolk County-027, 2020-Suffolk County-032, 2020-Suffolk County-043, SBU-004, SBSH-003, SBSH-004, SBSH-005	2020-Suffolk County-042, 2020-Suffolk County-044, 2020-Suffolk County-051, 2020-Suffolk County-056	2020-Suffolk County-003	2020-Suffolk County-036, 2020-Suffolk County-044, 2020-Suffolk County-061	2020-Suffolk County-014, 2020-Suffolk County-016, 2020-Suffolk County-017, 2020-Suffolk County-018, 2020-Suffolk County-019, 2020-Suffolk County-020, 2020-Suffolk County-021, SBU-004	2020-Suffolk County-003	2020-Suffolk County-042, 2020-Suffolk County-044, 2020-Suffolk County-051, 2020-Suffolk County-056		2020-Suffolk County-001, 2020-Suffolk County-005, 2020-Suffolk County-014, 2020-Suffolk County-017, 2020-Suffolk County-023, 2020-Suffolk County-026, 2020-Suffolk County-027, 2020-Suffolk County-032, 2020-Suffolk County-043, 2020-Suffolk County-062, SBSH-003, SBSH-004, SBSH-005
Shallow Groundwater	2020-Suffolk County-005, 2020-	2020-Suffolk County-017, 2020-	2020-Suffolk County-038	2020-Suffolk County-003	2020-Suffolk County-036, 2020-	2020-Suffolk County-017	2020-Suffolk County-003	2020-Suffolk County-038	2020-Suffolk County-038	2020-Suffolk County-005, 2020-



Hazard	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
	Suffolk County-023, 2020-Suffolk County-036, 2020-Suffolk County-061, 2020-Suffolk County-062	Suffolk County-026, 2020-Suffolk County-027, 2020-Suffolk County-032, 2020-Suffolk County-038, 2020-Suffolk County-043			Suffolk County-061					Suffolk County-017, 2020-Suffolk County-023, 2020-Suffolk County-026, 2020-Suffolk County-027, 2020-Suffolk County-032, 2020-Suffolk County-038, 2020-Suffolk County-043, 2020-Suffolk County-062
Wildfire	2020-Suffolk County-005, 2020-Suffolk County-023, 2020-Suffolk County-036, 2020-Suffolk County-061, 2020-Suffolk County-062, 2020-Suffolk County-063, SBU-008	2020-Suffolk County-017, 2020-Suffolk County-026, 2020-Suffolk County-027, 2020-Suffolk County-032, 2020-Suffolk County-043, 2020-Suffolk County-064	2020-Suffolk County-063	2020-Suffolk County-003	2020-Suffolk County-036, 2020-Suffolk County-061, SBU-008	2020-Suffolk County-017, 2020-Suffolk County-063	2020-Suffolk County-003	2020-Suffolk County-063, 2020-Suffolk County-063		2020-Suffolk County-005, 2020-Suffolk County-017, 2020-Suffolk County-023, 2020-Suffolk County-026, 2020-Suffolk County-027, 2020-Suffolk County-032, 2020-Suffolk County-043, 2020-Suffolk County-062, 2020-Suffolk County-063

Note: Section 6 (Mitigation Strategy) provides for an explanation of the mitigation categories.

9.1.11 Staff and Local Stakeholder Involvement in Annex Development





Suffolk County followed the planning process described in Section 3 (Planning Process) in Volume I of this plan update. This annex was developed over the course of several months with input from many County departments, including: Fire, Rescue, and Emergency Services in the Office of Emergency Management; Public Works; Parks; Social Services; Health Services; Police Department; Soil and Water Conservation District; Economic Development and Planning; Department of Innovation and Technology; and the Suffolk County Legislature. Each department represented the community on the Suffolk County Hazard Mitigation Plan Planning Partnership, Steering Committee, and supported the local planning process requirements by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

The following table summarizes who participated and in what capacity. Additional documentation on the municipality’s planning process through Planning Partnership meetings is included in Section 3 (Planning Process) and Appendix C (Meetings).

Table 9.1-16. Contributors to the Annex

Name	Title/Entity	Method of Participation
Edward Schneyer	Director, FRES-OEM	Attended plan participant meetings, provided impact data, contributed to mitigation strategy
Joseph Trzepizur	S.C. FRES-OEM	Attended plan participant meetings, provided impact data, contributed to mitigation strategy
Jeanne Lenz	S.C. FRES-OEM	Primary Point of Contact, attended plan participant meetings, provided impact data, contributed to mitigation strategy
Kenneth Kutner	S.C. FRES-OEM	Secondary Point of Contact, attended plan participant meetings, provided impact data, contributed to mitigation strategy
Terry Maccarrone	S.C. Parks	Attended plan participant meetings, provided impact data, contributed to mitigation strategy
Philip Berdolt	Commissioner, S.C. Parks	Attended plan participant meetings, provided impact data, contributed to mitigation strategy
Darnell Tyson	Acting Commissioner, S.C. DPW	Attended plan participant meetings, provided impact data, contributed to mitigation strategy
Charles Jaquin	S.C. DPW	Attended plan participant meetings, provided impact data, contributed to mitigation strategy
Alexander Prego	Director of Traffic Safety, S.C. DPW	Attended plan participant meetings, provided impact data, contributed to mitigation strategy
Nathaniel Bialek	Director, SC Department of Health Services/EMS	Attended plan participant meetings, provided impact data, contributed to mitigation strategy
Thomas Fealey	Ambulance Service Consultant, SC Department of Health Services/EMS	Attended plan participant meetings, provided impact data, contributed to mitigation strategy
Patrick Kalan	Suffolk County Police Department	Attended plan participant meetings, provided impact data, contributed to mitigation strategy
Corey Humphrey	S.C. Soil and Water Conservation District	Attended plan participant meetings, provided impact data, contributed to mitigation strategy
Rebecca Sinclair	S.C. Economic Development and Planning	Attended plan participant meetings, provided impact data, contributed to mitigation strategy
Sarah Lansdale	S.C. Economic Development and Planning	Attended plan participant meetings, provided impact data, contributed to mitigation strategy
Dorian Dale	S.C. Economic Development and Planning	Attended plan participant meetings, provided impact data, contributed to mitigation strategy
Scott Mastellon	S.C. Department of Internet Technology	Attended plan participant meetings, provided impact data, contributed to mitigation strategy



9.1.12 Hazard Area Extent and Location

Hazard area extent and location maps have been generated for Suffolk County that illustrate the probable areas that may be impacted within the municipality. These maps are based on the best available data at the time of the preparation of this plan and are considered to be adequate for planning purposes. The maps have only been generated for those hazards that can be clearly identified using mapping techniques and technologies, and for which Suffolk County has significant exposure. Maps can be found in each hazard profile (Section 5.4.1 – Section 5.4.16).



Action Worksheet			
Project Name:	Build Local Floodplain Management and Disaster Recovery Capabilities		
Project Number:	2020-Suffolk County-002		
Risk / Vulnerability			
Hazard(s) of Concern:	Coastal Erosion, Flooding, Hurricane, Nor'Easters, Shallow Groundwater		
Description of the Problem:	Federal policies regarding floodplain management and disaster recovery continue to evolve. In response, local government officials are being tasked with responsibilities related to these areas, which are outside their traditional scope of work and knowledge. Currently there are no CRS Communities within Suffolk County despite the large number of NFIP residences living within a flood zone.		
Action or Project Intended for Implementation			
Description of the Solution:	Facilitate Workshops and Seminars to build local capabilities in floodplain management and disaster recovery: <ul style="list-style-type: none"> • Help facilitate municipalities meet the NFIP standards • Obtain entry into Community Rating System (CRS) for all municipalities • Conduct new benefit cost analyses (BCA) and Substantial Damage Estimate (SDE) • Issue NFIP Elevation Certificates (EC) • Certified Floodplain Manager (CFM) Training and Certification 		
Is this project related to a Critical Facility?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Is this project related to a Critical Facility located within the 100-year floodplain?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	N/A	Estimated Benefits (losses avoided):	>1,000,000
Useful Life:	Will provide staff with experience and skills	Goals Met:	1, 2, 7
Estimated Cost:	\$100,000	Mitigation Action Type:	Education and Awareness Program
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	1 year
Estimated Time Required for Project Implementation:	1-2 years	Potential Funding Sources:	FEMA - FMA
Responsible Organization:	SC FRES/OEM	Local Planning Mechanisms to be Used in Implementation if any:	Hazard mitigation, Emergency management
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Problem continues.
	Each municipalities applies independently	Unknown	Historically unsuccessful
	SC FRES brings in a consultant to assist each municipality	\$100,000	Low staffing addressed, CRS compliance obtainable
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Evaluation and Prioritization		
Project Name:	Build Local Floodplain Management and Disaster Recovery Capabilities	
Project Number:	2020-Suffolk County-002	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Training will help staff protect life
Property Protection	1	Training will help staff protect property
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	The County has the legal authority to complete the project
Fiscal	0	Project requires funding support
Environmental	1	
Social	1	Project will build capacity to help the population of the County
Administrative	0	
Multi-Hazard	1	Coastal Erosion, Flooding, Hurricane, Nor'Easters, Shallow Groundwater
Timeline	1	1 year
Agency Champion	1	SC FRES/OEM
Other Community Objectives	1	
Total	12	
Priority (High/Med/Low)	High	



