



9.24 Village of Brightwaters

This section presents the jurisdictional annex for the Village of Brightwaters. 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 Village participated in the planning process; an assessment of the Village of Brightwaters’ risk and vulnerability; the different capabilities utilized in the Village; and an action plan that will be implemented to achieve a more resilient community.

9.24.1 Hazard Mitigation Planning Team

The following individuals have been identified as the Village of Brightwaters’ hazard mitigation plan primary and alternate points of contact.

Table 9.24-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: John Catania, Department of Public Works Foreman Address: 40 Seneca Drive, Brightwaters, NY 11718 Phone Number: 631-252-7870 Email: jcatania@villageofbrightwaters.com	Name/Title: Jeanne Pirkl, Clerk Address: 40 Seneca Drive, Brightwaters, NY 11718 Phone Number: 631-665-1280 Email: jpirkl@villageofbrightwaters.com
NFIP Floodplain Administrator	
Name/Title: Robert O’Shea, Building/Plumbing Inspector Address: 40 Seneca Drive, Brightwaters, NY 11718 Phone Number: 631-665-1280 Email: vobwbuilding@optonline.net	

9.24.2 Municipal Profile

The Village of Brightwaters is affectionately known as the ‘Crown Jewel on the Great South Bay.’

The Village of Brightwaters is located within the southwest section of the town of Islip on the south shore of Long Island, approximately 51 miles east of Manhattan. The village has a total area of 1.0 square miles, of which 0.97 square miles is land and 0.04 square miles is water.

The elected mayor and the four trustees constitute the governing body of the Village of Brightwaters.

According to the U.S. Census, the 2010 population for the Village of Brightwaters was 3,103. The estimated 2017 population was 3,069, a 1.1 percent decrease from the 2010 Census. Data from the 2017 U.S. Census American Community Survey indicate that 6.6 percent of the population is 5 years of age or younger and 17.1 percent is 65 years of age or older. Communities must deploy a support system that enables all populations to safely reach shelters or to quickly evacuate a hazard area.

9.24.3 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 9.24-2 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 9.24-2. 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)												
	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA
Single Family	3	1	0	0	5	1	3	0	2	0	0	0
Multi-Family	0	0	0	0	0	0	0	0	0	0	0	0
Other (commercial, mixed-use, etc.)	0	0	0	0	1	0	0	0	0	0	0	0
Total Permits Issued	3	1	0	0	6	1	3	0	2	0	0	0
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												
None identified												
Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years												
None anticipated												

SFHA Special Flood Hazard Area (1% flood event)

* Only location-specific hazard zones or vulnerabilities identified.

9.24.4 Capability Assessment

The Village of Brightwaters 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 9.24.4). The Village of Brightwaters identified specific integration activities that will be incorporated into municipal procedures are included in the updated mitigation strategy. Appendix G 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 the Village of Brightwaters and where hazard mitigation has been integrated.

Table 9.24-3. 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	Fire Prevention and Building Construction, Chapter 58 Village of Brightwaters Code, State Uniform Code	Local	Chief Code Enforcement Officer	Yes	Yes	-
<p>Comment: It is the intent of this chapter to prescribe regulations consistent with nationally recognized good practice for the safeguarding, to a reasonable degree, of life and property from the hazard of fire and explosion arising from the storage, handling and use of hazardous substances, materials and devices and from conditions hazardous to life or property in the use or occupancy of buildings or premises and, in so doing, to comply with the provisions of Article 18 of the Executive Law of the State of New York and all appropriate codes, rules and regulations promulgated pursuant thereto. To that end, the Village hereby adopts the New York State Uniform Fire Prevention and Building Code in its entirety, except where the same is superseded by the provisions of the Village of Brightwaters' ordinances, local laws or rules and regulations enacted pursuant thereto.</p>							
Zoning Code	Yes	Zoning, Chapter 128, Village of Brightwaters Code	Local and County	Zoning Board	No	Yes	-
<p>Comment: The Zoning code regulates development in the village.</p>							
Subdivisions	Yes	Subdivision of Real Property Chapter 128 Article XII – 128-96	Local and County	Planning Board	No	Yes	-
<p>Comment: Every application for a proposed subdivision shall first be submitted to the Planning Board of the Village of Brightwaters on an application form to be promulgated thereby.</p>							
Stormwater Management	Yes	Stormwater Management and Erosion and Sediment Control, Chapter 128 Article XIV of Village Code	Local	Stormwater Management Officer	Yes	Yes	-
<p>Comment: The purpose of this article is to establish minimum stormwater management requirements and controls to protect and safeguard the general health, safety, and welfare of the public residing within the Village and to address the findings of fact set forth in § 128-101 of this article. This article seeks to meet those purposes by achieving the following objectives:</p> <ul style="list-style-type: none"> • Meet the requirements of minimum measures 4 and 5 of the SPDES General Permit for Stormwater Discharges from Municipal Separate Stormwater Sewer Systems (MS4s), Permit No. GP-02-02, or as amended or revised; • Require land development activities to conform to the substantive requirements of the NYS Department of Environmental Conservation State Pollutant Discharge Elimination System (SPDES) General Permit for Construction Activities GP-02-01, or as amended or revised; • Minimize increases in stormwater runoff from land development activities in order to reduce flooding, siltation, increases in stream temperature, and streambank erosion and maintain the integrity of stream channels; • Minimize increases in pollution caused by stormwater runoff from land development activities which would otherwise degrade local water quality; • Minimize the total annual volume of stormwater runoff which flows from any specific site during and following development to the maximum extent practicable; and • Reduce stormwater runoff rates and volumes, soil erosion and nonpoint source pollution, wherever possible, through stormwater management practices and to ensure that these management practices are properly maintained and eliminate threats to public 							



	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?	
safety.							
Post-Disaster Recovery	No	-	-	-	No	-	-
Comment:							
Real Estate Disclosure	Yes	Property Condition Disclosure Act, NY Code - Article 14 §460-467	State	NYS Department of State, Real Estate Agent	Yes	Yes	-
Comment:							
Growth Management	No	-	-	-	No	-	-
Comment:							
Site Plan Review	Yes	Article XIII – 128-100 of Village Code	Local	Village Planning Board	No	Yes	-
Comment:							
Environmental Protection	No	-	-	-	Yes	-	-
Comment:							
Flood Damage Prevention	Yes	Flood Damage Prevention, Chapter 61, Village of Brightwaters Code	Local	Village Code Enforcement	Yes - BFE+2 feet for all construction in the SFHA (residential and non-residential)	Yes	-
Comment: The Flood Damage Prevention code was adopted in order to: <ul style="list-style-type: none"> A. To protect human life and health. B. To minimize expenditure of public money for costly flood control projects. C. To minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public. D. To minimize prolonged business interruptions. E. To minimize damage to public facilities and utilities such as water and gas mains, electric, telephone, sewer lines, streets and bridges located in areas of special flood hazard. F. To help maintain a stable tax base by providing for the sound use and development of areas of special flood hazard so as to minimize future flood blight areas. G. To provide that developers are notified that property is in an area of special flood hazard. H. To ensure that those who occupy the areas of special flood hazard assume responsibility for their actions. 							
Municipal Separate Storm Sewer System (MS4)	Yes	Illicit discharges, activities and connection to separate storm sewer system prohibited, Chapter 128, Article XIV-108	Local	Stormwater Management Officer	Yes	Yes	-
Comment: The purpose of this section is to provide for the health, safety, and general welfare of the citizens of the Village of Brightwaters through the regulation of nonstormwater discharges to the municipal separate storm sewer system (MS4) to the maximum extent practicable as required by federal and state law. This section establishes methods for controlling the introduction of pollutants into the MS4 in order to comply with requirements of the SPDES general permit for municipal separate storm sewer system. The objectives of this section are: <ul style="list-style-type: none"> • To meet the requirements of the SPDES general permit for stormwater discharges from MS4s, Permit No. GP-02-02 or as amended 							



	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?	
or revised; <ul style="list-style-type: none"> To regulate the contribution of pollutants to the MS4 since such systems are not designed to accept, process, or discharge nonstormwater wastes; To prohibit illicit connections, activities and discharges to the MS4; To establish legal authority to carry out all inspections, surveillance and monitoring procedures necessary to ensure compliance with this section; and To promote public awareness of the hazards involved in the improper discharge of trash, yard waste, lawn chemicals, pet waste, wastewater, grease, oil, petroleum products, cleaning products, paint products, hazardous waste, sediment and other pollutants into the MS4. 							
Emergency Management	No	-	-	-	Yes	-	-
Comment:							
Climate Change	No	-	-	-	Yes	-	-
Comment:							
Disaster Recovery Ordinance	No	-	-	-	No	-	-
Comment:							
Disaster Reconstruction Ordinance	No	-	-	-	No	-	-
Comment:							
Other	No	-	-	-	No	-	-
Comment:							
Planning Documents							
Comprehensive Plan	No	-	-	-	No	-	-
Comment: Would follow some of the Town of Islip's planning documents.							
Capital Improvement Plan	Yes	Capital Improvements Plan	Local	Board of Trustees	No	No	No.
Comment: Funded in 2019/2020 \$252,634.00.							
Disaster Debris Management Plan	Yes	Suffolk County Multi-Jurisdictional Debris Management Plan	County, Local	Suffolk County FRES	No	Yes	-
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.							
Floodplain or Watershed Plan	No	-	-	-	No	-	-
Comment:							
Stormwater Plan	Yes	Annual MS4 reports	Local	Village Trustee, Contact Support (Cashin Associates)	Conform to MS4	No	-
Comment: The Village is an MS4 community and completes and submits annual MS4 reports.							
Open Space Plan	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?	
Comment:							
Urban Water Management Plan	No	-	-	-	No	-	-
Comment:							
Habitat Conservation Plan	No	-	-	-	No	-	-
Comment:							
Economic Development Plan	No	-	-	-	No	-	-
Comment:							
Shoreline Management Plan	No	-	-	-	Yes	-	-
Comment:							
Community Wildfire Protection Plan	No	-	-	-	No	-	-
Comment:							
Forest Management Plan	No	-	-	-	No	-	-
Comment:							
Transportation Plan	No	-	-	-	No	-	-
Comment:							
Agriculture Plan	No	-	-	-	Yes	-	-
Comment:							
Other (this could include a climate action plan, tourism plan, business development plan, etc.)	No	-	-	-	No	-	-
Comment:							
Response/Recovery Planning							
Comprehensive Emergency Management Plan	Yes	Suffolk County Comprehensive Emergency Management Plan (2018)	Suffolk County and Associated Jurisdictions	Suffolk FRES	Yes	Yes	-
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.							
Strategic Recovery Planning Report	No	-	-	-	No	-	-
Comment:							
Threat & Hazard Identification &	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?	
Risk Assessment (THIRA)							
Comment:							
Post-Disaster Recovery Plan	No	-	-	-	No	-	-
Comment:							
Continuity of Operations Plan	No	-	-	-	No	-	-
Comment:							
Public Health Plan	No	-	-	-	No	-	-
Comment:							
Other	No	-	-	-	No	-	-
Comment:							

Table 9.24-4. Development and Permitting Capability

Indicate if your jurisdiction implements the following	Response Yes/No; Provide further detail
Development Permits. If yes, what department?	Yes. All building permit review, approval and inspections in house.
Permits are tracked by hazard area. For example, floodplain development permits.	Yes
Buildable land inventory If yes, please describe If no, please quantitatively describe the level of buildout in the jurisdiction.	95% built out

Administrative and Technical Capability

The table below summarizes potential staff and personnel resources available to the Village of Brightwaters.

Table 9.24-5. Administrative and Technical Capabilities

Resources	Available? (Yes or No)	Department/ Agency/Position
Administrative Capability		
Planning Board/Zoning Board of Appeals	Yes	Not within jurisdiction of any Village Departments?
Mitigation Planning Committee	No	-
Environmental Board/Commission	No	-
Open Space Board/Committee	No	-
Economic Development Commission/Committee	No	-
Warning Systems / Services (reverse 911, outdoor warning signals)	No	-
Maintenance programs to reduce risk	No	-
Mutual aid agreements	No	Do share services but no formal agreement with Fire Departments.



Resources	Available? (Yes or No)	Department/ Agency/Position
Technical/Staffing Capability		
Planners or engineers with knowledge of land development and land management practices	Yes	Contract Engineer (currently Daniel Falasco, PE)
Engineers or professionals trained in building or infrastructure construction practices	Yes	Contract Engineer (currently Daniel Falasco, PE)
Planners or engineers with an understanding of natural hazards	Yes	Contract Engineer (currently Daniel Falasco, PE)
Staff with expertise or training in benefit/cost analysis	No	Consulting support as needed
Professionals trained in conducting damage assessments	No	-
Personnel skilled or trained in GIS and/or Hazards United States (HAZUS) – Multi-Hazards (MH) applications	No	Cashin Associates ??(Former)
Scientist familiar with natural hazards	No	-
NFIP Floodplain Administrator (FPA)	Yes	Village Building Inspector (currently Robert O’Shea)
Surveyor(s)	No	Contract with Consultant
Emergency Manager	Yes	Mayor/Board of Trustees
Grant writer(s)	No	Board of Trustees, Consulting basis as needed
Resilience Officer	No	-
Other (this could include stormwater engineer, environmental specialist, etc.)	No	-

Fiscal Capability

The table below summarizes financial resources available to the Village of Brightwaters.

Table 9.24-6. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use (Yes/No)
Community development Block Grants (CDBG, CDBG-DR)	No (generally exceeds income thresholds)
Capital improvements project funding	Yes (2019/2020)
Authority to levy taxes for specific purposes	Yes
User fees for water, sewer, gas or electric service	No, Suffolk County Water Authority/ South West Sewer District addresses water and sewage fees in billing
Impact fees for homebuyers or developers of new development/homes	No
Stormwater utility fee	No
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	No
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other federal or state Funding Programs	No
Open Space Acquisition funding programs	No
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	Yes?



Education and Outreach Capability

The table below summarizes the education and outreach resources available to the Village of Brightwaters.

Table 9.24-7. Education and Outreach Capabilities

Indicate if your jurisdiction has the following resources	Yes/No; Please describe
Public information officer or communications office?	Village Clerk updates webpage with current Village information.
Personnel skilled or trained in website development?	No
Hazard mitigation information available on your website; if yes, describe	No
Social media for hazard mitigation education and outreach; if yes, briefly describe.	No
Citizen boards or commissions that address issues related to hazard mitigation; if yes, briefly describe.	No
Other programs already in place that could be used to communicate hazard-related information; if yes, briefly describe.	No
Warning systems for hazard events; if yes, briefly describe.	No
Natural disaster/safety programs in place for schools; if yes, briefly describe.	No schools within village limits – belong to Bayshore school District Islip
Other	No

Community Classifications

The table below summarizes classifications for community programs available to the Village of Brightwaters.