Action Worksheet			
Project Name:	Jurisdictional Knowledge of Mitigation Needs of Property Owners		
Project Number:	2020-Suffolk County-003		
Risk / Vulnerability			
Hazard(s) of Concern:	All Hazards		
Description of the Problem:	Currently, there is no method in place for data collection of private property mitigation projects. There may be many mitigation opportunities that are eligible for funding that go unreported to the local jurisdictions resulting in costly recovery dollars.		
Action or Project Intended for Implementation			
Description of the Solution:	A digital form on the Suffolk County Hazard Mitigation Website that will allow residents to complete and submit mitigation project ideas. Public education and outreach to help residents understand the various categories of mitigation funding and eligible projects. Printed materials and workshops for residents.		
Is this project related to a Critical Facility?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Is this project related to a Critical Facility located within the 100-year floodplain?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	N/A	Estimated Benefits (losses avoided):	\$1,000,000
Useful Life:	10 years	Goals Met:	6
Estimated Cost:	\$20,000	Mitigation Action Type:	Education and Awareness Programs
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Within 2 years
Estimated Time Required for Project Implementation:	6 months	Potential Funding Sources:	HMGP with required local match, other Federal Grant Program (i.e. UASI, SHSP, etc.), Operating Budgets or Operating Budgets for local match
Responsible Organization:	SC FRES/OEM	Local Planning Mechanisms to be Used in Implementation if any:	Hazard mitigation
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Problem continues.
	Printed forms mailed to every household	\$25,000	Costly
	Forms only available at FRES	\$500	Low reach, low response
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Evaluation and Prioritization		
Project Name:	Jurisdictional Knowledge of Mitigation Needs of Property Owners	
Project Number:	2020-Suffolk County-003	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Project will allow for the design of projects to protect life.
Property Protection	1	Project will allow for the design of projects to protect property.
Cost-Effectiveness	1	
Technical	1	The project is technically feasible
Political	1	
Legal	1	
Fiscal	0	Project requires funding support
Environmental	1	
Social	1	
Administrative	1	
Multi-Hazard	1	All Hazards
Timeline	1	Within 2 years
Agency Champion	1	SC FRES/OEM
Other Community Objectives	1	
Total	13	
Priority (High/Med/Low)	High	



Action Worksheet			
Project Name:	Bulkhead replacement at Shinnecock Marina		
Project Number:	2020-Suffolk County-028		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood, Coastal Erosion		
Description of the Problem:	The bulkhead at the Shinnecock marina is failing. This is leading to subsidence issues and could cause large scale coastal erosion. The Suffolk County Parks Department is currently in the permitting phase for replacement.		
Action or Project Intended for Implementation			
Description of the Solution:	The Parks Department will replace the degraded bulkhead at Shinnecock Marina.		
Is this project related to a Critical Facility or Lifeline?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Is this project related to a Critical Facility located within the 100-year floodplain?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Level of Protection:	N/A	Estimated Benefits (losses avoided):	Flood and coastal risk reduced, water access maintained
Useful Life:	50 years	Goals Met:	2
Estimated Cost:	\$2.5M	Mitigation Action Type:	Structure and Infrastructure Project
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	1 year
Estimated Time Required for Project Implementation:	6 months	Potential Funding Sources:	HMGP, PDM, FMA, BRIC, County budget
Responsible Organization:	Suffolk County Parks Department	Local Planning Mechanisms to be Used in Implementation if any:	Hazard Mitigation Planning
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Current problem continues
	Remove bulkhead	~\$500,000	Increased erosion
	Install living shoreline	\$1M	Not likely to be effective. Too energetic of an environment
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Action Worksheet		
Project Name:	Bulkhead replacement at Shinnecock Marina	
Project Number:	2020-Suffolk County-028	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Protects lives from flooding
Property Protection	1	Safeguards existing infrastructure
Cost-Effectiveness	1	Proactively replacing the bulkhead now, reduces risk of personal injury lawsuit; catastrophic failure of the bulkhead would dramatically increase repair & replacement costs. The Marina is a revenue producing asset of the County, so bulkhead failure will negatively impact revenue
Technical	1	
Political	1	There is strong Public Support for this, especially the recreational boating community
Legal	1	The County has the legal authority to complete the project
Fiscal	0	Project requires funding support
Environmental	0	
Social	1	Protects marina services, provides recreational opportunities for County residents & patrons
Administrative	1	
Multi-Hazard	1	Flood, Coastal Erosion
Timeline	1	To be completed ASAP
Agency Champion	1	Suffolk County Parks Department
Other Community Objectives	1	
Total	12	
Priority (High/Med/Low)	High	



Action Worksheet			
Project Name:	Bulkhead replacement at Smith Point Marina		
Project Number:	2020-Suffolk County-029		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood, Coastal Erosion		
Description of the Problem:	The bulkhead at the Smith Point Marina is failing. This could cause large scale coastal erosion.		
Action or Project Intended for Implementation			
Description of the Solution:	The Parks Department will replace the degraded bulkhead at Smith Point Marina. Scheduling may be impacted by bridge reconstruction.		
Is this project related to a Critical Facility or Lifeline?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Is this project related to a Critical Facility located within the 100-year floodplain?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Level of Protection:	N/A	Estimated Benefits (losses avoided):	Flood and coastal risk reduced
Useful Life:	50 years	Goals Met:	2
Estimated Cost:	\$1 Million to replace existing; \$2 - \$3M to completely encircle inlet	Mitigation Action Type:	Structure and Infrastructure Project
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Within 5 years
Estimated Time Required for Project Implementation:	6 months	Potential Funding Sources:	HMGP, PDM, FMA, County budget
Responsible Organization:	Suffolk County Parks Department	Local Planning Mechanisms to be Used in Implementation if any:	Hazard Mitigation Planning
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Current problem continues
	Remove bulkhead	\$400,000	Increased erosion
	Install living shoreline	\$3M	Not likely to be effective. Too energetic of an environment
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Action Worksheet		
Project Name:	Bulkhead replacement at Smith Point Marina	
Project Number:	2020-Suffolk County-029	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Protects lives from flooding
Property Protection	1	Protects property from flooding, coastal erosion, protects existing infrastructure
Cost-Effectiveness	0	
Technical	1	
Political	1	
Legal	1	The County has the legal authority to complete the project
Fiscal	-1	Project requires funding support
Environmental	0	
Social	1	SP Marina provides recreational access and possibility for future development w/ increased amenities
Administrative	1	
Multi-Hazard	1	Flood, Coastal Erosion
Timeline	0	Within 5 years
Agency Champion	1	Suffolk County Parks Department
Other Community Objectives	1	Potential development of full-scale operational marina facility.
Total	8	
Priority (High/Med/Low)	Medium	



Action Worksheet			
Project Name:	Bulkhead replacement at Long Island Maritime Museum, West Sayville		
Project Number:	2020-Suffolk County-030		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood, Coastal Erosion		
Description of the Problem:	The bulkhead at the Long Island Maritime Museum in West Sayville is failing. This could cause large scale coastal erosion and loss of adjacent historical structures.		
Action or Project Intended for Implementation			
Description of the Solution:	The Parks Department will replace the degraded bulkhead at Long Island Maritime Museum.		
Is this project related to a Critical Facility or Lifeline?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Is this project related to a Critical Facility located within the 100-year floodplain?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Level of Protection:	N/A	Estimated Benefits (losses avoided):	Flood and coastal risk reduced, protection of historical structures
Useful Life:	50 years	Goals Met:	2
Estimated Cost:	\$3-\$4M	Mitigation Action Type:	Structure and Infrastructure Project
Plan for Implementation			
Prioritization:	Medium	Desired Timeframe for Implementation:	(Phase I – Fall 2020, Phase II – within 5 years))
Estimated Time Required for Project Implementation:	6 months	Potential Funding Sources:	HMGP, PDM, FMA, County budget
Responsible Organization:	Suffolk County Parks Department	Local Planning Mechanisms to be Used in Implementation if any:	Hazard Mitigation Planning
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Current problem continues
	Remove bulkhead	\$100,000	Increased erosion, endangers adjacent Historical structures
	Install living shoreline	\$1M	Operational Boat Basin with moorings & large vertical tidal displacement, so not an option)
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Action Worksheet		
Project Name:	Bulkhead replacement at Long Island Maritime Museum, West Sayville	
Project Number:	2020-Suffolk County-030	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Protects lives from flooding
Property Protection	1	Protects property from flooding, coastal erosion, protects adjacent Historical structures
Cost-Effectiveness	0	
Technical	1	
Political	1	There is public support for the project, especially by the Museum
Legal	1	The County has the legal authority to complete the project
Fiscal	-1	Project requires funding support
Environmental	0	
Social	1	Protects museum and adjacent Historical structures
Administrative	1	
Multi-Hazard	1	Flood, Coastal Erosion
Timeline	0	(Phase I to begin in Fall 2020)
Agency Champion	1	Suffolk County Parks Department
Other Community Objectives	1	
Total	8	
Priority (High/Med/Low)	Medium	



Action Worksheet			
Project Name:	Automated flood gate for Millers Pond		
Project Number:	2020-Suffolk County-031		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood		
Description of the Problem:	<p>Flooding can occur if Millers Pond is not lowered prior to major rainfall events. This requires staff to monitor the condition of the lake, weather events, and respond accordingly.</p> <p>The Spillway at Millers Pond runs under Maple Avenue in Smithtown. The spillway appears to be in working condition. Homeowners downstream of the spillway have reported flooding issues (possibly groundwater flooding) and are concerned the flooding is caused by Millers Pond.</p>		
Action or Project Intended for Implementation			
Description of the Solution:	The Parks Department will conduct a feasibility assessment to determine the cause of flooding of homes. Based upon the results of the assessment, the Department will upgrade the spillway and weir to install a remotely controlled gate to allow for remote lowering of the gate in advance of storm events.		
Is this project related to a Critical Facility or Lifeline?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Is this project related to a Critical Facility located within the 100-year floodplain?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Level of Protection:	500-year flood	Estimated Benefits (losses avoided):	Flood risk reduced
Useful Life:	15 years	Goals Met:	2, 7
Estimated Cost:	\$20,000	Mitigation Action Type:	Structure and Infrastructure Project
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Within 5 years
Estimated Time Required for Project Implementation:	2 years	Potential Funding Sources:	HMGP, PDM, FMA, County budget
Responsible Organization:	Suffolk County Parks Department	Local Planning Mechanisms to be Used in Implementation if any:	Hazard Mitigation Planning
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Current problem continues
	Remove weir and keep lake low at all times	\$3,000	Environmental damage to lake ecosystem. Decrease in aesthetics of lake.
	Replace weir with spill over dam	N/A	Not possible due to Maple Avenue
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Action Worksheet		
Project Name:	Automated flood gate for Millers Pond	
Project Number:	2020-Suffolk County-031	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Protects lives from flooding
Property Protection	1	Protects properties from flooding
Cost-Effectiveness	0	
Technical	1	
Political	1	
Legal	1	The County has the legal authority to complete the project
Fiscal	0	Project requires funding support
Environmental	0	
Social	0	
Administrative	1	
Multi-Hazard	0	Flood
Timeline	0	Within 5 years
Agency Champion	1	Suffolk County Parks Department
Other Community Objectives	1	
Total	8	
Priority (High/Med/Low)	Medium	



Action Worksheet			
Project Name:	Suffolk County Correctional Facility		
Project Number:	2020-Suffolk County-032		
Risk / Vulnerability			
Hazard(s) of Concern:	All Hazards		
Description of the Problem:	<p>The Suffolk County Correctional Facility (100 Center Street River Head, NY 11901-3307) is located along the Pequanock River. The Facility houses the following:</p> <ul style="list-style-type: none"> • Maximum facility jail (with several hundred prisoners) • Sheriff's Office main administrative offices • Sheriff's Office main communications facilities • Sheriff's Office fleet management <p>The Facility's backup power is supplied by generators at the end of their usable life. These generators are located in the Facility's basement and could be vulnerable to flooding in a large flood event.</p>		
Action or Project Intended for Implementation			
Description of the Solution:	The Sheriff's Office will work with the County Department of Public Works to replace the generators at the Correctional Facility and relocated the generators out of the basement to prevent flooding risk.		
Is this project related to a Critical Facility?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Is this project related to a Critical Facility located within the 100-year floodplain?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
(If yes, this project must intend to protect the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	500-year flood level	Estimated Benefits (losses avoided):	Ensures continuity of operations
Useful Life:	25 years	Goals Met:	1, 7
Estimated Cost:	\$150,000	Mitigation Action Type:	Structure and Infrastructure Projects (SIP)
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Within 5 years
Estimated Time Required for Project Implementation:	1 year	Potential Funding Sources:	FEMA HMGP and PDM, USDA Community Facilities Grant Program, Emergency Management Performance Grants (EMPG) Program, Village Budget
Responsible Organization:	Sheriff's Office, County DPW	Local Planning Mechanisms to be Used in Implementation if any:	Hazard Mitigation, Emergency Management
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Problem continues.
	Install solar panels	\$150,000	Weather dependent; need large amount of space for installation; expensive if repairs needed
	Install wind turbine	\$150,000	Weather dependent; poses a threat to wildlife; expensive repairs if needed
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			



Update Evaluation of the Problem and/or Solution:	
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Action Worksheet		
Project Name:	Suffolk County Correctional Facility	
Project Number:	2020-Suffolk County-032	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Project will protect critical services of Suffolk County Correctional Facility.
Property Protection	1	Project will protect Suffolk County Correctional Facility from power loss
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	The County has the legal authority to complete the project.
Fiscal	0	Project requires funding support.
Environmental	1	
Social	1	
Administrative	1	
Multi-Hazard	1	All Hazards
Timeline	0	Within 5 years
Agency Champion	1	Sheriff's Office, County DPW
Other Community Objectives	1	Protection of continuity of operations
Total	12	
Priority (High/Med/Low)	High	



Action Worksheet			
Project Name:	Repair of Southaven Dam		
Project Number:	2020-Suffolk County-033		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood		
Description of the Problem:	Southaven Dam is in need of substantial repairs and upgrades to provide protection from dam failure. The dam itself is in fair condition but the spillway and top course are in need of replacement. The repair of the dam is currently in design phase.		
Action or Project Intended for Implementation			
Description of the Solution:	The Suffolk County Parks Department will complete the design phase and implement the designed repairs/improvements. It is assumed the Parks Department will replace the spillway and top course on the Southaven Dam.		
Is this project related to a Critical Facility or Lifeline?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Is this project related to a Critical Facility located within the 100-year floodplain?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Level of Protection:	500-year flood	Estimated Benefits (losses avoided):	Dam failure avoided, flood risk reduced
Useful Life:	50 years	Goals Met:	2
Estimated Cost:	\$800,000	Mitigation Action Type:	Structure and Infrastructure Project
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Continued implementation
Estimated Time Required for Project Implementation:	2 years	Potential Funding Sources:	HMGP, PDM, FMA, BRIC, County budget
Responsible Organization:	Suffolk County Parks Department	Local Planning Mechanisms to be Used in Implementation if any:	Hazard Mitigation Planning
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Current problem continues
	Replace Dam entirely	\$1.5 million	Costly
	Remove Dam	\$1.5 million	Dam cannot be removed for safety reason.
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Action Worksheet		
Project Name:	Repair of Southaven Dam	
Project Number:	2020-Suffolk County-033	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Project protects life from dam failure
Property Protection	1	Project protects property from dam failure
Cost-Effectiveness	1	
Technical	1	
Political	1	There is public support for the project
Legal	1	The County has the legal authority to complete the project
Fiscal	1	The project is assumed to have funding support at this time but budgetary restrictions due to coronavirus response may limit County budget allocations.
Environmental	1	
Social	1	
Administrative	1	
Multi-Hazard	0	Flood
Timeline	0	2 years
Agency Champion	1	Suffolk County Parks Department
Other Community Objectives	1	
Total	12	
Priority (High/Med/Low)	High	