Table 9.24-8. Community Classifications

Program	Participating? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	NP	-	-
Building Code Effectiveness Grading Schedule (BCEGS)	NP	-	-
Public Protection (ISO Fire Protection Classes 1 to 10)	NP	-	-
NYSDEC Climate Smart Community	NP	-	-
Storm Ready Certification	NP	-	-
Firewise Communities classification	NP	-	-
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 9.24-9. Adaptive Capacity

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

*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

The Village does not have access to resources to determine the possible impacts of climate change upon the municipality and is not currently supportive of integrating climate change in policies or actions.

9.24.5 National Flood Insurance Program

This section provides specific information on the management and regulation of the regulatory floodplain.

NFIP Floodplain Administrator (FPA)

Robert O’Shea, Building/Fire Inspector

National Flood Insurance Program (NFIP) Summary

The following table summarizes the NFIP statistics for the Village of Brightwaters.

Table 9.24-10. NFIP Summary

Municipality	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties
Village of Brightwaters	155	132	\$3,710,927	9

Source: FEMA 200
 Notes: According to FEMA statistics as of 7/13/2020
 RL Repetitive Loss

Flood Vulnerability

The Village has various FEMA AE and some VE zones. The Village does not maintain a list of properties that have been damaged by flooding or property owners that are interested in mitigation. No RiskMAP projects are currently underway. The Village has not had to declare substantial damages in the past.



Resources

The community FDPO identifies the Building Inspector as the local NFIP Floodplain Administrator, for which floodplain administration is an auxiliary duty. NFIP administration services include permit review. Substantial improvements are determined by examining project cost versus the value of the existing structure.

Compliance History

Village of Brightwaters joined the NFIP on September 2, 1982, and is currently an active member of the NFIP. The current effective Flood Insurance Rate Maps are dated September 25, 2009. The Village's last Community Assistance Visit was on September 21, 2018.

Regulatory

The community's Flood Damage Prevention Ordinance (FDPO) was last updated on September 8, 1998, and is found at Chapter 61 of the local code.

Community Rating System

The Village of Brightwaters does not participate in the Community Rating System.

9.24.6 Integration with Other Planning Initiatives

As this HMP update is implemented, the Village of Brightwaters 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

- **Building Department:** The Building Department is responsible for all aspects of construction within the Village, both commercial and residential. This includes fences, pools, generators, plumbing, gas hookups, patios, decks and driveways. The Inspector ensures that the construction is performed within the guidelines of the Village of Brightwaters code and the New York State Building and Fire code. All permits require appropriate documentation as indicated on the permit applications. Certificates of Occupancy or Compliance are issued when construction has been completed and inspected. Construction without permit is also eligible for inspection and issuance of a Certificate provided the construction has been done in accordance with the codes.
- **Department of Public Works:** The Department of Public Works is responsible for the maintenance and upkeep of all Village owned properties. This includes parks, streetlights, Village trees, roads and garbage removal from public spaces. In addition, the DPW is responsible for snow removal and road sanding/salting of Village streets.
- **Stormwater Management:** Brightwaters is obliged to conform to the MS4 (Municipal Separate Storm Sewer System) program run by the Environmental Protection Agency (EPA) and administered by the New York State Department of Environmental Conservation (NYSDEC). The criteria for designation as an MS4 is population density and the "permit" area covers most of Long Island. Over a 5-year period, following notification of coverage, the Village is required to implement a stormwater



management program (SWMP) to satisfy the appropriate water quality requirements of the Environmental Conservation Law and Clean Water Act.

Opportunities for Future Integration

- None identified.

9.24.7 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

The Village of Brightwaters follows State, County, and Town guidance for evacuation decisions. The Village utilizes the State and County’s evacuation routes.

Sheltering

The Village of Brightwaters relies on the American Red Cross for sheltering during hazard events.

Temporary Housing

The Village has identified Wohseepee Park as a location for the placement of temporary housing units in the event that homes need to be reconstructed following a disaster event.

Permanent Housing

The Village is fully built out and does not have land available for the placement of permanent housing that would need to be relocated out of the flood zone.

9.24.8 Hazard Event History Specific to the Village of Brightwaters

Suffolk County has a history of natural and non-natural hazard events as detailed in Volume I, Section 5 (Risk Assessment) of this plan. A summary of historical events is provided in each of the hazard profiles and includes a chronology of events that have affected the County and its municipalities. The Village of Brightwaters’s history of federally-declared (as presented by FEMA) and significant hazard events (as presented in NOAA-NCEI) is consistent with that of Suffolk County. Table 9.24-11 provides details regarding municipal-specific loss and damages the Village experienced during hazard events. Information provided in the table below is based on reference material or local sources. For details of these and additional events, refer to Volume I, Section 5.0 of this plan.

Table 9.24-11. Hazard Event History

Dates of Event	Event Type (Disaster Declaration if applicable)	County Designated?	Summary of Event	Municipal Summary of Damages and Losses
February 8 – 9, 2013	Severe Winter Storm and Snowstorm (FEMA DR-4111)	Yes	Low pressure that formed along the northern Gulf coast by the morning of Thursday, February 7, 2013 moved northeast to near Cape Hatteras by the morning of Friday, February 8, 2013 . The low then rapidly intensified while moving northeast to a position east of	Although the County was impacted, the Village of Brightwater did not report any damages.



Dates of Event	Event Type (Disaster Declaration if applicable)	County Designated?	Summary of Event	Municipal Summary of Damages and Losses
			Cape Cod by the morning of Saturday, February 9, 2013, producing very heavy snowfall and blizzard conditions across central and eastern Long Island on February 8th and 9th, and winter storm conditions across the rest of southeast New York.	
March 14 – 15, 2017	Severe Winter Storm, High Winds and Snowstorm (FEMA DR-4322)	Yes	3 major events. On Tuesday, March 14th, rapidly deepening low pressure tracked up the eastern seaboard resulting in damaging winds in Suffolk County	Although the County was impacted, the Village of Brightwater did not report any damages.
June 30, 2019	Thunderstorm Wind, Hail	No	A strong upper level disturbance triggered severe thunderstorms across Southeastern New York. One inch hail reported in Islip. 0.75 inch hail was reported in West Sayville	Trees down loss of power no major damage. A 22 inch diameter tree snapped about 25 feet above the ground on Sunny Lane in Brightwaters resulted in \$1K in property damage.
August 25, 2019	Severe Storm	No	Severe wind and rain	Trees down loss of power no major damage
December 2, 2019	Winter Storm	No	A coastal Nor'easter impacted Suffolk County	High tide flooding. East and West concourse/ Canal flooded

Notes:

- EM Emergency Declaration (FEMA)
- FEMA Federal Emergency Management Agency
- DR Major Disaster Declaration (FEMA)
- N/A Not applicable

9.24.9 Hazard Ranking and Jurisdiction-Specific Vulnerabilities

The hazard profiles in Section 5 (Risk Assessment) of this plan have detailed information regarding each plan participant’s vulnerability to the identified hazards. The following summarizes critical facility and community lifeline flood exposure, and the hazards of greatest concern and risk to the Town of Babylon. For additional vulnerability information relevant to this jurisdiction, 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 9.24-12. 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			
None identified at this time						

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 the Village of Brightwaters. The Village of Brightwaters 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, the Village of Brightwaters indicated the following:

- The Village agreed with the calculated hazard rankings.