Action Worksheet			
Project Name:	Repair of Spillway at Stump Pond		
Project Number:	2020-Suffolk County-034		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood		
Description of the Problem:	The Suffolk County Parks Department is planning a historic restoration of the Millworks and water wheel at Stump Pond. The spillway at Stump Pond is degraded.		
Action or Project Intended for Implementation			
Description of the Solution:	The Parks Department will conduct a feasibility assessment to determine if the spillway is in need of repair or a full replacement. During restoration of the Millworks and water wheel, the Suffolk County Parks Department will complete a replace/repair of the spillway at Stump Pond based on the results of the feasibility assessment.		
Is this project related to a Critical Facility or Lifeline?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Is this project related to a Critical Facility located within the 100-year floodplain?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Level of Protection:	500-year flood	Estimated Benefits (losses avoided):	Dam failure avoided, flood risk reduced
Useful Life:	50 years	Goals Met:	2
Estimated Cost:	\$800,000	Mitigation Action Type:	Structure and Infrastructure Project
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Continued implementation
Estimated Time Required for Project Implementation:	2 years	Potential Funding Sources:	HMGP, PDM, FMA, County budget
Responsible Organization:	Suffolk County Parks Department	Local Planning Mechanisms to be Used in Implementation if any:	Hazard Mitigation Planning
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Current problem continues
	Replace Dam entirely	\$1.5 million	Costly and not necessary.
	Remove Dam and Spillway	\$1.5 million	Dam cannot be removed for safety and historical reasons.
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Action Worksheet		
Project Name:	Repair of Spillway at Stump Pond	
Project Number:	2020-Suffolk County-034	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Project protects life from dam failure
Property Protection	1	Project protects property and historical property from dam failure
Cost-Effectiveness	1	
Technical	1	
Political	1	There is public support for the project
Legal	1	The County has the legal authority to complete the project
Fiscal	1	The project is assumed to have funding support at this time but budgetary restrictions due to coronavirus response may limit County budget allocations.
Environmental	1	
Social	1	
Administrative	1	
Multi-Hazard	0	Flood
Timeline	0	5 years
Agency Champion	1	Suffolk County Parks Department
Other Community Objectives	1	
Total	12	
Priority (High/Med/Low)	High	



Action Worksheet			
Project Name:	Repair of Spillway at Stump Pond		
Project Number:	2020-Suffolk County-034		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood		
Description of the Problem:	The Suffolk County Parks Department is planning a historic restoration of the Millworks and water wheel at Stump Pond. The spillway at Stump Pond is degraded.		
Action or Project Intended for Implementation			
Description of the Solution:	The Parks Department will conduct a feasibility assessment to determine if the spillway is in need of repair or a full replacement. During restoration of the Millworks and water wheel, the Suffolk County Parks Department will complete a replace/repair of the spillway at Stump Pond based on the results of the feasibility assessment.		
Is this project related to a Critical Facility or Lifeline?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Is this project related to a Critical Facility located within the 100-year floodplain?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Level of Protection:	500-year flood	Estimated Benefits (losses avoided):	Dam failure avoided, flood risk reduced
Useful Life:	50 years	Goals Met:	2
Estimated Cost:	\$800,000	Mitigation Action Type:	Structure and Infrastructure Project
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Continued implementation
Estimated Time Required for Project Implementation:	2 years	Potential Funding Sources:	HMGP, PDM, FMA, BRIC, County budget
Responsible Organization:	Suffolk County Parks Department	Local Planning Mechanisms to be Used in Implementation if any:	Hazard Mitigation Planning
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Current problem continues
	Replace Dam entirely	\$1.5 million	Costly and not necessary.
	Remove Dam and Spillway	\$1.5 million	Dam cannot be removed for safety and historical reasons.
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Action Worksheet		
Project Name:	Repair of Spillway at Stump Pond	
Project Number:	2020-Suffolk County-034	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Project protects life from dam failure
Property Protection	1	Project protects property and historical property from dam failure
Cost-Effectiveness	1	
Technical	1	
Political	1	There is public support for the project
Legal	1	The County has the legal authority to complete the project
Fiscal	1	The project is assumed to have funding support at this time but budgetary restrictions due to coronavirus response may limit County budget allocations.
Environmental	1	
Social	1	
Administrative	1	
Multi-Hazard	0	Flood
Timeline	0	5 years
Agency Champion	1	Suffolk County Parks Department
Other Community Objectives	1	
Total	12	
Priority (High/Med/Low)	High	



Action Worksheet			
Project Name:	Coastal Erosion Monitoring Program		
Project Number:	2020-Suffolk County-035		
Risk / Vulnerability			
Hazard(s) of Concern:	Coastal Erosion		
Description of the Problem:	The County is exposed to coastal erosion on the shorelines of the Atlantic Ocean, Long Island Sound, and inland waterways. Erosion monitoring has been sporadic and often lacks the detail to determine the changes a shoreline has experienced in both shoreline retreat and beach face volume loss. The lack of detailed data makes grant applications for federal aid to rebuild beaches difficult.		
Action or Project Intended for Implementation			
Description of the Solution:	The Suffolk County Soil and Water Conservation District will develop an erosion monitoring program that will be able to service participating municipalities in Suffolk County. This program will employ state of the art monitoring techniques to keep detailed information on the County's shorelines which will be available for the development of grant applications for mitigation projects, reporting to the USACE, and informing municipal land use decisions.		
Is this project related to a Critical Facility?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Is this project related to a Critical Facility located within the 100-year floodplain?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
(If yes, this project must intend to protect the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	Erosion monitoring program established	Estimated Benefits (losses avoided):	Data available to support grants, reporting, and decision making.
Useful Life:	TBD by feasibility assessment	Goals Met:	1, 2, 3, 5
Estimated Cost:	High	Mitigation Action Type:	Local Plans and Regulations
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	1 year
Estimated Time Required for Project Implementation:	Ongoing once established	Potential Funding Sources:	County budget, SWCD, USACE
Responsible Organization:	SWCD, local jurisdiction support	Local Planning Mechanisms to be Used in Implementation if any:	Hazard Mitigation
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Problem continues.
	Train local jurisdictions to complete monitoring	Staff time	Staffing limitations at local level
	Establish regional programs		Lack of consistency between programs
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Action Worksheet		
Project Name:	Coastal Erosion Monitoring Program	
Project Number:	2020-Suffolk County-035	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	0	
Property Protection	1	Project will support protection of structures from coastal erosion
Cost-Effectiveness	1	
Technical	1	The SWCD has the technical ability to complete the project.
Political	1	
Legal	1	The County has the legal authority to complete the project.
Fiscal	0	Project requires funding support.
Environmental	1	
Social	1	
Administrative	1	
Multi-Hazard	0	Coastal Erosion
Timeline	1	1 year
Agency Champion	1	SWCD, local jurisdiction support
Other Community Objectives	1	
Total	11	
Priority (High/Med/Low)	High	



Action Worksheet			
Project Name:	County Road 96, Bergen Avenue, at Bergen Point		
Project Number:	2020-Suffolk County-048		
Risk / Vulnerability			
Hazard(s) of Concern:	Hurricane, Severe Storm, Nor'Easter, Flood, Coastal Erosion		
Description of the Problem:	CR 96, Bergen Ave is the only vehicular access route for the Bergen Point Wastewater Treatment Plant, which services a densely populated 57 square mile area in southwest Suffolk County and processes up to 30 million gallons of effluent per day. Based on the NOAA Sea Level Rise Viewer, the south end of Bergen Ave, where the only plant access is located, would be inundated at approximately 3' above MHHW.		
Action or Project Intended for Implementation			
Description of the Solution:	The bulkhead elevation will be increased to a height above an expected storm surge height as deemed reasonable and appropriate and roadway will be raised.		
Is this project related to a Critical Facility?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Is this project related to a Critical Facility located within the 100-year floodplain?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	Road would remain passable in extreme storm events	Estimated Benefits (losses avoided):	Ability for plant to be accessed by personnel during an event; preventing untreated effluent from being discharged or backing up into sewer system
Useful Life:	25 years	Goals Met:	2, 8
Estimated Cost:	High – approximately \$2M per foot of increased height	Mitigation Action Type:	Structure and Infrastructure Project
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Within 5 years
Estimated Time Required for Project Implementation:	3 years from funding approval	Potential Funding Sources:	HMGP, BRIC, County Capital Improvements Program
Responsible Organization:	Department of Public Works	Local Planning Mechanisms to be Used in Implementation if any:	Hazard mitigation
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Road will flood at 2' above MHHW; plant would be inaccessible
	Raise Roadway Elevation	Medium	Not feasible due to close proximity of bulkhead
	Remove roadway	Medium	Access to sewer plant lost
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Evaluation and Prioritization		
Project Name:	County Road 96, Bergen Ave, at Bergen Point	
Project Number:	2020-Suffolk County-048	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	
Property Protection	1	Project protects access to plant and protects access from flood damage
Cost-Effectiveness	0	
Technical	1	
Political	1	
Legal	1	The County has the legal authority to complete the project
Fiscal	0	Project requires funding support
Environmental	1	
Social	1	
Administrative	0	
Multi-Hazard	1	Hurricane, Severe Storm, Nor'Easter, Flood, Coastal Erosion
Timeline	0	Within 5 years
Agency Champion	1	Department of Public Works
Other Community Objectives	0	
Total	9	
Priority (High/Med/Low)	High	