Table 9.24-13. Hazard Ranking

Coastal Erosion	Cyber Security	Disease Outbreak	Drought	Earthquake	Expansive Soils
Medium	Medium	Medium	Low	Medium	Low





Extreme Temperature	Flood	Groundwater Contamination	Hurricane	Infestation and Invasive Species	Nor'Easter
Medium	Medium	Medium	High	Medium	High

Severe Storm	Severe Winter Storm	Shallow Groundwater	Wildfire
Medium	Medium	Low	Low

Identified Issues

The municipality has identified the following vulnerabilities within their community:

- The Village has vulnerability to coastal storms and coastal flooding. The shoreline is predominately bulk-headed except at the end at Walker Beach and Gilbert Park.
- Most of northern area of Village has positive drainage that leads to the lakes and canals, but during times of coastal flooding and high tides the water backs up and results in flooding generally south of 27A.
- Substantial rainfall can result in flooding along the canal and lower lakes during the times of extreme high tides. Significant flooding during March 2013 Nor'Easter. Basement flooding is the biggest issue.
- Orinoco Drive on Bayshore area has drainage problems – recently cleared a blockage there. Highway yard is located on Orinoco Drive and Richard and has a substandard building.
- The Village is relatively old and so their underground drainage utilities are corrugated steel and clay pipe which may be undersized to manage modern flows.
- The Village also notes particular vulnerability to tree loss and resulting power outages.
- Village Hall (code enforcement, building department, administration staff, highway staff) lacks backup power.
- Breakwater failed during Irene. Claim paid by FEMA, but NYSDEC permitting required more costly construction which will require additional reimbursement.
- Flooding issues since sandy – rain heavy in West concourse - about 1 foot
- Manmade lakes need new spillways - may fail in present condition
- Orinco Drive floods almost heavy rain of an inch or two in an hour
- Sycamore trees often clog storm drains

9.24.10 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 9.24-15). 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 9.24-14. 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	Level of Protection	
VBR-1	Implement a program to regularly inspect bulkheads for effectiveness.	Coastal erosion, Flood, Hurricane, Severe Storm, Nor'Easter	Village		No Progress	Cost		1. Include in 2020 HMP 2. 3.
VBR-2	Enhance the Village's storm drain maintenance program to prevent blockages.	Flood, Hurricane, Severe Storm, Nor'Easter	Village		Ongoing Capability	Cost		1. Discontinue 2. 3. Ongoing Capability
VBR-3	Install a backup generator at Village Hall.	All Hazards	Village		In Progress; generator installed, working on hooking up gas	Cost		1. Include in 2020 HMP 2. Within 6 months 3.
VBR-4	Assess and prioritize options to improve the Village's emergency communication systems, and implement as funding becomes available.	All Hazards	Village		No Progress	Cost		1. Include in 2020 HMP 2. 3.
VBR-5	Establish a backup or satellite Village office	All Hazards	Village		No Progress	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.
						Damages Avoided; Evidence of Success		
	at the cabin at Park.					Damages Avoided; Evidence of Success		2. DPW Highway Yard as backup location 3.
VBR-6	Assess and prioritize options to retrofit residential properties along the canal (Concourse West), and implement as funding becomes available.	Flood, Hurricane, Severe Storm, Nor'Easter	Village		In Progress	Cost		1. Include in 2020 HMP 2. 3.
						Level of Protection		
						Damages Avoided; Evidence of Success		
VBR-7	Assess and prioritize options to retrofit the highway yard building on Orinoco Drive, and implement as funding becomes available.	All Hazards	Village		No Progress	Cost		1. Include in 2020 HMP 2. A few garage buildings and an office trailer. Looking to install a permanent structure. \$600,000 3.
						Level of Protection		
						Damages Avoided; Evidence of Success		
VBR-8	Enhance the Village's public education and outreach program, to inform residents on	All Hazards	Village		In Progress; Village email list	Cost		1. Include in 2020 HMP 2. Expand outreach via website, hosting public meetings, etc. 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.
	how to reduce vulnerability to hazards.							
VBR-9	Assess and prioritize non-structural flood hazard mitigation alternatives for at risk properties within the floodplain, including those that have been identified as repetitive loss, such as acquisition/relocation, or elevation depending on feasibility. The parameters for feasibility for this initiative would be: funding, benefits versus costs and willing participation of property owners. Implement as funding becomes available. Specifically identified are properties in the following areas: Two Sandy damaged properties on south end of Village							
	See above	Flood, Coastal Erosion, Hurricane, Nor'Easter, Severe Storm, Wildfire, Winter Storm	Town/Village Engineering via NFIP FPA) with NYSOEM, FEMA support		In Progress	Cost		1. Include in 2020 HMP 2. 3.
					Level of Protection			
				Damages Avoided; Evidence of Success				
VBR-10	Support and participate in county led initiatives intended to build local and regional mitigation and risk-reduction capabilities (see Section 9.1), specifically:							
	<ul style="list-style-type: none"> Mitigation Education for Natural Disasters (natural hazard awareness and personal scale risk reduction/mitigation public education and outreach program) Build Local Floodplain Management and Disaster Recovery Capabilities (enhanced floodplain management, and post-disaster assessment and recovery capabilities) Jurisdictional Knowledge of Mitigation Needs of Property Owners (improved understanding of damages and mitigation interest/activity of private property owners) Create a Multi-Jurisdictional Seismic Safety Committee in Suffolk County (build regional, county and local capabilities to manage seismic risk, both pre- and post-disaster) <p>Alignment of Mitigation Initiatives through all levels of Government (effort to build State and Federal level recognition and support of the County and local hazard mitigation planning strategies identified in this plan).</p>							
	See above	All Hazards	Suffolk County, as supported by relevant local department		Ongoing Capability	Cost		1. Discontinue
					Level of Protection		2.	
					Damages Avoided;		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.
						Evidence of Success		
			leads,			Evidence of Success		
VBR-11	Work with County and PSEG (formerly LIPA) to identify roads within the municipality that are considered "critical", and to be the first priority for clearing after an event involving downed power lines							
	See above	Severe Storm; Severe Winter Storm; Hurricane; Nor' Easter	PSEG, County		Ongoing Capability	Cost		1. Discontinue
						Level of Protection		2.
Damages Avoided; Evidence of Success							3. Ongoing Capability	

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Completed Mitigation Initiatives Not Identified in the Previous Mitigation Strategy

The Village of Brightwaters 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:

- None identified

Proposed Hazard Mitigation Initiatives for the HMP Update

The Village of Brightwaters 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 9.24-15 summarizes the comprehensive-range of specific mitigation initiatives the Village of Brightwaters 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 9.24-16 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 9.24-15. 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	FPS Category
2020-Brightwaters-001	Repetitive Loss	1, 2	Flood, Severe Storm	<p>Problem: Frequent flooding events have resulted in damages to residential properties. These properties have been repetitively flooded as documented by paid NFIP claims. The neighborhood along the canal (Concourse West) is most flood prone.</p> <p>Solution: Conduct outreach to 30 flood-prone property owners, including RL/SRL property owners and provide information on mitigation alternatives. After preferred mitigation measures are identified, collect required property-owner information and develop a FEMA grant application and BCA to obtain funding to implement acquisition/purchase/moving/elevating residential homes in the flood prone areas that experience frequent flooding (high risk areas).</p>	No	None	3 years	NFIP Floodplain Administrator, supported by homeowners	\$3 Million	Eliminates flood damage to homes and residents, creates open space for the municipality increasing flood storage.	FEMA HMGP and FMA, local cost share by residents	High	SIP	PP
2020-Brightwaters-002	Critical Facility Outreach	2, 8	Flood	<p>Problem: The Village has 1 critical facility located in the 100-year floodplain. SD3 PS3 Pump Station at Shore Road is a County facility.</p> <p>Solution: The FPA will conduct outreach to the facility manager to discuss flood exposure and potential mitigation options.</p>	Yes	None	Within 6 months	FPA	Staff time	Facility manager aware of flood risk and mitigation options	Village budget	High	SIP	PP SF
2020-Brightwaters-003	Village Hall Generator	2, 7, 8	All Hazards	<p>Problem: The Village has installed a gas generator at Village Hall but the gas line has not been connected.</p> <p>Solution: The Village will complete hookup of gas line to complete functionality of generator.</p>	Yes	None	1 year	Engineer	\$500	Ensures continuity of operations of Village Hall	Municipal Budget	High	SIP	PP ES
2020-Brightwaters-004	Emergency Communications Equipment	7	All Hazards	<p>Problem: Emergency equipment is outdated and requires update.</p> <p>Solution: The Village will replace the current equipment with updated</p>	No	None	Within 5 years	OEM	Medium	Emergency communications preserved	Municipal budget	High	SIP	ES