Action Worksheet			
Project Name:	Improvements to CR 60, Noyack Long Beach Road		
Project Number:	2020-Suffolk County-049		
Risk / Vulnerability			
Hazard(s) of Concern:	Hurricane, Severe Storm, Nor'Easter, Flood, Coastal Erosion		
Description of the Problem:	During a severe storm event this roadway would be inundated at approximately 5' above MHHW. The only routes out of the hamlet of North Haven are through CR 60 on the west and CR 79 on the east. The southbound Shelter Island ferry lands in North Haven causing even more citizens to have to traverse through CR 60 or CR 79. It is crucial to keep this road functional in the event of an extreme storm.		
Action or Project Intended for Implementation			
Description of the Solution:	Reconstruction and raising of the roadway although very costly seems to be the best alternative. The ~1.5 mile length of road from Noyack Road to CR 114 needs to be raised about 3'-4' throughout the section to avoid getting inundated by a severe storm event.		
Is this project related to a Critical Facility?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Is this project related to a Critical Facility located within the 100-year floodplain?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	Protection from 8' storm surge event	Estimated Benefits (losses avoided):	Life safety, property protection
Useful Life:	25 years	Goals Met:	1, 2, 7
Estimated Cost:	High	Mitigation Action Type:	Structure and Infrastructure Project
Plan for Implementation			
Prioritization:	Medium	Desired Timeframe for Implementation:	Within 5 years
Estimated Time Required for Project Implementation:	3-4 years from notice of funding approval	Potential Funding Sources:	HMGP, BRIC, County Capital Improvement Program
Responsible Organization:	Department of Public Works	Local Planning Mechanisms to be Used in Implementation if any:	Suffolk County Hazard Mitigation Plan
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Problem continues.
	Remove roadway	\$5,000	Loss of access
	Sea Wall	\$10,000,000	Not feasible due to environmental and community impact
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Evaluation and Prioritization		
Project Name:	Improvements to CR 60, Noyack Long Beach Road	
Project Number:	2020-Suffolk County-049	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Protects emergency access
Property Protection	1	Protects roadway from flooding
Cost-Effectiveness	0	
Technical	1	
Political	1	
Legal	1	The County has the legal authority to complete the project
Fiscal	0	The project requires funding support
Environmental	0	
Social	0	
Administrative	1	
Multi-Hazard	1	Hurricane, Severe Storm, Nor'Easter, Flood, Coastal Erosion
Timeline	0	
Agency Champion	1	Department of Public Works
Other Community Objectives	0	
Total	8	
Priority (High/Med/Low)	Medium	



Action Worksheet			
Project Name:	Restoration of Bulkheading throughout Suffolk County		
Project Number:	2020-Suffolk County-050		
Risk / Vulnerability			
Hazard(s) of Concern:	Nor' Easter, Flooding (Coastal), Hurricane, Coastal Erosion		
Description of the Problem:	During severe storm surge events, the bulkheads are unable to stop the excess water. This excess water is then able to overtop or flow around these structures causing flooding to areas behind. Rehabilitation will prevent overflow around and over the bulkhead in trouble areas causing fewer flood issues in the watershed area.		
Action or Project Intended for Implementation			
Description of the Solution:	Bulkheading adjacent to bridges and culverts will be rehabilitated to protect adjacent roadways from being washed out and flooded. Bulkheads will be extended (where feasible) and height extended.		
Is this project related to a Critical Facility?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Is this project related to a Critical Facility located within the 100-year floodplain?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	Bulkheads restored	Estimated Benefits (losses avoided):	\$3,000,000,000, Reduces the flooding on the public roads and streets within the community.
Useful Life:	50 years	Goals Met:	2
Estimated Cost:	\$50,000,000	Mitigation Action Type:	Rehabilitation/Replacement
Plan for Implementation			
Prioritization:	Moderate	Desired Timeframe for Implementation:	3 years
Estimated Time Required for Project Implementation:	10 years	Potential Funding Sources:	HMGP, BRIC, County budget
Responsible Organization:	Department of Public Works	Local Planning Mechanisms to be Used in Implementation if any:	Hazard mitigation
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	Levee System	\$2,000,000,000	Extreme cost
	Rip rap protection	5,000,000	Does not address flooding
	No action	\$0	Does not address concerns
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Evaluation and Prioritization		
Project Name:	Restoration of Bulkheading throughout Suffolk County	
Project Number:	2020-Suffolk County-050	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Provides protection of persons dwellings from flooding
Property Protection	1	Protects property damage from flooding
Cost-Effectiveness	1	Project has a net gain in cost benefit
Technical	0	
Political	0	
Legal	1	Has the potential to avoid lawsuits against the County
Fiscal	1	Reduces potential future costs
Environmental	1	Protects the surrounding environment from flooding & erosion
Social	1	Provides continued use of surrounding upland areas
Administrative	-1	Increases administrative efforts to progress mitigation
Multi-Hazard	1	Protects against flooding from Hurricanes & Nor'easters
Timeline	0	Within 5 years
Agency Champion	1	Department of Public Works
Other Community Objectives	0	
Total	8	
Priority (High/Med/Low)	Medium	



Action Worksheet			
Project Name:	Back-bay Shoreline Erosion Mitigation at Cupsogue County Park		
Project Number:	2020-Suffolk County-051		
Risk / Vulnerability			
Hazard(s) of Concern:	Coastal Erosion, Flooding, Nor'Easters, Severe Storms, Severe Winter Storms, Hurricanes		
Description of the Problem:	The northern shoreline on the bay side of the park is eroding at a high rate which is causing the barrier island to narrow and has significantly impacted a public access road and campground area. Recent indications of the severity of erosion are the loss of trailer camping sites and the access road is in imminent danger of being undermined and lost. The access road is the primary pathway to Moriches Inlet that is important for emergency personnel. The Army Corps tentative plan (FIMP) proposes to periodically nourish ocean beach areas that they have engineered but this back-bay area is excluded. The causes of erosion at this site are not fully understood and simple replenishment of sand to the area may not be the most economic solution.		
Action or Project Intended for Implementation			
Description of the Solution:	The Army Corps plan to investigate the erosion of this area in 2021 and develop a Regional Sediment Management Plan. This study will result in a recommended stabilization plan for local stakeholders. The forthcoming stabilization plan can be the guiding document to guide shoreline repairs in this area. At this time the costs of stabilization efforts would not be from a federal source and local level funding sources are needed.		
Is this project related to a Critical Facility?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Is this project related to a Critical Facility located within the 100-year floodplain?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	TBD	Estimated Benefits (losses avoided):	Property and natural systems protected from erosion and storm damages
Useful Life:	TBD	Goals Met:	2, 3, 4, 5
Estimated Cost:	High; Varies by site and deficit of sand	Mitigation Action Type:	Natural Systems Protection
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	1 year
Estimated Time Required for Project Implementation:	On-going once begun	Potential Funding Sources:	USACE, HMGP, BRIC, County budget
Responsible Organization:	USACE, Suffolk County	Local Planning Mechanisms to be Used in Implementation if any:	Hazard mitigation, Shoreline Management
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Problem continues.
	Nourish shoreline with surplus sand dredged from local waterways	\$1,000,000 periodically	Sand placed will get washed away in the short term and would require periodic events; not economically viable
	Armor the shoreline	High	Armoring or hardening of the shoreline would require state and federal authorization, and such



			methods are discouraged by such authorities
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Evaluation and Prioritization		
Project Name:	Back-bay Shoreline Erosion Mitigation at Cupsogue County Park	
Project Number:	2020-Suffolk County-051	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Emergency access to Moriches Inlet, public camping ground, recreational area
Property Protection	1	County Parkland property including an inlet access road and campground
Cost-Effectiveness	0	This is TBD based on sediment study
Technical	1	Hydraulic dredging would be the most cost effective method of supplying sand
Political	1	This is a major public beach in an exclusive area of privatized beach front properties.
Legal	1	The county owns the property but project may require permitting
Fiscal	1	Area generates revenues for from public camping and recreation
Environmental	1	Documented habitat to threatened and endangered species
Social	1	Seasonal public beach with food concession and campground attractions
Administrative	-1	Outside help will be needed for dredge contractor, survey, consulting services, permitting
Multi-Hazard	1	Yes, as noted on page 1
Timeline	0	The 2021 federal study will provide a better ability to assess and model cost benefit scenarios of mitigation strategies.
Agency Champion	1	USACE, Suffolk County
Other Community Objectives	1	Capital improvements, economic development, environmental quality, or open space preservation
Total	10	
Priority (High/Med/Low)	High	