Table 9.24-15. 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	SPS Category
				models.										
2020-Brightwaters-005	Highway Yard Building	1, 2	All Hazards	<p>Problem: The highway yard on Orinoco Drive is comprised of a few garage buildings and an office trailer. The Village would like to make this location a backup office for the Village offices and strengthen the existing infrastructure.</p> <p>Solution: The Village will construct a permanent building on the site, using storm protection techniques and a backup power generator to protect continuity of operations of the Highway Yard and the Village Offices.</p>	Yes	No	Within 5 years	Administration	\$600,000	Protect critical facility, continuity of operations	FEMA HMGP and PDM, BRIC, USDA Community Facilities Grant Program, Municipal Budget	High	SIP	PF
2020-Brightwaters-006	Hazard Outreach	6	All Hazards	<p>Problem: Outreach in the Village is currently limited to email.</p> <p>Solution: The Village will expand outreach via website, hosting public meetings, brochures at Village Hall, etc.</p>	No	None	Within 1 year	Administration	\$5,000	Increase in public awareness/knowledge	Village budget	High	EAP	PF
2020-Brightwaters-007	Backflow Prevention	2	Flood, Severe Storm	<p>Problem: Backflow of stormwater outfall pipes results in flooding. This issue impacts roughly 30 outfalls in the Village.</p> <p>Solution: The Village will complete a survey of outfall pipes to determine locations in need of backflow prevention. The Village will then purchase and install backflow prevention devices.</p>	No	None	Within 5 years	Highway Department		Reduction in flooding	HMGP, BRIC, Village budget	High	SIP	SP
2020-Brightwaters-008	Elevate Concourse East Roadway	2	Flood	<p>Problem: Concourse East is low lying and prone to flooding. Concourse West was recently raised.</p> <p>Solution: The Village will raise the elevation of Concourse East to match Concourse West.</p>	No	None	Within 2 years	Highway Department	\$150,000	Reduction in flooding on Concourse East	HMGP, BRIC, Village budget	High	SIP	PF
2020-Brightwaters-	Orinoco Stormwater	2	Flood, Severe	<p>Problem: Orinoco Drive has undersized stormwater components.</p>	No	None	Within 5 years	Highway Department	High	Reduction in stormwater	HMGP, BRIC,	High	SIP	SP



Table 9.24-15. 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	CDS Category
009	Upgrades		Storm	This leads to stormwater flooding. Flooding issues are focused on 2 blocks to the west side and 2 blocks to the east side. The largest stormwater pipes are roughly 15". Solution: The Village will work to upsize stormwater components on Orinoco Road.						flooding on Orinoco Drive	Village budget			
2020-Brightwaters-010	Tree Trimming Program	2	Hurricane, Nor'Easter, Severe Storm, Severe Winter Storm	Problem: Falling trees pose a risk to Village infrastructure. Branches and leaves from overgrown trees regularly clog the Village's stormwater system. Solution: The Village will develop a tree trimming program to address problem trees and reduce tree litter.	No	None	Within 2 years	Highway Department	\$50,000 annually	Reduction in tree damage and stormwater flooding	Village budget	High	NSP	NR
2020-Brightwaters-011	Gate Valve and Spillway Repair	1, 2	Flood	Problem: The manmade lakes north of 27A are controlled by a gate valve and spillway. The gate valve has deteriorated and needs replacement. The spillway requires repair and strengthening. Failure of each component could result in flooding. Solution: The Village will replace the gate valve and repair the spillway.	No	None	Within 5 years	Engineer	\$800,000	Reduction in flood risk	HMGP, PDM, FMA, BRIC, Village budget	High	SIP	SP
2020-Brightwaters-012	Bulkhead Repair and Replacement	2	Coastal Erosion	Problem: Village bulkheads require repair or replacement to prevent failure. Solution: The Village will repair or replace bulkheads as necessary	No	May require permitting	Within 5 years	Highway Department	\$150,000	Bulkhead failure reduced.	HMGP, BRIC, Village budget	High	SIP	PP

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

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:





FPA Floodplain Administrator
HMA Hazard Mitigation Assistance
N/A Not applicable
NFIP National Flood Insurance Program
OEM Office of Emergency Management

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 9.24-16. 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-Brightwaters-001	Repetitive Loss	1	1	1	1	1	1	0	1	0	0	1	0	1	1	10	High
2020-Brightwaters-002	Critical Facility Outreach	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
2020-Brightwaters-003	Village Hall Generator	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
2020-Brightwaters-004	Emergency Communications Equipment	1	0	1	1	1	1	0	1	1	1	1	0	1	1	11	High
2020-Brightwaters-005	Highway Yard Building	1	1	1	1	1	1	0	1	1	1	1	0	1	1	12	High
2020-Brightwaters-006	Hazard Outreach	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
2020-Brightwaters-007	Backflow Prevention	0	1	1	1	1	1	0	1	1	1	1	0	1	1	11	High
2020-Brightwaters-008	Elevate Concourse East Roadway	0	1	1	1	1	1	0	1	1	1	1	1	1	1	12	High
2020-Brightwaters-009	Orinoco Stormwater Upgrades	1	1	1	1	1	1	0	1	1	1	1	0	1	1	12	High
2020-Brightwaters-010	Tree Trimming Program	0	1	1	1	1	1	0	1	1	1	1	1	1	1	12	High
2020-Brightwaters-011	Gate Valve and Spillway Repair	1	1	1	1	1	1	1	1	1	1	0	0	1	1	12	High
2020-Brightwaters-012	Bulkhead Repair and Replacement	0	1	1	1	1	1	0	1	1	1	1	0	1	1	11	High