Action Worksheet			
Project Name:	Suffolk County Traffic Signal Management System Communications Enhancement		
Project Number:	2020-Suffolk County-052		
Risk / Vulnerability			
Hazard(s) of Concern:	Cyber Security		
Description of the Problem:	The Suffolk County Traffic Signal Management System utilizes multiple cable modems and the internet as the communications infrastructure from the field equipment to the central servers in Yaphank. The existing internet/cable-based backbone is unstable and, though security is in place, an improvement would be beneficial.		
Action or Project Intended for Implementation			
Description of the Solution:	Design, construct, implement and maintain a more robust and secure communication backbone. Possibilities include 5G radios or a dedicated radio frequency. Project would be limited to County operated traffic signals.		
Is this project related to a Critical Facility?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Is this project related to a Critical Facility located within the 100-year floodplain?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	Updated and resilient traffic signal system	Estimated Benefits (losses avoided):	Continuity of traffic services
Useful Life:	20	Goals Met:	7, 8
Estimated Cost:	TBD	Mitigation Action Type:	Structure and Infrastructure Project
Plan for Implementation			
Prioritization:	Low	Desired Timeframe for Implementation:	Within 5 years
Estimated Time Required for Project Implementation:	5 Years	Potential Funding Sources:	FHWA
Responsible Organization:	Suffolk County Department of Public Works	Local Planning Mechanisms to be Used in Implementation if any:	Hazard mitigation, Emergency management
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Problem continues.
	5G radios	High	Potential solution
	Dedicated radio frequency	High	Potential solution
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Evaluation and Prioritization		
Project Name:	Suffolk County Traffic Signal Management System Communications Enhancement	
Project Number:	2020-Suffolk County-052	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Project protects critical services
Property Protection	0	
Cost-Effectiveness	0	
Technical	1	The existing communication equipment would be modernized
Political	1	Responsiveness to residents and elected officials for traffic signal problems and timing changes
Legal	0	
Fiscal	-1	Possible operational costs depending upon the communication type selected
Environmental	1	Efficient signal operation reduces vehicle emissions and noise
Social	1	Efficient signal operation optimizes travel time for all roadway users
Administrative	0	
Multi-Hazard	1	Effective signal operations assists in the movement of residents and emergency services during any incident
Timeline	0	
Agency Champion	1	Suffolk County Department of Public Works
Other Community Objectives	1	
Total	6	
Priority (High/Med/Low)	Medium	



Action Worksheet			
Project Name:	County Road 48 at Hashamomuck Beach Storm Hardening		
Project Number:	2020-Suffolk County-053		
Risk / Vulnerability			
Hazard(s) of Concern:	Hurricane, Severe Storm, Nor'Easter, Flood, Coastal Erosion		
Description of the Problem:	CR 48, North Road, and SR 25, Main Road, are the only evacuation routes for the east end of the north fork of Long Island, including the Village of Greenport and the hamlets of East Marion and Orient. One of two Shelter Island Ferries docks in Greenport. Based on the NOAA Sea Level Rise Viewer, SR 25 and CR 48 would both be inundated at approximately 6' above MHHW.		
Action or Project Intended for Implementation			
Description of the Solution:	Hardening of this critical evacuation route can be achieved by increasing the elevation of approximately 900 linear feet of roadway by an approximate maximum of 2' at the lowest point, and integrating this new low point elevation into the existing grade of the road at higher elevations.		
Is this project related to a Critical Facility?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Is this project related to a Critical Facility located within the 100-year floodplain?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	Road would remain passable in the event of a storm surge under 8' above MHHW	Estimated Benefits (losses avoided):	With proper planning and design, project could be constructed with minimal impact to the surrounding community, and would provide added resilience to critical evacuation route infrastructure
Useful Life:	25 years	Goals Met:	1, 2
Estimated Cost:	\$9.7M	Mitigation Action Type:	Structure and Infrastructure Project
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Within 5 years
Estimated Time Required for Project Implementation:	3 years from funding approval	Potential Funding Sources:	HMGP, BRIC, County Capital Improvements Program
Responsible Organization:	Department of Public Works	Local Planning Mechanisms to be Used in Implementation if any:	Suffolk County Hazard Mitigation Plan
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Road will flood at 6' above MHHW
	Structural Flood Barrier (seawall, levee, dike)	\$2M	Would obstruct public usage of valuable park/beach, environmental impacts high, visually unappealing
	Close roadway	\$1,000	Not possible. Access must be maintained.
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			



Update Evaluation of the Problem and/or Solution:	
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Evaluation and Prioritization		
Project Name:	County Road 48 at Hashamomuck Beach Storm Hardening	
Project Number:	2020-Suffolk County-053	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Project will protect evacuation route
Property Protection	1	Several dozen properties would have increased protection from storm surge
Cost-Effectiveness	0	
Technical	1	
Political	1	
Legal	1	The County has the legal authority to complete the project
Fiscal	0	Project requires funding support
Environmental	1	
Social	1	
Administrative	0	
Multi-Hazard	1	Hurricane, Severe Storm, Nor'Easter, Flood, Coastal Erosion
Timeline	0	
Agency Champion	0	Department of Public Works
Other Community Objectives	1	
Total	9	
Priority (High/Med/Low)	High	



Action Worksheet			
Project Name:	Reconstruction of Shinnecock Canal Locks System, Jetties and Bulkheads		
Project Number:	2020-Suffolk County-054		
Risk / Vulnerability			
Hazard(s) of Concern:	Nor' Easter, Flooding (Coastal), Hurricane		
Description of the Problem:	During severe storm surge events, the Shinnecock canal lock system and the adjacent bulkheading and jetties are unable prevent excess water from entering the electrical and mechanical systems of the locks and would render the system unusable. This excess water is then able to overtop or flow around these structures causing flooding to areas upland. Reconstruction will prevent overflow around and over the lock/tide gates system, bulkheading and jetties in the surrounding area. The Shinnecock Canal Tide Gates & Lock Gates and the Mechanical and Electrical systems are needed for the locks to operate efficiently and to allow the Coast Guard and pleasure craft to traverse the canal safely.		
Action or Project Intended for Implementation			
Description of the Solution:	The Shinnecock Canal Lock/Tide System will be replaced with a new sustainable system that will be constructed at an elevation that will prevent storm surge from the 500 year flood event from rendering the system unusable. In addition, the bulkheading and jetties will be raised (height extended) to prevent flooding to the surrounding areas that would further damage the lock system and adjacent roadways and home/businesses.		
Is this project related to a Critical Facility?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Is this project related to a Critical Facility located within the 100-year floodplain?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	Tide system restored and raised	Estimated Benefits (losses avoided):	\$5,000,000,000
Useful Life:	75 years	Goals Met:	2, 8
Estimated Cost:	\$200,000,000	Mitigation Action Type:	Structure and Infrastructure Project
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	5 years
Estimated Time Required for Project Implementation:	10 years	Potential Funding Sources:	FEMA HMGP, BRIC, County, NYS Canal Authority
Responsible Organization:	Department of Public Works	Local Planning Mechanisms to be Used in Implementation if any:	Hazard mitigation
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	Electrical & Mechanical system flood protection	\$5,000,000	Doesn't address usefulness of lock system under flooding conditions
	Removal of lock system	10,000,000	Removal would cause the Shinnecock Inlet to shoal.
	No action	\$0	Does not address needs
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Evaluation and Prioritization		
Project Name:	Reconstruction of Shinnecock Canal Locks System, Jetties and Bulkheads	
Project Number:	2020-Suffolk County-054	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Safe navigation in channel may be necessary to protect life in emergency situations
Property Protection	1	Protects site and surrounding property damage from flooding
Cost-Effectiveness	1	Project has a net gain in cost benefit
Technical	0	
Political	1	Suffolk County has strong willingness to provide a storm resistant system that will decrease maintenance costs
Legal	1	Has the potential to avoid lawsuits against the County
Fiscal	1	Reduces potential future costs
Environmental	1	Protects the surrounding environment from flooding & erosion
Social	1	Provides continued use of surrounding upland areas and safe passage of boat traffic
Administrative	-1	Increases administrative efforts to progress mitigation
Multi-Hazard	1	Protects against flooding and preserves transportation
Timeline	0	
Agency Champion	1	Suffolk County has strong willingness to provide a storm resistant system that will decrease maintenance costs
Other Community Objectives	1	Ensuring operation of the locks system during extreme storm events allows the Coast Guard and emergency personnel to travel the canal.
Total	10	
Priority (High/Med/Low)	High	