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



9.24.11 Proposed Mitigation Action Types

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

Table 9.24-17. Analysis of Mitigation Actions by Hazard and Category

Hazard	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Coastal Erosion		2020-Brightwaters-003, 2020-Brightwaters-004, 2020-Brightwaters-005, 2020-Brightwaters-012		2020-Brightwaters-006		2020-Brightwaters-003, 2020-Brightwaters-005, 2020-Brightwaters-012	2020-Brightwaters-006			2020-Brightwaters-003, 2020-Brightwaters-004,
Cyber Security		2020-Brightwaters-003, 2020-Brightwaters-004, 2020-Brightwaters-005,		2020-Brightwaters-006		2020-Brightwaters-003, 2020-Brightwaters-005,	2020-Brightwaters-006			2020-Brightwaters-003, 2020-Brightwaters-004,
Disease Outbreak		2020-Brightwaters-003, 2020-Brightwaters-004, 2020-Brightwaters-005,		2020-Brightwaters-006		2020-Brightwaters-003, 2020-Brightwaters-005,	2020-Brightwaters-006			2020-Brightwaters-003, 2020-Brightwaters-004,
Drought		2020-Brightwaters-003, 2020-Brightwaters-004, 2020-Brightwaters-005,		2020-Brightwaters-006		2020-Brightwaters-003, 2020-Brightwaters-005,	2020-Brightwaters-006			2020-Brightwaters-003, 2020-Brightwaters-004,
Earthquake		2020-Brightwaters-003, 2020-Brightwaters-004, 2020-Brightwaters-005,		2020-Brightwaters-006		2020-Brightwaters-003, 2020-Brightwaters-005,	2020-Brightwaters-006			2020-Brightwaters-003, 2020-Brightwaters-004,
Expansive Soils		2020-Brightwaters-003, 2020-Brightwaters-004, 2020-Brightwaters-005,		2020-Brightwaters-006		2020-Brightwaters-003, 2020-Brightwaters-005,	2020-Brightwaters-006			2020-Brightwaters-003, 2020-Brightwaters-004,
Extreme Temperature		2020-Brightwaters-003, 2020-Brightwaters-004, 2020-Brightwaters-005,		2020-Brightwaters-006		2020-Brightwaters-003, 2020-Brightwaters-005,	2020-Brightwaters-006			2020-Brightwaters-003, 2020-Brightwaters-004,
Flood		2020-Brightwaters-001, 2020-Brightwaters-002, 2020-Brightwaters-003, 2020-Brightwaters-004, 2020-Brightwaters-005, 2020-Brightwaters-007, 2020-Brightwaters-008, 2020-Brightwaters-009, 2020-Brightwaters-		2020-Brightwaters-006		2020-Brightwaters-001, 2020-Brightwaters-002, 2020-Brightwaters-003, 2020-Brightwaters-005, 2020-Brightwaters-008,	2020-Brightwaters-006		2020-Brightwaters-002, 2020-Brightwaters-007, 2020-Brightwaters-009, 2020-Brightwaters-011	2020-Brightwaters-003, 2020-Brightwaters-004,



Hazard	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Groundwater Contamination		2020-Brightwaters-003, 2020-Brightwaters-004, 2020-Brightwaters-005,		2020-Brightwaters-006		2020-Brightwaters-003, 2020-Brightwaters-005,	2020-Brightwaters-006			2020-Brightwaters-003, 2020-Brightwaters-004,
Hurricane		2020-Brightwaters-003, 2020-Brightwaters-004, 2020-Brightwaters-005,	2020-Brightwaters-010	2020-Brightwaters-006		2020-Brightwaters-003, 2020-Brightwaters-005,	2020-Brightwaters-006	2020-Brightwaters-010		2020-Brightwaters-003, 2020-Brightwaters-004,
Infestation and Invasive Species		2020-Brightwaters-003, 2020-Brightwaters-004, 2020-Brightwaters-005,		2020-Brightwaters-006		2020-Brightwaters-003, 2020-Brightwaters-005,	2020-Brightwaters-006			2020-Brightwaters-003, 2020-Brightwaters-004,
Nor'easter		2020-Brightwaters-003, 2020-Brightwaters-004, 2020-Brightwaters-005,	2020-Brightwaters-010	2020-Brightwaters-006		2020-Brightwaters-003, 2020-Brightwaters-005,	2020-Brightwaters-006	2020-Brightwaters-010		2020-Brightwaters-003, 2020-Brightwaters-004,
Severe Storm		2020-Brightwaters-001, 2020-Brightwaters-003, 2020-Brightwaters-004, 2020-Brightwaters-005, 2020-Brightwaters-007, 2020-Brightwaters-009	2020-Brightwaters-010	2020-Brightwaters-006		2020-Brightwaters-001, 2020-Brightwaters-003, 2020-Brightwaters-005,	2020-Brightwaters-006	2020-Brightwaters-010	2020-Brightwaters-007, 2020-Brightwaters-009	2020-Brightwaters-003, 2020-Brightwaters-004,
Severe Winter Storm		2020-Brightwaters-003, 2020-Brightwaters-004, 2020-Brightwaters-005,	2020-Brightwaters-010	2020-Brightwaters-006		2020-Brightwaters-003, 2020-Brightwaters-005,	2020-Brightwaters-006	2020-Brightwaters-010		2020-Brightwaters-003, 2020-Brightwaters-004,
Shallow Groundwater		2020-Brightwaters-003, 2020-Brightwaters-004, 2020-Brightwaters-005,		2020-Brightwaters-006		2020-Brightwaters-003, 2020-Brightwaters-005,	2020-Brightwaters-006			2020-Brightwaters-003, 2020-Brightwaters-004,
Wildfire		2020-Brightwaters-003, 2020-Brightwaters-004, 2020-Brightwaters-005,		2020-Brightwaters-006		2020-Brightwaters-003, 2020-Brightwaters-005,	2020-Brightwaters-006			2020-Brightwaters-003, 2020-Brightwaters-004,

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

9.24.12 Staff and Local Stakeholder Involvement in Annex Development

The Village of Brightwaters 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 Village departments, including: Department of Public Works. The Department of Public Works Foreman represented the community on the Suffolk County Hazard Mitigation Plan Planning Partnership 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 (Meeting Documentation).

Table 9.24-18. Contributors to the Annex

Name	Title/Entity	Method of Participation
John Catania	Department of Public Works Foreman	Primary Point of Contact, attended plan participant meetings, contributed to mitigation strategy
Jeanne Pirkl	Clerk	Secondary Point of Contact, attended plan participant meetings, contributed to mitigation strategy
Robert O’Shea	Building/Plumbing Inspector	NFIP Floodplain Administrator

9.24.13 Hazard Area Extent and Location

Hazard area extent and location maps have been generated for the Village of Brightwaters 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 the Village of Brightwaters has significant exposure.