Action Worksheet			
Project Name:	Restoration of Culverts throughout Suffolk County		
Project Number:	2020-Suffolk County-055		
Risk / Vulnerability			
Hazard(s) of Concern:	Nor' Easter, Flooding, Severe Storm, Hurricane		
Description of the Problem:	During severe storm events, the culverts are unable to accommodate the excess water flow due to debris blockage, partial or full collapse or inadequate culvert size, which causes flooding to surrounding areas including County roadways. Restoration will provide new culverts or cleaning of existing culverts that can accommodate excess flow in trouble areas causing fewer flood issues in the watershed area.		
Action or Project Intended for Implementation			
Description of the Solution:	Culvert reconstruction/replacement and/or cleaning to allow water to flow freely thereby reducing time for water to retreat or eliminating flooding altogether. Culverts will be upsized as necessary.		
Is this project related to a Critical Facility?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Is this project related to a Critical Facility located within the 100-year floodplain?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	Upsized culvert size determined on case by case basis	Estimated Benefits (losses avoided):	\$5,000,000,000 in losses avoided. Reduces the flooding on the public roads and streets within the community.
Useful Life:	50 years	Goals Met:	2
Estimated Cost:	\$20,000,000	Mitigation Action Type:	Structure and Infrastructure Project
Plan for Implementation			
Prioritization:	Moderate	Desired Timeframe for Implementation:	5 years
Estimated Time Required for Project Implementation:	8 years	Potential Funding Sources:	HMGP, BRIC, County
Responsible Organization:	Department of Public Works	Local Planning Mechanisms to be Used in Implementation if any:	Hazard mitigation, Stormwater management
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	Replace all culverts with larger structures	\$40,000,000	Extreme cost
	Add drainage structures with additional piping for overflow	10,000,000	May not mitigate flooding issues during extreme storm events
	No action	\$0	Does not address concerns
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Evaluation and Prioritization		
Project Name:	Restoration of Culverts throughout Suffolk County	
Project Number:	2020-Suffolk County-055	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Provides protection of persons dwellings from flooding
Property Protection	1	Protects property damage from flooding
Cost-Effectiveness	1	Project has a net gain in cost benefit
Technical	0	
Political	1	Suffolk County has strong willingness to provide a storm-resistant system that will decrease maintenance costs
Legal	1	Has the potential to avoid lawsuits against the County
Fiscal	1	Reduces potential future costs
Environmental	1	Protects the surrounding environment from flooding & erosion
Social	1	Provides continued use of surrounding upland areas
Administrative	-1	Increases administrative efforts to progress mitigation
Multi-Hazard	1	Protects against flooding from Hurricanes & Nor'easters
Timeline	0	
Agency Champion	1	Department of Public Works
Other Community Objectives	1	Prevents flooding and washout of roadways that are used as evacuation routes in emergency situations.
Total	10	
Priority (High/Med/Low)	High	



Action Worksheet			
Project Name:	Coastline Resilience of South Shore Ocean and Back Bay Shorelines		
Project Number:	2020-Suffolk County-056		
Risk / Vulnerability			
Hazard(s) of Concern:	Coastal Erosion, Flooding, Nor'Easters, Severe Storms, Severe Winter Storms, Hurricanes		
Description of the Problem:	<p>A reliable and immediate source of funds for repair of eroded beach and dune systems is needed to be implemented when the erosion conditions don't qualify for other funding sources but are still in need of nourishment to mitigate costly damages. The USACE has engineered several beaches on the south shore of the county from Fire Island to Montauk. This geographic range includes many residential, commercial, and parkland properties. Specific project area names are Fire Island Inlet to Moriches Inlet, Smith Point County Park, Cupsogue County Park, Westhampton Dunes, County Park West of Shinnecock Inlet, and Downtown Montauk. These reaches of beach experience continuous erosion and are extremely vulnerable to the hazards of concern. It has been documented that half of the sand along the south shore Atlantic coast was eroded by Hurricane Sandy and it has not rebuilt by natural processes since. Although the USACE has an emergency funding source for repair of coastal erosion (PL 84-99), it is not guaranteed that the county receives such funds. For example, in October 2019 a Nor'easter caused severe erosion and over-washing at Fire Island effecting several communities including their respective critical facilities. Despite severe loss of an already undernourished protective beach system, an after storm survey indicated that the project area did not qualify for emergency funding.</p>		
Action or Project Intended for Implementation			
Description of the Solution:	<p>The beach berm and dune has specific specifications that are designed to absorb the wave energy and offer resiliency to flooding/erosion. This protects property and life landward of the beach and minimizes breach potential. Once the beach specifications fall below the design template, a nourishment event should occur as recommended by the US Army Corps. It is a great challenge and very costly to periodically nourish the dynamic ocean and back bay shorelines, and hazardous weather events are likely to occur. Pumping sand from offshore borrow areas with a dredge is the most cost effective method. Local government needs to react fast to restore the resiliency of the beach system and financial resources are needed to be available for replacing sand immediately after a major erosion event occurs.</p>		
Is this project related to a Critical Facility?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Is this project related to a Critical Facility located within the 100-year floodplain?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	100-year storm event	Estimated Benefits (losses avoided):	Prevention of storm damages
Useful Life:	5-10 years	Goals Met:	1, 2, 3, 4, 5
Estimated Cost:	High; Varies by site and deficit of sand	Mitigation Action Type:	Natural Systems Protection
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	On-going, Immediately after hazard event, Project work will need to be bid on and then scheduled with contractor
Estimated Time Required for Project Implementation:	On-going	Potential Funding Sources:	Federal- PL-113-2 Federal- PL 84-99
Responsible Organization:	USACE, Suffolk County DPW	Local Planning Mechanisms to be Used in Implementation if	Hazard Mitigation, Shoreline Management



		any:	
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Problem continues.
	Rely on Army Corps FIMP nourishment events (proposed, not yet official)	\$697,808,500 non-federal sponsor over 50 years; source: FIMP Exec. Summary 2019	This federal plan is tentative and not yet approved for implementation. If implemented, it will take over a decade to restore the sand supply above the current deficit level
	County provide some nourishment events from its DPW Waterways Dredge CP funds	Varies	Price would be millions per year taken from other Capital Projects, impacts would be limited geographically
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:	On-going		
Update Evaluation of the Problem and/or Solution:			



Evaluation and Prioritization		
Project Name:	Coastline Resilience of South Shore Ocean Front and Back Bay Shorelines	
Project Number:	2020-Suffolk County-056	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Critical facilities such as USCG, and first responders, water supply infrastructure, sewage treatment plant, churches, schools, homes, marinas, parks and a commercial fishing dock
Property Protection	1	Critical facilities, churches, schools, homes, marinas, parks and a commercial fishing dock, Burma Road, boardwalks, Dune Road
Cost-Effectiveness	1	According to USACE FIMP report 2019
Technical	1	Hydraulic dredging was determined the most cost effective by USACE
Political	1	Many other jurisdictions overlap with use or ownership of the beach resources such as Towns, Villages, Parks, and private properties
Legal	1	The County is Superintendent responsible for maintenance and repair of USACE designed beaches
Fiscal	1	Areas generate economic revenues for private and public sector from recreation, vacation, tourism
Environmental	1	Many beaches are habitat to rare and endangered species, nourishment events have associated regulatory permits
Social	1	Summer recreational attractions exist throughout the area
Administrative	-1	Outside help will be needed for dredge contractor, survey, consulting services, permitting
Multi-Hazard	1	Yes, as noted on page 1
Timeline	1	The south shore beach system is considered to have a current deficit of sand
Agency Champion	1	USACE, Suffolk DPW
Other Community Objectives	1	Capital improvements, economic development, environmental quality, or open space preservation
Total	12	
Priority (High/Med/Low)	High	