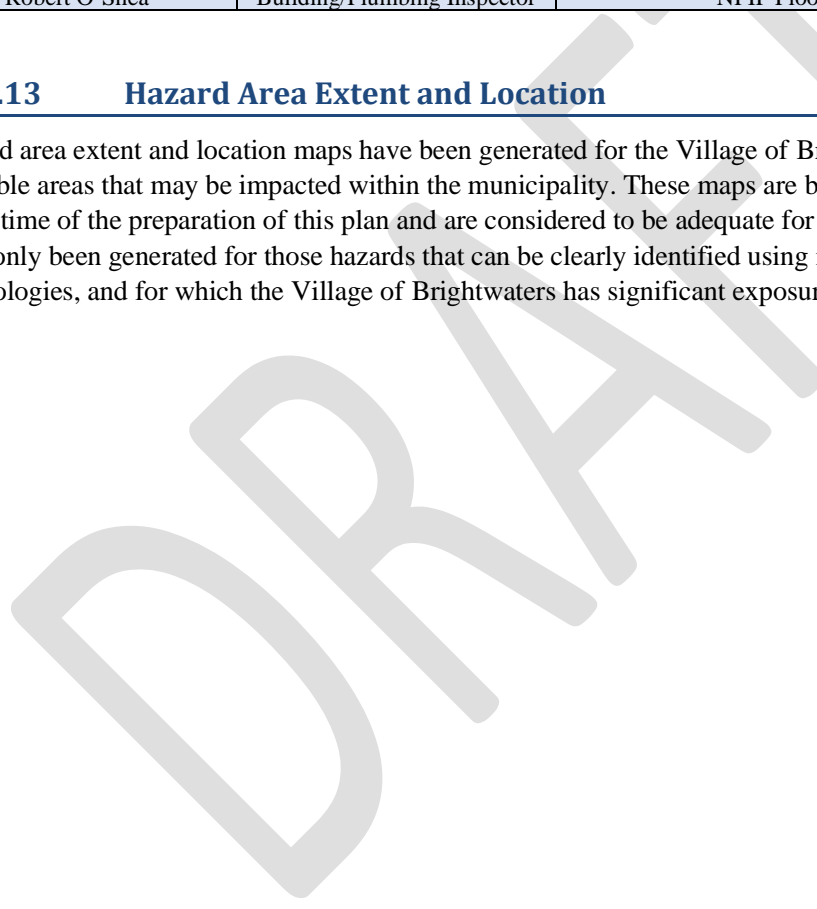




Figure 9.24-1. Village of Brightwaters Hazard Area Extent and Location Map 1





Figure 9.24-2. Village of Brightwaters Hazard Area Extent and Location Map 2

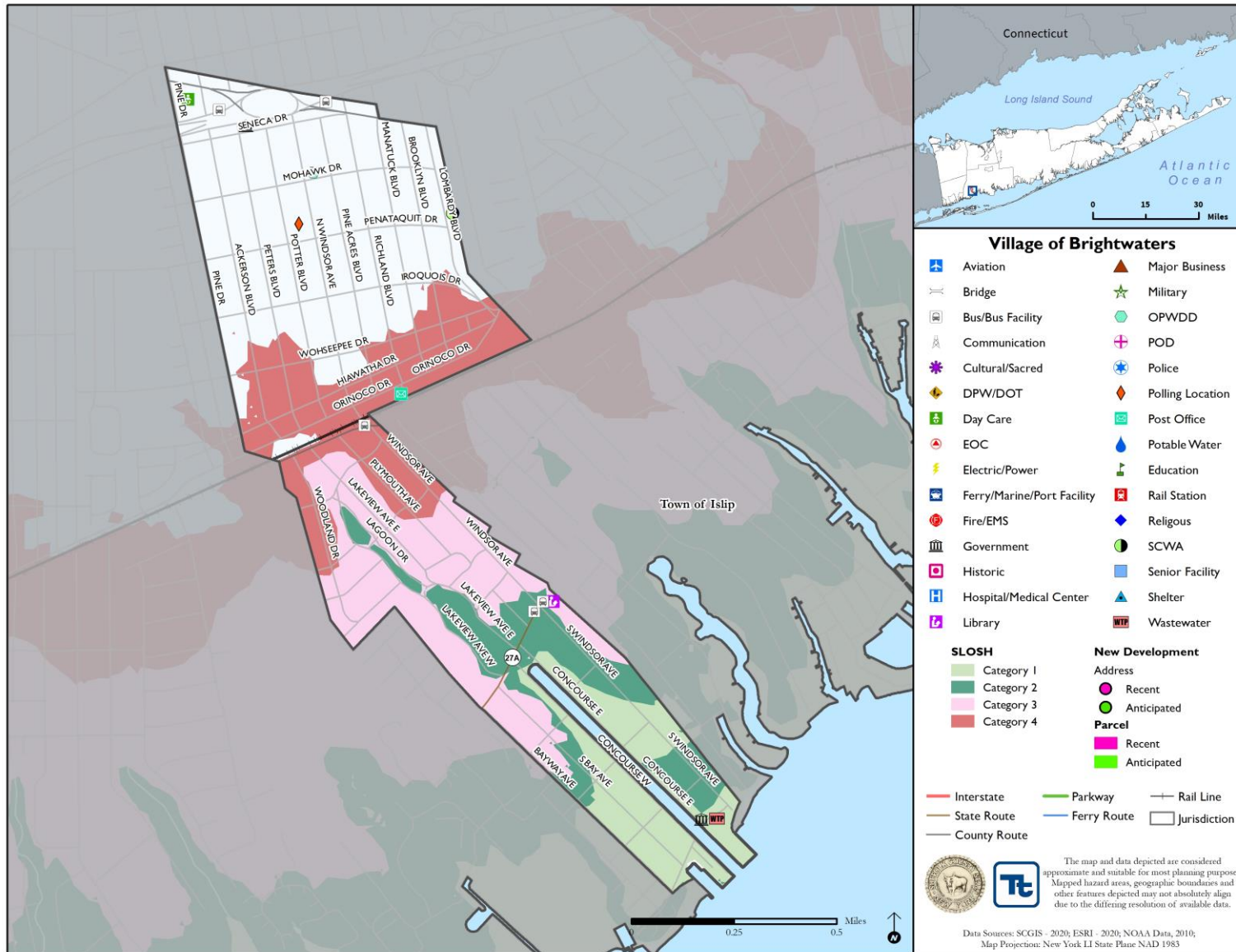


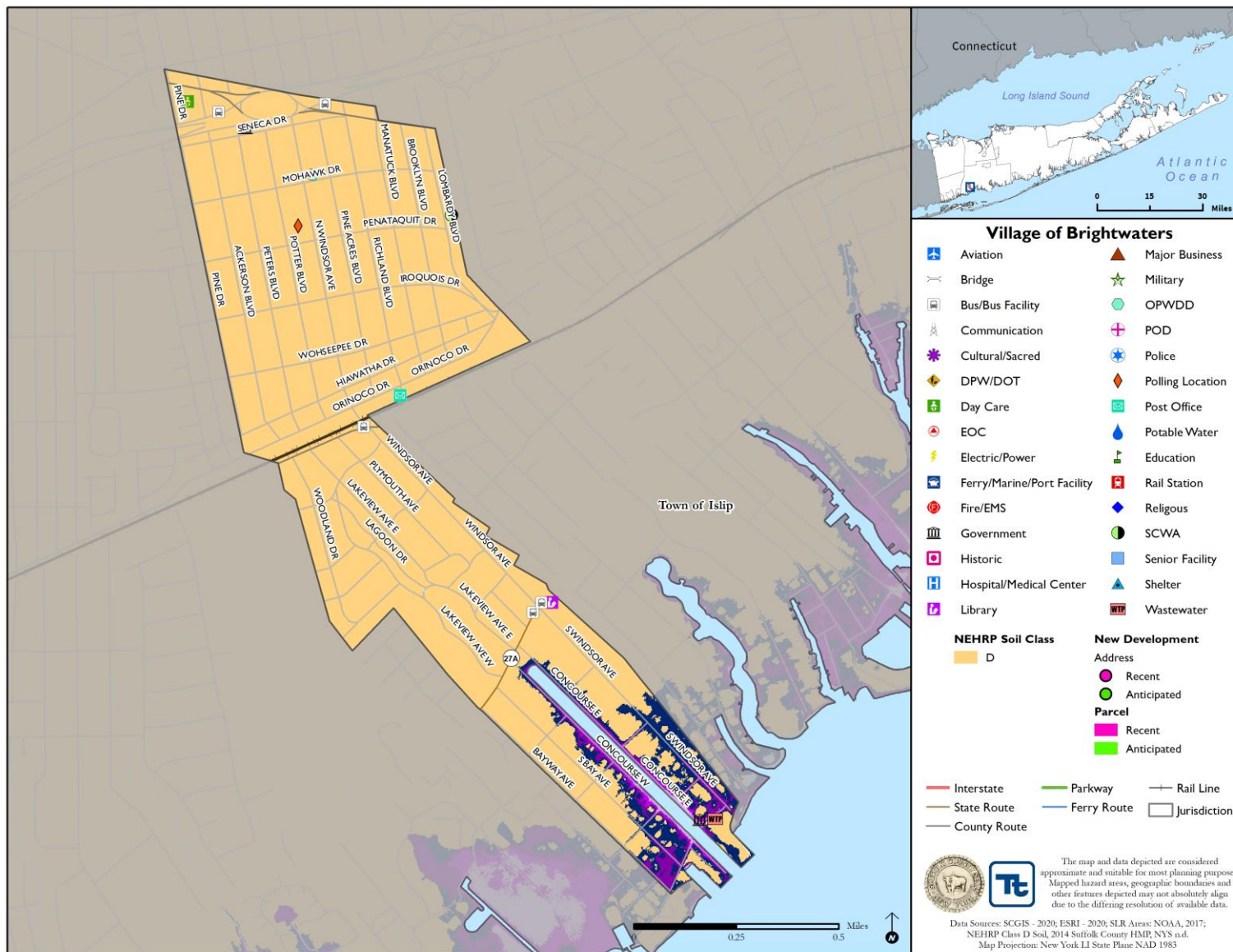


Figure 9.24-3. Village of Brightwaters Hazard Area Extent and Location Map 3





Figure 9.24-4. Village of Brightwaters Hazard Area Extent and Location Map 4





Action Worksheet			
Project Name:	Repetitive Loss		
Project Number:	2020-Brightwaters-001		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood, Severe Storm		
Description of the Problem:	Frequent flooding events have resulted in damages to residential properties. These properties have been repetitively flooded as documented by paid NFIP claims. The neighborhood along the canal (Concourse West) is most flood prone.		
Action or Project Intended for Implementation			
Description of the Solution:	Conduct outreach to 30 flood-prone property owners, including RL/SRL property owners and provide information on mitigation alternatives. After preferred mitigation measures are identified, collect required property-owner information and develop a FEMA grant application and BCA to obtain funding to implement acquisition/purchase/moving/elevating residential homes in the flood prone areas that experience frequent flooding (high risk areas).		
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:	1% annual chance flood event + freeboard (<i>in accordance with flood ordinance</i>)	Estimated Benefits (losses avoided):	Eliminates flood damage to homes and residents, creates open space for the municipality increasing flood storage.
Useful Life:	Acquisition: Lifetime Elevation: 30 years (residential)	Goals Met:	1, 2
Estimated Cost:	\$3Million	Mitigation Action Type:	Structure and Infrastructure Project
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	6-12 months
Estimated Time Required for Project Implementation:	Three years	Potential Funding Sources:	FEMA HMGP and FMA, local cost share by residents
Responsible Organization:	NFIP Floodplain Administrator, supported by homeowners	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	Current problem continues
	Elevate homes	\$500,000	When this area floods, the entire area is impacted; elevating homes would not eliminate the problem and still lead to road closures and impassable roads
Elevate roads	\$500,000	Elevated roadways would not protect the homes from flood damages	
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Action Worksheet		
Project Name:	Repetitive Loss	
Project Number:	2020-Brightwaters-001	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Families moved out of high-risk flood areas.
Property Protection	1	Properties removed from high-risk flood areas.
Cost-Effectiveness	1	Cost-effective project
Technical	1	Technically feasible project
Political	1	
Legal	1	The Village has the legal authority to conduct the project.
Fiscal	0	Project will require grant funding.
Environmental	1	
Social	0	Project would remove families from the flood prone areas of the Village.
Administrative	0	
Multi-Hazard	1	Flood, Severe Storm
Timeline	0	
Agency Champion	1	NFIP Floodplain Administrator, supported by homeowners
Other Community Objectives	1	
Total	10	
Priority (High/Med/Low)	High	



Action Worksheet			
Project Name:	Highway Yard Building		
Project Number:	2020-Brightwaters-005		
Risk / Vulnerability			
Hazard(s) of Concern:	All Hazards		
Description of the Problem:	The highway yard on Orinoco Drive is comprised of a few garage buildings and an office trailer. The Village would like to make this location a backup office for the Village offices and strengthen the existing infrastructure.		
Action or Project Intended for Implementation			
Description of the Solution:	The Village will construct a permanent building on the site, using storm protection techniques and a backup power generator to protect continuity of operations of the Highway Yard and the Village Offices.		
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):	Protect critical facility, continuity of operations
Useful Life:	50 years	Goals Met:	1, 2
Estimated Cost:	\$600,000	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:	1 year	Potential Funding Sources:	FEMA HMGP and PDM, BRIC, USDA Community Facilities Grant Program, Municipal Budget
Responsible Organization:	Administration	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.
	Build new Highway Yard in new location	\$700,000	Too expensive
	Harden existing facilities	\$200,000	No additional space available for backup offices
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Action Worksheet		
Project Name:	Highway Yard Building	
Project Number:	2020-Brightwaters-005	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Project will protect critical operations
Property Protection	1	Project will protect Highway Yard building from damage
Cost-Effectiveness	1	
Technical	1	The project is technically feasible
Political	1	There is public support for the project
Legal	1	The Village 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	Administration
Other Community Objectives	1	
Total	12	
Priority (High/Med/Low)	High	



Action Worksheet			
Project Name:	Elevate Concourse East Roadway		
Project Number:	2020-Brightwaters-008		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood, Coastal Erosion, Hurricane, Nor'Easter, Severe Storm, Severe Winter Weather		
Description of the Problem:	Concourse East is low lying and prone to flooding. Flooding of the roadway restricts access and can damage the roadway and property. Concourse West was recently raised.		
Action or Project Intended for Implementation			
Description of the Solution:	The Village will raise the elevation of Concourse East to match Concourse West.		
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:	Roadway raised	Estimated Benefits (losses avoided):	Reduction in flooding on Concourse East
Useful Life:	15 years	Goals Met:	2
Estimated Cost:	\$150,000	Mitigation Action Type:	Structure and Infrastructure Project
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Within 2 years
Estimated Time Required for Project Implementation:	3 months	Potential Funding Sources:	FEMA HMP, BRIC, Village budget
Responsible Organization:	Highway 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	Problem continues.
	Close floodprone sections of roadway	\$1,000	Loss of access
	Buyout homes along floodprone areas of roadway	\$5 million	Roadway flooding still takes place
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Action Worksheet		
Project Name:	Elevate Concourse East Roadway	
Project Number:	2020-Brightwaters-008	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	0	
Property Protection	1	Project will protect roadway from flood damage
Cost-Effectiveness	1	
Technical	1	The project is technically feasible
Political	1	
Legal	1	The Village has the legal authority to complete the project
Fiscal	0	Project requires funding support
Environmental	1	
Social	1	
Administrative	1	
Multi-Hazard	1	Coastal Erosion, Flood, Hurricane, Nor'Easter, Severe Storm, Severe Winter Storm
Timeline	1	Within 2years
Agency Champion	1	Mayor's Office
Other Community Objectives	1	
Total	12	
Priority (High/Med/Low)	High	



Action Worksheet			
Project Name:	Gate Valve and Spillway Repair		
Project Number:	2020-Brightwaters-011		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood		
Description of the Problem:	The manmade lakes north of 27A are controlled by a gate valve and spillway. The gate valve has deteriorated and needs replacement. The spillway requires repair and strengthening. Failure of each component could result in flooding.		
Action or Project Intended for Implementation			
Description of the Solution:	The Village will replace the gate valve and repair the spillway.		
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:	500-year flood	Estimated Benefits (losses avoided):	Reduction in flood risk
Useful Life:	50 years	Goals Met:	1, 2
Estimated Cost:	\$800,000	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:	1 year	Potential Funding Sources:	HMGP, PDM, FMA, BRIC, Village budget
Responsible Organization:	Engineer	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	Problem continues.
	Repair Spillway Only	\$600,000	Village unable to maintain lake elevation
	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:			



Evaluation and Prioritization		
Project Name:	Gate Valve and Spillway Repair	
Project Number:	2020-Brightwaters-011	
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 Village has the legal authority to complete the project
Fiscal	0	The project requires funding support
Environmental	1	
Social	1	
Administrative	1	
Multi-Hazard	0	Flood
Timeline	0	Within 5 years
Agency Champion	1	Engineer
Other Community Objectives	1	
Total	12	
Priority (High/Med/Low)	High	