Action Worksheet	
Project Name:	Structural Retrofitting of Hospital Curtain Wall
Project Number:	SBU-4
Risk / Vulnerability	
Hazard(s) of Concern:	Hurricane, Nor'Easter, Severe Storm, Severe Winter Storm
Description of the Problem:	<p>Stony Brook University Hospital currently requires the structural retrofitting of the hospital curtain wall (the glass exterior covering of the hospital towers) to bring it up to current New York State building code requirements, as well as the ASTM "Standard Specification for Performance of Exterior Windows, Curtain Walls, Door, and Impact Protective Systems Impacted by Windborne Debris in Hurricanes" (ASTM E1996-12a).</p> <p>This project is necessary because the hospital has experienced multiple failures of the curtain wall (e.g. breakage of glass panels during both extreme and average weather conditions, leakage of wind driven rain into the building interior, and damage to the elevator shaft) that have disrupted or impaired hospital operations as patients have had to be moved out of leaking rooms. Service disruptions could potentially endanger patients, lead to substantial revenue loss, and prevent the hospital from fulfilling its regional role during an actual disaster. The current condition of the curtain wall also places persons on the ground in the immediate area at risk for injury by windborne broken glass.</p> <p>The existing curtain wall has several systemic unserviceable conditions, related primarily to the condition of the gaskets, which reduce the air and water resistance and structural integrity of the curtain wall façade. Addressing these elements will require a retrofitting of the existing curtain wall, as the system does not meet current structural requirements for wind load resistance. As such, the gaskets cannot be replaced in-kind.</p> <p>Since March, 2012 we have had 34 instances of broken glass on multiple floors. There have also been many complaints of leaking windows and structural damage to the building and the elevator shaft. Details of the dates of damage and the precise location can be provided on request.</p> <p>Current amounts spent to address this problem between 2011-2017 total \$1,275,952.</p> <p>Stony Brook University Hospital is located near the northern shore of Long Island. The Long Island Sound is approximately two miles west-northwest from the campus at its closest point. GoogleEarth© indicates that the campus is elevated approximately 130 feet above sea level at its lowest point, and the highest elevation of the campus is approximately 200 feet above sea level. FEMA does not provide a Flood Insurance Rate Map (FIRM) for this area. The facility has no history of flooding.</p>
Action or Project Intended for Implementation	
Description of the Solution:	<p>Replace hospital curtain wall</p> <p>This project entails the hardening and structural retrofitting of the existing facility infrastructure in order to mitigate potential damages associated with hurricanes, other high wind events, and the other listed hazards. This is consistent with the Suffolk Regional Hazard Vulnerability Analyses which rank hurricanes as the number one threat to the region's healthcare system, as well as the Stony Brook University Hospital's internal Hazard Vulnerability Analysis which also ranked hurricanes as the number one threat to the hospital. In addition, the Shelter-in-Place Planning Assessment that was done in May 2011 with Yale-New Haven and the New York State Department of Health recommended curtain wall evaluation as a high priority for Stony Brook University Hospital. The NYSDOH/Yale-New Haven Shelter in Place project noted as a high priority that SBUH should "evaluate the need to revise the window panel system."</p> <p>The scope of work for this project involves (1) the retrofitting and upgrade of the lock-strip gasket and glass portion of the existing tower curtain wall with new curtain wall veneer and laminated glass (2) retrofitting and upgrade of existing tower metal panel cladding with new reinforced metal aluminum composite panels (3) retrofitting and upgrade of bridge curtain walls.</p>



		<p>The work performed will be in accordance with the New York State Existing Building Code at minimum. Upgrades will be made to the glass for item (1) so that it will meet the load resistance requirements. The glass will be laminated to increase impact resistance. Glass, mullions, metal panels and supports for items will be designed to meet the current wind load resistance requirements. This is the most cost effective and least invasive option. The full project cost is estimated at \$65-75 million. The planning phase is complete and the hospital has gone out to bid. The physical area beyond the hospital will not be affected.</p> <p>During construction, 8 rooms (24 beds) will be out of service at any one time.</p>	
Is this project related to a Critical Facility?		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Is this project related to a Critical Facility located within the 100-year floodplain?		Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	100 year event	Estimated Benefits (losses avoided):	<ul style="list-style-type: none"> At least \$2 million per month if rooms must unexpectedly be taken out of service. Assure that hospital operations continue without interruption and without jeopardizing patient safety Assure the structural integrity of the hospital building.
Useful Life:	30 plus years	Goals Met:	2
Estimated Cost:	\$65-\$75 Million	Mitigation Action Type:	Structure and Infrastructure Project
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Within one year
Estimated Time Required for Project Implementation:	<ul style="list-style-type: none"> Estimated 4 years On site construction will start approximately 1 year from bid time and will be done sequentially over the 4 year period. Prior to start of construction, fabrication and other essential preparatory work will take place prior to installation. 	Potential Funding Sources:	FEMA BRIC, PDM, HMGP, other. SBUH can potentially contribute a portion of the funding.
Responsible Organization:	Stony Brook University Hospital	Local Planning Mechanisms to be Used in Implementation if any:	Local Hazard Mitigation Plan
Three Alternatives Considered (including No Action)			
	Action	Estimated Cost	Evaluation
Alternatives:	No Action	\$0	Taking no action would place the hospital's curtain



			<p>wall at risk for substantial leakage or even catastrophic failure, thus leading to the disruption of hospital operation and jeopardizing the lives of patients, employees, and the public in the immediate surrounding area. In addition, it would potentially lead to substantial revenue loss from the disruption of hospital operations, and the inability of Stony Brook University Hospital to fulfill its regional role.</p> <p>Uninterrupted operation is essential to the safety of the region due to SBUH's unique role in Suffolk County. It is the County's only tertiary hospital and Level 1 Trauma Center, and is the regional referral center for many services, including trauma, stroke and stroke intervention, perinatal and neonatal intensive care, burns, pediatric and maternal services, and psychiatric emergency services. Even a partial closure of SBUH would jeopardize its ability to receive transfers from other hospitals and would disrupt the regionalized system of care in the County. Moreover, many existing patients on units where water infiltration has occurred in the past are critically ill, and their evacuation would be dangerous, expensive, and time consuming. For example, the hospital's 19th floor has a Bone Marrow Transplant Unit and oncology units, while the 18th floor houses the surgical intensive care unit; moving such patients could be life threatening.</p>
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	Continue to make emergency repairs to the curtain wall.	Greater than \$1,000,000 over several years.	Continue acceptance of window failures, wind and rain infiltration of the existing curtain wall. Monitor and make remedial repairs in an attempt to provide a safe environment for all patients, staff and visitors of Stony Brook Medicine.
	Relocate hospital	High	Extremely costly.
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Evaluation and Prioritization		
Project Name:	Structural Retrofitting of Hospital Curtain Wall	
Project Number:	SBU-10	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	The current conditions jeopardize patient safety and potentially people on the ground if glass should fall.
Property Protection	1	The proposed solution protects the structure of the hospital.
Cost-Effectiveness	1	A previously developed BCA for HMGP application #1658 (DR-4086, Project F0-S1658m completed in 2013 after Hurricane Sandy) indicated the project is cost beneficial.
Technical	1	The action has been reviewed extensively by outside an engineering firm and is technically feasible.
Political	1	Our local elected officials have written letters of support for this project in the past.
Legal	1	The jurisdiction has all necessary legal authority.
Fiscal	0	SBUH can fund a portion of the project from internal funds. No new budget authorization is needed.
Environmental	0	Not applicable
Social	1	Project will provide continuity of services across County.
Administrative	1	Project management personnel will oversee the project though work will be performed by contractor.
Multi-Hazard	1	The mitigation action protects against wind and rain.
Timeline	1	The project will be completed within four years of start time.
Agency Champion	1	There is very strong internal support for this project at all levels of the University.
Other Community Objectives	1	The project preserves access to tertiary care in Suffolk County and contributes to local economic development.
Total	12	
Priority (High/Med/Low)	High	